

**PHASE III ENVIRONMENTAL SITE ASSESSMENT REPORT
I-80 RECONSTRUCTION PROJECT**

**STROUDSBURG
MONROE COUNTY, PENNSYLVANIA**

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INTERNAL QUALITY CONTROL SHEET

This Phase III Environmental Site Assessment Report has been prepared by BrightFields, Inc. (BrightFields) following the practices and policies outlined in Pennsylvania Department of Transportation (PennDOT) Publication 281, *The Transportation Project Development Process, Waste Site Evaluation Procedures Handbook* published in December 2012. This report represents BrightFields' knowledge of conditions within the I-80 Reconstruction Project area at the time of preparation. This Phase III Environmental Site Assessment Report was prepared, reviewed, and approved by the following BrightFields personnel:

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ACRONYMS AND ABBREVIATIONS

bgs	below ground surface
EDR	Environmental Data Resources, Inc.
EM	Electromagnetic
EPA	Environmental Protection Agency
ESA	Environmental Site Assessment
Eurofins	Eurofins Lancaster Laboratories Environmental
eV	Electronvolt
FSP	Field Sampling Plan
GPR	Ground penetrating radar
GPS	Global positioning system
HASP	Health and Safety Plan
HCl	Hydrochloric acid
HNO₃	Nitric acid
I-80	Interstate 80
KFC	Kentucky Fried Chicken
MCCD	Monroe County Conservation District
µg/L	Micrograms per Liter
µm	Micrometer
mg/kg	Milligram per kilogram
MSC	Medium Specific Concentrations
MS/MSD	Matrix Spike/ Matrix Spike Duplicate
MTBE	Methyl tert-butyl ether
N	Normal
NaOH	Sodium hydroxide
PA 611	Pennsylvania Route 611
PADEP	Pennsylvania Department of Environmental Protection
PAH	Polycyclic aromatic hydrocarbon

ACRONYMS AND ABBREVIATIONS

PCB	Polychlorinated biphenyl
PCE	Perchloroethylene
PennDOT	Pennsylvania Department of Transportation
PID	Photoionization detector
PPL	Primary pollutant list
ppm	Parts per million
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
SET	Subsurface Environmental Technologies, LLC
SHS	Statewide Health Standard
SVOC	Semi-volatile organic compounds
TCE	Trichloroethylene
TCL	Target compound list
TDS	Total dissolved solids
TSCA	Toxic Substance Control Act
US 209	United States Route 209
UST	Underground storage tank
VOC	Volatile Organic Compound
WMP	Waste Management Plan

PHASE III ENVIRONMENTAL SITE ASSESSMENT REPORT

I-80 RECONSTRUCTION PROJECT STROUDSBURG MONROE COUNTY, PENNSYLVANIA

1.0 INTRODUCTION

BrightFields, Inc. (BrightFields) has been contracted by AECOM Technical Services, Inc. (AECOM) to provide environmental support services for the Interstate 80 (I-80) Reconstruction Project (Project). Proposed activities include full roadway reconstruction, widening, and interchange reconfiguration.

BrightFields completed a Phase I Environmental Site Assessment (ESA) of the Project corridor in July 2017. The Phase I ESA was conducted in accordance with the scope and limitations of Pennsylvania Department of Transportation (PennDOT) Publication 281, *The Transportation Project Development Process, Waste Site Evaluation Procedures Handbook* in an effort to identify existing and potential hazardous substances on the properties, to inquire into the previous ownership and uses of the properties, and to identify other environmental concerns on the properties that could impact the Project. Based on the findings of the Phase I ESA and the proposed Project plans, Phase III ESAs were recommended to be conducted on eight sites: APS Recycling, Biobuffer Solutions, Inc./Pocono Foundry, Former Gas Station, Former Research Laboratory/Chemical Plant, Klingel Cleaners/West Main Street PCE Sites, Main Street Stop & Go, Pocono Gas Station, and Rinehart EM, Inc. BrightFields developed a Field Sampling Plan (FSP) outlining the methods, procedures, and scope of work to complete the Phase III ESAs based on the information gathered for each of the sites, proposed Project plans, and correspondence with the Pennsylvania Department of Environmental Protection (PADEP), PennDOT, and Monroe County Conservation District (MCCD).

BrightFields submitted the Draft Phase III ESA Report in February 2018 and received comments from AECOM following their review of the report in March 2018. The comments also reflected coordination between AECOM, PADEP, and MCCD regarding the need for additional investigation. It was requested that additional investigation be conducted on the Pocono Gas Station site and an initial Phase III investigation be conducted on a previously unidentified site of potential concern, the Perfection Shoe Machinery Company site. In June 2018, AECOM requested that BrightFields address the comments as well as present the findings of the supplemental investigation activities in a revised report and include prior comment and response letters in an

appendix. The comments are included as Appendix A. This report has been revised to address comments received as well as provide the results of the additional investigation activities.

1.1 Project Area Description

The Project area consists of approximately four miles of I-80 located between Exit 303 and Exit 307 in Stroud Township, Stroudsburg, and East Stroudsburg, Pennsylvania. The Project area also includes proposed storm water basin areas along the interstate, portions of Pennsylvania Route 611 (PA 611), United States Route 209 (US 209), and portions of Stroud Township and Stroudsburg, Pennsylvania (Figure 1).

The nine sites within the Project area at which Phase III ESAs were performed are identified as APS Recycling, Biobuffer Solutions, Inc./Pocono Foundry, Former Gas Station, Former Research Laboratory/Chemical Plant, Klingel Cleaners/West Main Street PCE Sites, Main Street Stop & Go, Pocono Gas Station, Rinehart EM, Inc., and Perfection Shoe Machinery Company. The locations of these sites relative to the Project area are shown on Figures 2 and 3.

1.2 Site Background Information

The following sections provide summaries of known or suspected environmental conditions and brief descriptions of the current Project plans for each site.

1.2.1 APS Recycling

The APS Recycling site is a scrap yard facility and has been in operation since at least 1961. Historic research performed for the Phase I ESA indicated that a New York, Susquehanna, and Western Rail Road facility, including an engine repair shop, was previously located where the APS Recycling site is located.

Construction activities anticipated on the site include widening of I-80, construction of mainline bridge over McMichael Creek, and construction of a storm water basin. The maximum depth for spread footings at the site is anticipated to be 10 feet below ground surface (bgs) and the maximum depth for pile foundation is anticipated to be 50 feet bgs. The maximum depth for the storm water basin is anticipated to be 14 feet bgs.

1.2.2 Biobuffer Solutions, Inc./Pocono Foundry

The Biobuffer Solutions, Inc./Pocono Foundry site was previously used as an iron foundry from at least 1921 until at least 1961. Historic research performed for the Phase I ESA indicated that

the Pocono Foundry was first listed as a Resource Conservation and Recovery Act (RCRA) Non-Generator in August 1980, and it is likely that the foundry operated until approximately 1980. More recently, Biobuffer Solutions, Inc. operated in the former Pocono Foundry facility. The Biobuffer Solutions, Inc. company is no longer operating at this location. The facility closed on January 31, 2012. Internet research for Biobuffer Solutions, Inc. indicated that the company was a manufacturer of biological buffers and laboratory reagents intended for use in the biopharmaceutical and biotechnology markets.

Construction activities anticipated on the site include widening of I-80, demolition of an existing off ramp, construction of a retaining wall, and construction of a stormwater basin. The maximum depth of disturbance for widening of I-80, off ramp demolition, and retaining wall construction is anticipated to be 10 feet bgs. The maximum depth for the stormwater basin is anticipated to be 16 feet bgs.

1.2.3 Former Gas Station

Historic maps for the years of 1950 and 1961 indicated that a gas station was previously present at the northeast corner of the intersection of Main Street and North 5th Street (440 Main Street). Historic maps indicated four underground storage tanks (USTs) were present on the property. The 440 Main Street property was not identified on any databases indicating that USTs were registered at the property or removed from the property. It is possible that USTs remain. The Former Gas Station site is currently a Kentucky Fried Chicken (KFC) Restaurant.

Construction activities anticipated on the site include intersection improvements. The maximum depth of disturbance associated with the intersection improvements is anticipated to be five feet bgs.

1.2.4 Former Research Laboratory/Chemical Plant

The Former Research Laboratory/Chemical Plant site was identified on a historic map for the year 1950.

Construction activities anticipated on the site include widening of I-80, construction of a retaining wall, and construction of a storm water basin. The maximum depth of disturbance for widening of I-80 and retaining wall construction is anticipated to be five feet bgs. The maximum depth for the storm water basin is anticipated to be 13 feet bgs.

1.2.5 Klingel Cleaners and West Main Street PCE Sites

A review of files obtained from the PADEP indicated that perchloroethylene (PCE) (also identified as tetrachloroethene) contamination has been identified in soil and groundwater at the Klingel Cleaners and West Main Street PCE sites.

Construction activities anticipated on the site include widening/realignment of West Main Street and construction of a storm water basin on the site. The maximum depth of disturbance associated with the widening/realignment is anticipated to be 10 feet bgs. The maximum depth for the storm water basin is anticipated to be 15 feet bgs.

1.2.6 Main Street Stop & Go

The Main Street Stop & Go site is an operating filling station. A review of files obtained from the PADEP indicated that PCE is present in groundwater at the Main Street Stop & Go site. Petroleum contaminants have also been documented at the site.

Construction activities anticipated on the site include widening/realignment of West Main Street, construction of a ramp, and construction of a storm water basin. The maximum depth of disturbance for widening/realignment of West Main Street is anticipated to be 10 feet bgs. The maximum depth for the storm water basin is anticipated to be 15 feet bgs.

1.2.7 Pocono Gas Station

A review of files obtained from the PADEP indicated that a petroleum release was discovered at the Pocono Gas Station site in 2002 and that some petroleum compounds remain in soil at the site. Additionally, the site owner indicated that a release occurred in 2015 from the kerosene dispenser at the site and that the release has not yet been characterized.

Construction activities anticipated on the site include widening of I-80, construction of a ramp, and construction of a mainline bridge over West Main Street (pier construction). The maximum depth for spread footings at the site is anticipated to be 10 feet bgs and the maximum depth for pile foundation is anticipated to be 45 feet bgs.

1.2.8 Rinehart EM, Inc.

Several debris piles and multiple vehicles and storage trailers were observed on the Rinehart EM Inc. site during the site visit performed for the Phase I ESA. Schlier's Towing Service, K&L Auto Repair, and Body Shop by Jim Schlier were the occupants of the site at the time of the site visit.

The site was identified on the Archive UST database in the Environmental Data Resources, Inc. (EDR) DataMap™ Area Study report obtained for the Phase I ESA. Based on observations during the site visit and historical aerial photographs, the site appears to have been used as an automobile salvage yard.

Construction activities anticipated on the site include interchange reconstruction/reconfiguration, demolition of an on ramp, construction of two new ramps, widening/realignment of West Main Street, construction of retaining walls, and construction of a storm water basin. The maximum depth of disturbance for interchange reconstruction/reconfiguration, ramp demolition/construction, widening/realignment of West Main Street, and retaining wall construction is anticipated to be 10 feet bgs for spread footings and 45 feet bgs for pile foundation. The maximum depth for the storm water basin is anticipated to be 15 feet bgs.

1.2.9 Perfection Shoe Machinery Company

The Perfection Shoe Machinery Company site is located at 1209 West Main Street, near the intersection of SR-209 and I-80. The Perfection Shoe Machinery Company operated as a manufacturer and supplier of shoe-making machinery and other materials from 1917 to 1925. In 1926, the company filed for bankruptcy and the factory was sold and converted into a textile mill. From 1928 to 1966, the property was used by the Stroudsburg Silk Company, Yankee Silk Mills, and Yankee Ribbon. Currently, the 0.3-acre property is partially enclosed by a chain-link fence and contains a single, early twentieth century industrial building. At the time of the investigation, the building was occupied by KCR Electric, LLC, a commercial electric contractor. The Perfection Shoe Machinery Company and subsequent textile companies operated prior to RCRA and therefore there was no documentation of hazardous waste generation or disposal. No records were available for review through the PADEP.

Construction activities anticipated on the site include widening/realignment of I-80, construction of new westbound exit ramps and parallel retaining walls. The maximum depth for disturbance is anticipated to be 10 feet bgs.

2.0 PHASE III ESA METHODS AND PROCEDURES

The following methods and procedures were followed to complete the Phase III ESAs, in accordance with the PennDOT-approved FSP.

2.1 Soil Sampling Methods

Soil samples were obtained using a Geoprobe[®] drilling rig. The Geoprobe[®] collects soil using direct-push technology. A dedicated 2-inch diameter acetate sleeve is inserted into a stainless steel core barrel and the core barrel is pushed into the ground; thereby, collecting the soil in the acetate sleeve. The cores are then retrieved, cut open, logged, and samples are collected, if necessary.

Continuous soil cores were obtained from each soil boring and examined by BrightFields' on-site environmental scientist. The soil cores were field screened at approximately one-foot intervals for the presence of volatile organic compounds (VOCs) using a photoionization detector (PID) with a 10.6 electronvolt (eV) lamp. Written logs, describing the soil, noting any evidence of contamination, and identifying the depth to groundwater, were maintained for each boring by BrightFields' on-site environmental scientist.

Soil samples for VOCs analysis were discrete grab samples collected as quickly as possible using Terra Core[®] samplers. The remaining soil samples for laboratory analysis were composited in a dedicated (single-use, disposable) aluminum pan, mixed using a dedicated plastic scoop, and then transferred to laboratory-cleaned sample containers. The dedicated equipment was not decontaminated after use. Clean, disposable nitrile gloves were worn during all sample collection activities. Gloves were changed at each sample location. Samples were tightly sealed, clearly labeled, and documented under chain-of-custody procedures. All labels included sample identification number, client/project name, project location, date of sample collection, time of sample collection, and sampler's initials.

Quality Assurance/Quality Control (QA/QC) soil samples were collected during the Phase III ESAs. Where possible, the following samples were collected for QA/QC: one duplicate sample, one Matrix Spike/Matrix Spike Duplicate (MS/MSD) sample, one equipment blank sample, and one trip blank sample (analyzed for VOCs only).

Non-dedicated sampling equipment, drilling equipment and hand tools were decontaminated between borings according to the following procedure outlined in the PennDOT-approved FSP:

- Scrubbed with a nylon brush and phosphate-free detergent and tap water solution.

- Rinsed the equipment with tap water.
- Rinsed with 0.1 normal (N) nitric acid.
- Rinsed with distilled or deionized water.
- Rinsed with pesticide-grade isopropanol into a bucket.
- Rinsed twice with distilled or deionized water.
- Air dried.

2.2 Groundwater Sampling Methods

Groundwater samples were collected from seven of the nine sites investigated. Samples were collected from select soil borings where groundwater was encountered. A dedicated temporary well point was installed in the selected soil boring using the Geoprobe® drilling rig. Dedicated temporary well points were used for all groundwater sampling locations.

Groundwater was purged from each well by placing dedicated polyethylene tubing down to the well screen and purging the well with a peristaltic pump until the purged groundwater was as free of suspended sediments as possible. Where possible, all groundwater samples, except for those collected for VOC analysis, were field filtered through a dedicated Quick Filter® (0.45 micrometer (µm) pore), to remove suspended material.

Groundwater was transferred directly from the Quick Filter® to the laboratory-cleaned sample containers. The sample vials for the VOC analysis were laboratory-preserved with hydrochloric acid (HCl). The samples for dissolved metals analysis were preserved with nitric acid (HNO₃). The sample bottles for the cyanide analysis were laboratory-preserved with sodium hydroxide (NaOH). When preservatives were present in the sample containers, steps were taken to ensure that the preservatives were not spilled during sample collection.

QA/QC groundwater samples were collected during the Phase III ESAs where groundwater samples were collected. Where possible, the following samples were collected for QA/QC: one duplicate sample, one MS/MSD sample, one equipment blank sample, and one trip blank sample (analyzed for VOCs only).

All groundwater sampling equipment was dedicated; therefore, no decontamination procedures were necessary, and all materials were disposed of as trash.

2.3 Sample Handling, Transportation, and Analysis

After a sample was collected, it was immediately placed in an insulated cooler with ice to maintain a temperature of approximately 4 degrees Celsius. Each sample was recorded on a chain-of-custody form that was maintained with the samples. All samples were transported to Eurofins Lancaster Laboratories Environmental (Eurofins) as soon as possible after the sampling event for analysis.

All samples analyzed for PADEP short list parameters and polychlorinated biphenyls (PCBs) were analyzed according to the methods detailed on Table IV-9 from PADEP Land Recycling Program Technical Guidance Manual.

Samples analyzed for VOCs, including PCE, trichloroethylene (TCE), cis-dichloroethene, vinyl chloride, and ethene were analyzed by Environmental Protection Agency (EPA) Method 8260B. Samples analyzed for semi-volatile organic compounds (SVOCs), including polycyclic aromatic hydrocarbons (PAHs), were analyzed by EPA Method 8270C. Samples analyzed for primary pollutant list (PPL) metals were analyzed by EPA Method 6010B. Samples analyzed for pH were analyzed by EPA Method 9045D. Samples analyzed for pesticides were analyzed by EPA Method 8081A.

2.4 Investigation-Derived Wastes

Disposable materials (gloves, paper towels, plastic trowels, Geoprobe[®] plastic sleeves, tubing, filters, etc.) were disposed of as trash. Excess soil exhibiting PID readings less than 25 parts per million (ppm) was returned to the respective boreholes in the order that it was drilled. There were no PID readings greater than 25 ppm during the sampling activities; therefore, it was not necessary to containerize any soil. The open boreholes were abandoned with bentonite. Purged groundwater did not exhibit PID readings above 5 ppm or display visible sheen; therefore, purged groundwater was discharged to the ground surface. Following the completion of sample collection, any temporary well points were removed, and all borings were abandoned to ground surface using bentonite.

Only dedicated equipment was used for the sampling activities; therefore, there was no waste decontamination water generated for disposal.

3.0 PHASE III ESA SCOPE OF WORK

The proposed scope of work for the Phase III ESAs was described in the PennDOT-approved FSP. The scope of work was designed to meet the requirements for Phase III ESAs described in the PennDOT Publication 281, *The Transportation Project Development Process, Waste Site Evaluation Procedures Handbook*. Prior to conducting the Phase III ESAs, BrightFields notified the PA One-Call system. Prior to investigation activities in 2017, BrightFields provided advanced notice to site owners by sending a notification letter and following up with a phone call. Prior to investigation activities in 2018, PennDOT notified site owners of investigation activities. All sampling locations were recorded using a hand-held global positioning system (GPS) unit.

The following sections detail site-specific scope information. Photographs taken during the Phase III ESA activities are included as Appendix B.

3.1 APS Recycling

On November 27 and 28, 2017, ten soil borings (APS-GP01 through APS-GP10) were advanced at the APS Recycling site. All ten borings were advanced to 15 feet bgs. Surface (0.0 to 2.0 feet bgs) and subsurface (ranging from 5.3 to 13.5 feet bgs) soil samples were collected from the borings in accordance with the approved FSP. Drilling logs for the APS Recycling site Phase III ESA are included as Appendix C.1.

Groundwater was encountered in six borings (APS-GP02, APS-GP03, APS-GP05, APS-GP06, APS-GP07, and APS-GP10) at depths ranging from 7.3 to 11.5 feet bgs. Groundwater samples were collected from dedicated temporary well points installed in five soil borings (APS-GP02, APS-GP05, APS-GP06, APS-GP07, and APS-GP10). A sample location map for the APS Recycling site is included as Figure 4.

The soil and groundwater samples were analyzed for PADEP short list parameters for leaded gasoline, unleaded gasoline, kerosene, diesel fuel, fuel oils, lubricating oils, PAHs, pH, PPL metals, asbestos, target compound list (TCL) pesticides, and PCBs, except for the following:

- Due to a chain of custody error, soil sample APS-GP10-S001 was analyzed for PADEP short list parameters only and soil sample APS-GP10-S002 was not analyzed for asbestos.
- Due to insufficient groundwater yield from the temporary well points; groundwater sample APS-GP07-W001 was analyzed for the PADEP short list parameters only; groundwater samples APS-GP02-W001, APS-GP07-W001, and APS-GP10-W001 were not analyzed

for asbestos; and groundwater samples APS-GP07-W001 and APS-GP10-W001 were not analyzed for pH.

The analytical results for soil and groundwater samples collected from the APS Recycling Site are discussed in Section 4.1.

3.2 Biobuffer Solutions, Inc./Pocono Foundry

On November 28, 2017, four soil borings (BIO-GP01 through BIO-GP04) were advanced at the Biobuffer Solutions, Inc./Pocono Foundry site. Three of the soil borings (BIO-GP01, BIO-GP03, and BIO-GP04) were advanced to 15 feet bgs. One soil boring (BIO-GP02) was advanced to 20 feet bgs. Surface (0.0 to 2.0 feet bgs) and subsurface (ranging from 5.0 feet to 16.0 feet bgs) soil samples were collected from the borings in accordance with the approved FSP. Drilling logs for the Biobuffer Solutions, Inc./Pocono Foundry site are included as Appendix C.2.

Groundwater was encountered in three soil borings (BIO-GP01, BIO-GP03, and BIO-GP04) at depths ranging from 6.0 feet to 6.6 feet bgs. Groundwater samples were collected from temporary well points installed in two soil borings (BIO-GP01 and BIO-GP03). A sample location map for the Biobuffer Solutions, Inc./Pocono Foundry site is included as Figure 5.

The soil and groundwater samples were analyzed PADEP short list parameters for unleaded gasoline, kerosene, diesel fuel, fuel oils, and lubricating oils, PPL metals, PAHs, and PCBs, with the exception of PAH analyses for groundwater. Due to insufficient groundwater yield from the temporary wells, PAHs were not analyzed for in the groundwater samples. The analytical results for soil and groundwater samples collected from the Biobuffers Solutions, Inc./ Pocono Foundry site are discussed in Section 4.2.

3.3 Former Gas Station

On November 27, 2017, a geophysical survey was conducted by Subsurface Environmental Technologies, LLC (SET) under the supervision of BrightFields. This survey was completed using ground penetrating radar (GPR) and electromagnetic (EM) instruments in an effort to determine if USTs were present, prior to conducting drilling activities on site. The geophysical survey identified one suspected UST at the site. The UST was interpreted to be 14 feet long by 6 feet wide and is buried at an approximate depth of 3 feet bgs.

The geophysical survey also identified an area of peak metal responses. GPR signatures

suggesting the presence of USTs in this area were not observed, however, GPR penetration was limited to one foot bgs over this anomaly. Shallow, repeating, and closely spaced hyperbolic signatures were observed that are commonly seen with the presence of buried reinforced slabs. Based on this information, this area of peak metal responses may be due to the presence of buried reinforced concrete, however, it is possible that USTs are present below the suspected reinforced slab and were not indicated in GPR responses due to the interference. A copy of the geophysical survey report is included in Appendix D.

On November 29, 2017, four soil borings (FGS-GP01 through FGS-GP04) were advanced at the Former Gas Station site around the suspected UST and the area of peak metal responses. The borings were advanced to five feet bgs. Surface (0.5 to 2.0 feet bgs) and subsurface (ranging from 2.0 to 3.3 feet bgs) soil samples were collected from the borings in accordance with the approved FSP. Drilling logs for the Former Gas Station site are included as Appendix C.3.

Groundwater was not encountered at the Former Gas Station site, and therefore, groundwater samples were not collected. A sample location map for the Former Gas Station site is included as Figure 6.

The soil samples were analyzed for PADEP short list parameters for leaded gasoline, unleaded gasoline, kerosene, and diesel fuel. The analytical results for soil samples collected from the Former Gas Station site are discussed in Section 4.3.

3.4 Former Research Laboratory/Chemical Plant

On November 30, 2017, five soil borings (FRL-GP01 through FRL-GP05) were advanced at the Former Research Laboratory/Chemical Plant site. Due to limited space on the site, a sixth boring was not advanced.

Four of the soil borings (FRL-GP01, FRL-GP02, FRL-GP03, and FRL-GP05) were advanced to 15 feet bgs. Soil boring FRL-GP04 was only advanced to 4 feet bgs due to refusal on concrete. Surface (0.0 to 2.0 feet bgs) and subsurface (ranging from 5.0 to 11.8 feet bgs) soil samples were collected from soil borings FRL-GP01, FRL-GP02, FRL-GP03, and FRL-GP05, in accordance with the approved FSP. A surface soil sample was collected from soil boring FRL-GP04. Due to limited recovery, BrightFields was not able to collect a subsurface soil sample from soil boring FRL-GP04. Drilling logs for the Former Research Laboratory/Chemical Plant site are included as Appendix C.4.

Groundwater was not encountered at the Former Research Laboratory/Chemical Plant site, and therefore, groundwater samples were not collected. A sample location map for the Former Research Laboratory/Chemical Plant site is included as Figure 7.

The soil samples were analyzed for VOCs and SVOCs. The analytical results for soil and groundwater samples collected from the Former Laboratory/Chemical Plan Site are discussed in Section 4.4.

3.5 Klingel Cleaners and West Main Street PCE Sites

On November 30, 2017, four soil borings (WMP-GP01 through WMP-GP04) were advanced at the Klingel Cleaners and West Main Street PCE sites. All four borings were advanced to 15 feet bgs. Surface (0.0 to 2.0 feet bgs) and subsurface (ranging from 5.0 to 8.0 feet bgs) soil samples were collected from the borings in accordance with the approved FSP. Drilling logs for the Klingel Cleaners and West Main Street PCE sites are included as Appendix C.5.

Groundwater was encountered in all four borings at depths ranging from 5.6 feet to 10.0 feet bgs. Groundwater samples were collected from temporary well points installed in all four borings. A sample location map for the Klingel Cleaners and West Main Street PCE sites is included as Figure 8.

The soil samples were analyzed for PCE, TCE, cis-dichloroethene, and vinyl chloride. The groundwater samples were analyzed for PCE, TCE, cis-dichloroethene, vinyl chloride, and ethene. The analytical results for soil and groundwater samples collected from the Klingel Cleaners/ West Main Street PCE Sites are discussed in Section 4.5.

3.6 Main Street Stop & Go

On November 28, 2017, three soil borings (MSG-GP01 through MSG-GP03) were advanced at the Main Street Stop & Go site. All three borings were advanced to 15 feet bgs. Surface (0.0 to 2.0 feet bgs) and subsurface (ranging from 5.0 to 7.0 feet bgs) soil samples were collected from the borings in accordance with the approved FSP. Drilling logs for the Main Street Stop & Go site are included as Appendix C.6.

Groundwater was encountered in all three borings at depths ranging from 6.3 to 10.0 feet bgs. Groundwater samples were collected from temporary well points installed in all three borings. A sample location map for the Main Street Stop & Go site is included as Figure 9.

The soil and groundwater samples were analyzed for PADEP short list parameters for leaded gasoline, unleaded gasoline, diesel fuel, PCE, trichloroethylene, cis-dichloroethene, and vinyl chloride. The groundwater samples were analyzed for PADEP short list parameters for leaded gasoline, unleaded gasoline, diesel fuel, PCE, trichloroethylene, cis-dichloroethene, vinyl chloride, and ethene. The analytical results are discussed in Section 4.6.

3.7 Pocono Gas Station

On November 30, 2017 two soil borings (PGS-GP01 and PGS-GP02) were advanced at the Pocono Gas Station Site. On December 3 and 4, 2018 an additional six soil borings (PGS-GP03 through PGS-GP08) were advanced at the Pocono Gas Station site. All borings were advanced to 10 feet bgs. Surface (0.0 to 2.0 feet bgs) and subsurface (ranging from 5.0 feet to 7.6 feet bgs) soil samples were collected from the borings in accordance with the approved FSP. Drilling logs for the Pocono Gas Station site are included as Appendix C.7.

Prior to the drilling activities conducted on December 3, and 4, 2018, a geophysical survey was conducted by SET under the supervision of BrightFields. The geophysical survey was conducted on November 28, 2018, using GPR and EM instruments in an effort to identify subsurface anomalies, identify and mark out underground utilities, and to clear all proposed drilling locations of utilities and other identifiable subsurface hazards. There were no anomalies observed in the area of the proposed boring locations during the geophysical survey and all proposed drilling locations were cleared of subsurface hazards. A copy of the geophysical survey report is included in Appendix D.

Groundwater was encountered in 7 of the 8 borings at depths ranging from 5.0 to 7.6 feet bgs. Groundwater was not encountered in PGS-GP07. Groundwater samples were collected from temporary well points installed in borings PGS-GP01, PGS-GP02, PGS-GP03, PGS-GP05, PGS-GP06, and PGS-GP08. A groundwater sample was not collected from PGS-GP04. A sample location map for the Pocono Gas Station site is included as Figure 10.

The soil and groundwater samples were analyzed for PADEP short list parameters for leaded and unleaded gasoline, diesel fuel, and kerosene. The analytical results for soil and groundwater samples collected from the Pocono Gas Station site are discussed in Section 4.7.

3.8 Rinehart EM, Inc.

On December 1, 2017, eight soil borings (REI-GP01 through REI-GP08) were advanced at the

Rinehart EM, Inc. site. Six of the soil borings (REI-GP01, REI-GP02, REI-GP04, REI-GP05, REI-GP07, and REI-GP08) were advanced to 10 feet bgs. One soil boring (REI-GP06) was advanced to 15 feet bgs. Macrocore refusal on concrete was encountered in one soil boring (REI-GP03) at a depth of 7 feet bgs. Surface (0.0 to 2.0 feet bgs) and subsurface (ranging from 5.0 to 7.6 feet bgs) soil samples were collected from the borings in accordance with the approved FSP. Drilling logs for the Rinehart EM, Inc. site are included as Appendix C.8.

Groundwater was encountered in all eight borings at depths ranging from 5.8 to 7.6 feet bgs. Groundwater samples were collected from temporary well points installed in four borings (REI-GP01, REI-GP02, REI-GP04, and REI-GP07). A sample location map for the Rinehart EM, Inc. site is included as Figure 11.

The soil and groundwater samples were analyzed for PADEP short list parameters for leaded and unleaded gasoline, PPL metals, pH, and PCBs, except for groundwater sample REI-GP01-W001. Due to insufficient groundwater yield from the temporary well point; groundwater sample REI-GP01-W001 was analyzed for the PADEP short list parameters only.

The analytical results for soil and groundwater samples collected from the Rinehart, EM site are discussed in Section 4.8.

3.9 Perfection Shoe Machinery Company

Prior to the drilling activities conducted on December 3, 2018, a geophysical survey was conducted by SET under the supervision of BrightFields. The geophysical survey was conducted on November 28, 2018, using GPR and EM instruments in an effort to identify subsurface anomalies, identify and mark out underground utilities, and to clear all proposed drilling locations of utilities and other identifiable subsurface hazards. There were no anomalies observed in the area of the proposed boring locations during the geophysical survey and all proposed drilling locations were cleared of subsurface hazards. A copy of the geophysical survey report is included in Appendix D.

On December 3, 2018, six soil borings (PSC-GP01 through PSC-GP06) were advanced at the Perfection Shoe Machinery Company site. All six of the soil borings were advanced to 10 feet bgs. Surface (0.0 to 2.0 feet bgs) and subsurface (ranging from 5.0 to 7.6 feet bgs) soil samples were collected from the borings in accordance with the approved FSP. Drilling logs for the Perfection Shoe Machinery Company are included as Appendix C.9.



Groundwater was encountered initially during drilling in three of the six borings (PSC-GP01, PSC-GP02, and PSC-GP04) at depths ranging from 5.25 to 7.5 feet bgs. Groundwater samples were collected from temporary well points installed in three borings (PSC-GP01, PSC-GP02, and PSC-GP06). BrightFields attempted to collect a groundwater sample from PSC-GP04 but there was not enough groundwater yield to get the volume required for sample analysis. Therefore, BrightFields installed a temporary well point in boring PSC-GP06 which yielded enough groundwater to complete groundwater sample collection. At the time that BrightFields logged the soil, BrightFields did not encounter an obvious water table in the soil logged from PSC-GP06. A sample location map for the Perfection Shoe Company site is included as Figure 12.

The soil and groundwater samples were analyzed for VOCs, SVOCs, PPL Metals, and PCBs. The analytical results are discussed in Section 4.9.

4.0 PHASE III ESA ANALYTICAL RESULTS

This section discusses the analytical results for soil and groundwater samples collected during the Phase III ESAs of the sites.

The analytical results for the soil samples collected during the Phase III ESAs were compared to the following regulatory criteria: PADEP Statewide Health Standards (SHS) Residential Medium Specific Concentrations (MSCs) for Direct Contact, PADEP SHS Non-Residential MSCs for Direct Contact, PADEP SHS Non-Residential MSCs Soil to Groundwater in a Used Aquifer (Total Dissolved Solids (TDS) \leq 2500), PADEP Clean Fill Concentration Limits, and PADEP Beneficial Use of Regulated Fill Concentration Limits. The analytical results for the soil samples collected from the Main Street Stop & Go, Pocono Gas Station, and Rinehart EM, Inc. sites were also compared to the PADEP Action Levels for Soil Reuse on UST sites.

The analytical results for the groundwater samples collected during the Phase III ESAs were compared to the following regulatory criteria: PADEP SHS Non-Residential MSCs for Groundwater in a Used Aquifer (TDS \leq 2500). The analytical results for the groundwater samples collected from the Main Street Stop & Go site, Pocono Gas Station site, and Rinehart EM, Inc. site were also compared to the PADEP Water Action Levels at UST Closure Sites.

The following sections discuss the analytical results for the samples collected from each site.

4.1 APS Recycling

The analytical results for the surface soil samples and the subsurface soil samples collected from the APS Recycling site are summarized in Sections 4.1.1 and 4.1.2, respectively. An analytical data summary table for the soil samples is included as Table 1.

The analytical results for the groundwater samples collected from the APS Recycling site are summarized in Section 4.1.3 and an analytical data summary table for the groundwater samples is included as Table 2.

The laboratory analytical data packages for the soil and groundwater samples collected from the APS recycling site are included as Appendix E.1.

4.1.1 Surface Soil

VOCs

VOCs were not detected in soil borings APS-GP01-S001, APS-GP08-S001, and APS-GP10-S001.

VOCs were detected at concentrations below the PADEP SHS Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$), the PADEP Clean Fill Concentration Limits, and the PADEP Beneficial Use of Regulated Fill Concentration Limits in soil samples APS-GP02-S001, APS-GP03-S001, APS-GP04-S001, APS-GP05-S001, APS-GP06-S001, APS-GP07-S001, and APS-GP09-S001.

PAHs

One PAH, benzo(a)pyrene, was detected above the PADEP SHS Residential MSCs for Direct Contact of 0.58 milligrams per kilogram (mg/kg) in one sample, APS-GP06-S001, at a concentration of 0.79 mg/kg.

Various PAHs were detected above the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$) in soil samples APS-GP01-S001, APS-GP02-S001, APS-GP03-S001, APS-GP04-S001, APS-GP05-S001, APS-GP06-S001, APS-GP07-S001, APS-GP08-S001, and APS-GP09-S001.

PAHs were detected at concentrations below the PADEP SHS Non-Residential MSCs for Direct Contact, the PADEP Clean Fill Concentration Limits, and the PADEP Beneficial Use of Regulated Fill Concentration Limits in soil samples APS-GP01-S001, APS-GP02-S001, APS-GP03-S001, APS-GP04-S001, APS-GP05-S001, APS-GP06-S001, APS-GP07-S001, APS-GP08-S001, and APS-GP09-S001.

Asbestos

Asbestos was not detected in soil samples APS-GP01-S001, APS-GP04-S001, APS-GP05-S001, APS-GP06-S001, APS-GP07-S001, APS-GP08-S001, and APS-GP09-S001.

Asbestos was detected at concentrations less than 0.25% in soil samples APS-GP02-S001 and APS-GP03-S001.

PCBs

Various PCBs were detected above the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$) in soil samples APS-GP05-S001, APS-GP06-S001, APS-GP07-S001, and APS-GP08-S001.

PCBs were detected at concentrations below the PADEP SHS Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Direct Contact, the PADEP Clean Fill Concentration Limits, and the PADEP Beneficial Use of Regulated Fill Concentration Limits in soil samples APS-GP01-S001, APS-GP02-S001, APS-GP03-S001, APS-GP04-S001, APS-GP05-S001, APS-GP06-S001, APS-GP07-S001, APS-GP08-S001, and APS-GP09-S001.

Pesticides

Pesticides were not detected in soil boring APS-GP04-S001.

Various pesticides were detected above the PADEP SHS Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$), the PADEP Clean Fill Concentration Limits, and the PADEP Beneficial Use of Regulated Fill Concentration Limits in one sample, APS-GP05-S001.

Pesticides were detected at concentrations below the PADEP SHS Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$), the PADEP Clean Fill Concentration Limits, and the PADEP Beneficial Use of Regulated Fill Concentration Limits in soil samples APS-GP01-S001, APS-GP02-S001, APS-GP03-S001, APS-GP06-S001, APS-GP07-S001, APS-GP08-S001, and APS-GP09-S001.

Metals

Various metals were detected above the PADEP SHS Residential MSCs for Direct Contact in soil samples APS-GP01-S001, APS-GP02-S001, APS-GP03-S001, APS-GP04-S001, APS-GP05-S001, APS-GP06-S001, APS-GP07-S001, APS-GP08-S001, and APS-GP09-S001.

Various metals were detected above the PADEP SHS Non-Residential MSCs for Direct Contact in one soil sample, APS-GP06-S001.

Various metals were detected above the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$) in soil samples APS-GP01-S001, APS-GP02-S001, APS-GP03-S001, APS-GP04-S001, APS-GP05-S001, APS-GP06-S001, APS-GP07-S001, APS-GP08-S001, and APS-GP09-S001.

Various metals were detected above the PADEP Clean Fill Concentration Limits in soil samples APS-GP02-S001, APS-GP05-S001, APS-GP06-S001, and APS-GP09-S001.

Various metals were detected above the PADEP Beneficial Use of Regulated Fill Concentration Limits in three samples, APS-GP05-S001, APS-GP06-S001 and APS-GP09-S001.

pH

Results for pH in the samples ranged from 7.6 to 11.9.

4.1.2 Subsurface Soil

VOCs

VOCs were not detected in soil samples APS-GP01-S002, APS-GP02-S002, APS-GP03-S002, APS-GP04-S002, APS-GP05-S002, APS-GP06-S002, APS-GP07-S002, APS-GP08-S002, APS-GP09-S002, and APS-GP10-S002.

PAHs

PAHs were not detected in soil sample APS-GP02-S002.

Various PAHs were detected at concentrations above the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$) in two soil samples, APS-GP06-S002 and APS-GP07-S002.

PAHs were detected at concentrations below the PADEP SHS Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Direct Contact, the PADEP Clean Fill Concentration Limits, and the PADEP Beneficial Use of Regulated Fill Concentration Limits in soil borings APS-GP01-S002, APS-GP03-S002, APS-GP04-S002, APS-GP05-S002, APS-GP06-S002, APS-GP07-S002, APS-GP08-S002, APS-GP09-S002, and APS-GP10-S002.

Asbestos

Asbestos was not detected in soil samples APS-GP01-S002, APS-GP02-S002, APS-GP03-S002, APS-GP04-S002, APS-GP05-S002, APS-GP06-S002, APS-GP07-S002, APS-GP08-S002, and APS-GP09-S002.

PCBs

PCBs were not detected in soil samples APS-GP01-S002, APS-GP02-S002, APS-GP03-S002, APS-GP08-S002, and APS-GP10-S002.

PCB-1248 was detected at a concentration above the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$) in one soil sample, APS-GP07-S002.

PCBs were detected at concentrations below the PADEP SHS Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Direct Contact, the PADEP Clean Fill Concentration Limits, and the PADEP Beneficial Use of Regulated Fill Concentration Limits in soil borings APS-GP04-S002, APS-GP05-S002, APS-GP06-S002, APS-GP07-S002, and APS-GP09-S002.

Pesticides

Pesticides were not detected in soil samples APS-GP01-S002, APS-GP02-S002, APS-GP03-S002, APS-GP05-S002, APS-GP08-S002, APS-GP09-S002, and APS-GP10-S002.

Pesticides were detected at concentrations below the PADEP SHS Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$), the PADEP Clean Fill Concentration Limits, and the PADEP Beneficial Use of Regulated Fill Concentration Limits in soil borings APS-GP04-S002, APS-GP06-S002, and APS-GP07-S002.

Metals

Various metals were detected above the PADEP SHS Residential MSCs for Direct Contact and the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$) in soil samples APS-GP01-S002, APS-GP02-S002, APS-GP03-S002, APS-GP04-S002, APS-GP05-S002, APS-GP06-S002, APS-GP07-S002, APS-GP08-S002, APS-GP09-S002, and APS-GP10-S002.

Various metals were detected above the PADEP Clean Fill Concentration Limits in two samples, APS-GP05-S002 and APS-GP06-S002.

One metal, lead, was detected above the PADEP Beneficial Use of Regulated Fill Concentration Limits in one sample, APS-GP06-S002.

Metals were detected at concentrations below the PADEP SHS Non-Residential MSCs for Direct Contact, the PADEP Clean Fill Concentration Limits, and the PADEP Beneficial Use of Regulated Fill Concentration Limits in soil samples APS-GP01-S002, APS-GP02-S002, APS-GP03-S002, APS-GP04-S002, APS-GP07-S002, APS-GP08-S002, APS-GP09-S002, and APS-GP10-S002.

pH

Results for pH in the samples ranged from 6.7 to 10.2.

4.1.3 Groundwater

VOCs

One VOC (methyl tertiary-butyl ether (MTBE)) was detected above the PADEP SHS Non-Residential MSCs for Groundwater in a Used Aquifer (TDS \leq 2500) of 20 micrograms per liter ($\mu\text{g/L}$) in one sample, APS-GP07-W001.

VOCs were not detected in samples APS-GP02-W001, APS-GP05-W001, APS-GP06-W001, and APS-GP10-W001.

PAHs

PAHs were not detected in samples APS-GP02-W001, APS-GP05-W001, APS-GP06-W001, APS-GP07-W001, and APS-GP10-W001.

PCBs

PCBs were not detected in samples APS-GP02-W001, APS-GP05-W001, APS-GP06-W001, APS-GP07-W001, and APS-GP10-W001.

Pesticides

Pesticides were not detected in samples APS-GP02-W001, APS-GP05-W001, and APS-GP06-W001. Pesticides were detected at concentrations below the PADEP SHS Non-Residential MSCs for Groundwater in a Used Aquifer ($TDS \leq 2500$) in sample APS-GP10-W001.

Metals

Various metals were detected above the PADEP SHS Non-Residential MSCs for Groundwater in a Used Aquifer ($TDS \leq 2500$) in samples GP05-W001, APS-GP06-W001, and APS-GP10-W001. Metals were detected at concentrations below the PADEP SHS Non-Residential MSCs for Groundwater in a Used Aquifer ($TDS \leq 2500$) in sample APS-GP02-W001.

Asbestos

Asbestos was not detected in samples APS-GP05-W001 and APS-GP06-W001.

pH

Results for pH in the groundwater samples ranged from 6.5 to 6.9.

4.2 Biobuffer Solutions, Inc./Pocono Foundry

The analytical results for the surface soil samples and the subsurface soil samples collected from the Biobuffer Solutions, Inc./Pocono Foundry site are summarized in Sections 4.2.1 and 4.2.2, respectively. An analytical data summary table for the soil samples is included as Table 3.

The analytical results for the groundwater samples collected from the Biobuffer Solutions, Inc./Pocono Foundry site are summarized in Section 4.2.3 and an analytical data summary table for the groundwater samples is included as Table 4.

The laboratory analytical data package for the soil and groundwater samples collected from the Biobuffer Solutions, Inc./Pocono Foundry site is included as Appendix E.2.

4.2.1 Surface Soil

VOCs

VOCs were not detected in soil sample BIO-GP04-S001.

VOCs were detected at concentrations below the PADEP SHS Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$), the PADEP Clean Fill Concentration Limits, and the PADEP Beneficial Use of Regulated Fill Concentration Limits in soil samples BIO-GP01-S001, BIO-GP02-S001, and BIO-GP03-S001.

PAHs

Various PAHs were detected above the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$) in soil samples BIO-GP01-S001, BIO-GP02-S001, BIO-GP03-S001, and BIO-GP04-S001.

PAHs were detected at concentrations below the PADEP SHS Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Direct Contact, the PADEP Clean Fill Concentration Limits, and the PADEP Beneficial Use of Regulated Fill Concentration Limits in soil samples BIO-GP01-S001, BIO-GP02-S001, BIO-GP03-S001, and BIO-GP04-S001.

PCBs

PCBs were not detected in soil samples BIO-GP03-S001 and BIO-GP04-S001.

PCB-1260 was detected below the PADEP SHS Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$), the PADEP Clean Fill Concentration Limits, and the PADEP Beneficial Use of Regulated Fill Concentration Limits in soil samples BIO-GP01-S001 and BIO-GP02-S001.

Metals

Various metals were detected above the PADEP SHS Residential MSCs for Direct Contact and the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$) in soil samples BIO-GP01-S001, BIO-GP02-S001, BIO-GP03-S001, and BIO-GP04-S001.

Arsenic was detected above the PADEP Clean Fill Concentration Limits of 12 mg/kg in two samples, BIO-GP01-S001 and BIO-GP04-S001.

Metals were detected below the PADEP SHS Non-Residential MSCs for Direct Contact and the PADEP Beneficial Use of Regulated Fill Concentration Limits in soil samples BIO-GP01-S001, BIO-GP02-S001, BIO-GP03-S001, and BIO-GP04-S001.

4.2.2 Subsurface Soil

VOCs

VOCs were not detected in soil samples BIO-GP01-S002, BIO-GP02-S002, BIO-GP03-S002, and BIO-GP04-S002.

PAHs

PAHs were not detected in soil sample BIO-GP04-S002.

PAHs were detected below the PADEP SHS Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$), the PADEP Clean Fill Concentration Limits, and the PADEP Beneficial Use of Regulated Fill Concentration Limits in soil samples BIO-GP01-S002, BIO-GP02-S002, and BIO-GP03-S002.

PCBs

PCBs were not detected in soil samples BIO-GP01-S002, BIO-GP02-S002, BIO-GP03-S002, and BIO-GP04-S002.

Metals

Various metals were detected above the PADEP SHS Residential MSCs for Direct Contact and PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$) in soil samples BIO-GP01-S002, BIO-GP02-S002, BIO-GP03-S002, and BIO-GP04-S002.

Arsenic was detected above the PADEP Clean Fill Concentration Limits of 12 mg/kg in two samples, BIO-GP01-S002 and BIO-GP02-S002.

Metals were detected below the PADEP SHS Non-Residential MSCs for Direct Contact and the PADEP Beneficial Use of Regulated Fill Concentration Limits in soil samples BIO-GP01-S002, BIO-GP02-S002, BIO-GP03-S002, and BIO-GP04-S002.

4.2.3 Groundwater

VOCs

VOCs were not detected in samples BIO-GP01-W001 and BIO-GP03-W001.

PCBs

PCBs were not detected in samples BIO-GP01-W001 and BIO-GP03-W001.

Metals

Arsenic and lead were detected above the PADEP SHS Non-Residential MSCs for Groundwater in a Used Aquifer ($TDS \leq 2500$) in two samples, BIO-GP01-W001 and BIO-GP03.

Beryllium, copper, and nickel were detected above the PADEP SHS Non-Residential MSCs for Groundwater in a Used Aquifer ($TDS \leq 2500$) in one sample, BIO-GP01-W001.

All other metals were detected at concentrations below the PADEP SHS Non-Residential MSCs for Groundwater in a Used Aquifer ($TDS \leq 2500$).

4.3 Former Gas Station

The analytical results for the surface soil samples and the subsurface soil samples collected from the Former Gas Station site are summarized in Sections 4.3.1 and 4.3.2, respectively. An analytical data summary table for the soil samples is included as Table 5.

The laboratory analytical data package for the soil samples collected from the Former Gas Station site is included as Appendix E.3.

4.3.1 Surface Soil

VOCs

VOCs were not detected in soil samples FGS-GP01-S001, FGS-GP03-S001, and FGS-GP04-S001.

VOCs were detected below the PADEP SHS Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$), the PADEP Clean Fill Concentration Limits,

and the PADEP Beneficial Use of Regulated Fill Concentration Limits in soil sample FGS-GP02-S001.

Lead

Lead was detected at concentrations above the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$) in soil samples FGS-GP01-S001, FGS-GP02-S001, FGS-GP03-S001, and FGS-GP04-S001.

Lead was detected below the PADEP SHS Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Direct Contact, the PADEP Clean Fill Concentration Limits, and the PADEP Beneficial Use of Regulated Fill Concentration Limits in soil samples FGS-GP01-S001, FGS-GP02-S001, FGS-GP03-S001, and FGS-GP04-S001.

4.3.2 Subsurface Soil

VOCs

VOCs were not detected in soil sample FGS-GP02-S002.

VOCs were detected below the PADEP SHS Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$), the PADEP Clean Fill Concentration Limits, and the PADEP Beneficial Use of Regulated Fill Concentration Limits in soil samples FGS-GP01-S002, FGS-GP03-S002, and FGS-GP04-S002.

Lead

Lead was detected at concentrations above the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$) in soil samples FGS-GP01-S002, FGS-GP02-S002, FGS-GP03-S002, and FGS-GP04-S002.

Lead was detected below the PADEP SHS Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Direct Contact, the PADEP Clean Fill Concentration Limits, and the PADEP Beneficial Use of Regulated Fill Concentration Limits in soil samples FGS-GP01-S002, FGS-GP02-S002, FGS-GP03-S002, and FGS-GP04-S002.

4.4 Former Research Laboratory/Chemical Plant

The analytical results for the surface soil samples and the subsurface soil samples collected from the Former Research Laboratory/Chemical Plant site are summarized in Sections 4.4.1 and 4.4.2, respectively. An analytical data summary table for the soil samples is included as Table 6.

The laboratory analytical data package for the soil samples collected from the Former Gas Station site is included as Appendix E.4.

4.4.1 Surface Soil

VOCs

VOCs were not detected in soil sample FRL-GP05-S001.

VOCs were detected below the PADEP SHS Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$), the PADEP Clean Fill Concentration Limits, and the PADEP Beneficial Use of Regulated Fill Concentration Limits in soil samples FRL-GP01-S001, FRL-GP02-S001, FRL-GP03-S001, and FRL-GP04-S001.

SVOCs

Various SVOCs were detected above the PADEP SHS Residential MSCs for Direct Contact in soil samples FRL-GP02-S001, FRL-GP04-S001, and FRL-GP05-S001.

Various SVOCs were detected above the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$) in soil samples FRL-GP01-S001, FRL-GP02-S001, FRL-GP03-S001, FRL-GP04-S001, and FRL-GP05-S001.

One SVOC, benzo(a)pyrene, was detected above the PADEP SHS Non-Residential MSCs for Direct Contact, the PADEP Clean Fill Concentration Limits, and the PADEP Beneficial Use of Regulated Fill Concentration Limits in one sample, FRL-GP05-S001.

4.4.2 Subsurface Soil

VOCs

VOCs were detected below the PADEP SHS Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$), the PADEP Clean Fill Concentration Limits, and the PADEP Beneficial Use of Regulated Fill Concentration Limits in soil samples FRL-GP01-S002, FRL-GP02-S002, FRL-GP03-S002, and FRL-GP05-S002.

SVOCs

Various SVOCs were detected above the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$) in soil samples FRL-GP01-S002, FRL-GP02-S002, FRL-GP03-S002, and FRL-GP05-S002.

SVOCs were detected below the PADEP SHS Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Direct Contact, the PADEP Clean Fill Concentration Limits, and the PADEP Beneficial Use of Regulated Fill Concentration Limits in soil samples FRL-GP01-S002, FRL-GP02-S002, FRL-GP03-S002, and FRL-GP05-S002.

4.5 Klingel Cleaners and West Main Street PCE Sites

The analytical results for the surface soil samples and the subsurface soil samples collected from the Klingel Cleaners and West Main Street PCE sites are summarized in Sections 4.5.1 and 4.5.2, respectively. An analytical data summary table for the soil samples is included as Table 7.

The analytical results for the groundwater samples collected from the Klingel Cleaners and West Main Street PCE sites are summarized in Section 4.5.3 and an analytical data summary table for the groundwater samples is included as Table 8.

The laboratory analytical data package for the soil and groundwater samples collected from the Klingel Cleaners and West Main Street PCE sites is included as Appendix E.5.

4.5.1 Surface Soil

VOCs

VOCs were not detected in soil samples WMP-GP03-S001 and WMP-GP04-S001.

One VOC, tetrachloroethene, was detected below the PADEP SHS Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$), the PADEP Clean Fill Concentration Limits, and the PADEP Beneficial Use of Regulated Fill Concentration Limits in soil samples WMP-GP01-S001 and WMP-GP02-S001.

4.5.2 Subsurface Soil

VOCs

VOCs were not detected in soil samples WMP-GP03-S002 and WMP-GP04-S002.

One VOC, tetrachloroethene, was detected below the PADEP SHS Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$), the PADEP Clean Fill Concentration Limits, and the PADEP Beneficial Use of Regulated Fill Concentration Limits in soil samples WMP-GP01-S002 and WMP-GP02-S002.

4.5.3 Groundwater

VOCs

VOCs were not detected in samples WMP-GP02-W001, WMP-GP03-W001, and WMP-GP04-W001.

One VOC, tetrachloroethene, was detected below the PADEP SHS Non-Residential MSCs for Groundwater in a Used Aquifer ($TDS \leq 2500$) in sample WMP-GP01-W001.

4.6 Main Street Stop & Go

The analytical results for the surface soil samples and the subsurface soil samples collected from the Main Street Stop & Go site are summarized in Sections 4.6.1 and 4.6.2, respectively. An analytical data summary table for the soil samples is included as Table 9.

The analytical results for the groundwater samples collected from the Main Street Stop & Go site are summarized in Section 4.6.3 and an analytical data summary table for the groundwater samples is included as Table 10.

The laboratory analytical data package for the soil and groundwater samples collected from the Main Street Stop & Go site is included as Appendix E.6.

4.6.1 Surface Soil

VOCs

VOCs were detected below the PADEP SHS Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$), the PADEP Clean Fill Concentration Limits, the PADEP Action Levels for Soil Reuse on UST Sites, and the PADEP Beneficial Use of Regulated Fill Concentration Limits in soil samples MSG-GP01-S001, MSG-GP02-S001, and MSG-GP03-S001.

Lead

Lead was detected above the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$) in soil samples MSG-GP01-S001, MSG-GP02-S001, and MSG-GP03-S001.

Lead was detected below the PADEP SHS Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Direct Contact, the PADEP Clean Fill Concentration Limits, the PADEP Action Level for Soil Reuse of Soil on UST Sites, and the PADEP Beneficial Use of Regulated Fill Concentration Limits in soil samples MSG-GP01-S001, MSG-GP02-S001, and MSG-GP03-S001.

4.6.2 Subsurface Soil

VOCs

VOCs were detected below the PADEP SHS Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$), the PADEP Clean Fill Concentration Limits, the PADEP Action Levels for Soil Reuse of Soil on UST Sites, and the PADEP Beneficial Use of

Regulated Fill Concentration Limits in soil samples MSG-GP01-S002, MSG-GP02-S002, and MSG-GP03-S002.

Lead

Lead was detected above the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$) in soil samples MSG-GP01-S002, MSG-GP02-S002, and MSG-GP03-S002.

Lead was detected below the PADEP SHS Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Direct Contact, the PADEP Clean Fill Concentration Limits, the PADEP Action Level for Soil Reuse of Soil on UST Sites, and the PADEP Beneficial Use of Regulated Fill Concentration Limits in soil samples MSG-GP01-S002, MSG-GP02-S002, and MSG-GP03-S002.

4.6.3 Groundwater

VOCs

One VOC, PCE, was detected above the PADEP SHS Non-Residential MSCs for Groundwater in a Used Aquifer ($TDS \leq 2500$) in two samples, MSG-GP02-W001 and MSG-GP03-W001. VOCs were not detected above the PADEP SHS Non-Residential MSCs and PADEP Water Action Levels at UST Closure Sites in sample MSG-GP01-W001.

Lead

Lead was detected above the PADEP SHS Non-Residential MSCs for Groundwater in a Used Aquifer ($TDS \leq 2500$) and the PADEP Water Action Levels at UST Closure Sites in one sample, MSG-GP01-W001.

Lead was detected below the PADEP SHS Non-Residential MSCs for Groundwater in a Used Aquifer ($TDS \leq 2500$) and PADEP Water Action Levels at UST Closure Sites in sample MSG-GP02-W001.

Lead was not detected in sample MSG-GP03-W001.

4.7 Pocono Gas Station

The analytical results for the surface soil samples and the subsurface soil samples collected from the Pocono Gas Station site are summarized in Sections 4.7.1 and 4.7.2, respectively. An analytical data summary table for the soil samples is included as Table 11.

The analytical results for the groundwater samples collected from the Pocono Gas Station site are summarized in Section 4.7.3 and an analytical data summary table for the groundwater samples is included as Table 12.

The laboratory analytical data package for the soil and groundwater samples collected from the Pocono Gas Station site is included as Appendix E.7.

4.7.1 Surface Soil

VOCs

VOCs were not detected in soil samples PGS-GP01-S001, PGS-GP02-S001, PGS-GP04-S001, PGS-GP05-S001, and PGS-GP06-S001.

VOCs were detected below the PADEP SHS Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$), the PADEP Clean Fill Concentration Limits, the PADEP Action Levels for Soil Reuse on UST Sites, and the PADEP Beneficial Use of Regulated Fill Concentration Limits in soil samples PGS-GP03-S001 and PGS-GP07-S001.

Lead

Lead was detected above the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$) in soil samples PGS-GP01-S001, PGS-GP02-S001, PGS-GP03-S001, PGS-GP04-S001, PGS-GP05-S001, PGS-GP06-S001, PGS-GP07-S001, and PGS-GP08-S001.

Lead was detected above the PADEP Action Level for Soil Reuse on UST Sites in five samples, PGS-GP01-S001, PGS-GP03-S001, PGS-GP04-S001, PGS-GP07-S001, and PGS-GP08-S001.

Lead was detected below the PADEP SHS Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Direct Contact, the PADEP Clean Fill Concentration Limits, the PADEP Action Level for Soil Reuse on UST Sites, and the PADEP Beneficial Use of Regulated

Fill Concentration Limits in soil samples PGS-GP01-S001, PGS-GP02-S001, PGS-GP03-S001, PGS-GP04-S001, PGS-GP05-S001, PGS-GP06-S001, PGS-GP07-S001, and PGS-GP08-S001.

4.7.2 Subsurface Soil

VOCs

VOCs were not detected in soil samples PGS-GP02-S002, PGS-GP05-S002, and PGS-GP07-S002.

VOCs were detected below the PADEP SHS Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$), the PADEP Clean Fill Concentration Limits, the PADEP Action Levels for Soil Reuse on UST Sites, and the PADEP Beneficial Use of Regulated Fill Concentration Limits in soil samples PGS-GP01-S002, PGS-GP03-S002, and PGW-GP04-S002.

Lead

Lead was detected above the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$) in soil samples PGS-GP01-S002, PGS-GP02-S002, PGS-GP03-S002, PGS-GP04-S002, PGS-GP05-S002, and PGS-GP07-S002.

Lead was detected above the PADEP Action Level for Soil Reuse on UST Sites in one sample, PGS-GP03-S002.

Lead was detected below the PADEP SHS Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Direct Contact, the PADEP Clean Fill Concentration Limits, the PADEP Action Level for Soil Reuse on UST Sites, and the PADEP Beneficial Use of Regulated Fill Concentration Limits in soil samples PGS-GP01-S002, PGS-GP02-S002, PGS-GP04-S002, PGS-GP05-S002, and PGS-GP07-S002.

4.7.3 Groundwater

VOCs

VOCs were not detected in samples PGS-GP01-W001, PGS-GP03-W001, PGS-GP06-W001, and PGS-GP08-W001.

VOCs were detected below the PADEP SHS Non-Residential MSCs in a Used Aquifer (TDS \leq 2500) and the PADEP Water Action Levels at UST Closure Sites in samples PGS-GP02-W001 and PGS-GP05-W001.

Lead

Lead was detected above the PADEP SHS Non-Residential MSCs in a Used Aquifer (TDS \leq 2500) and the PADEP Water Action Level for UST Closure Sites in two samples, PGS-GP01-W001 and PGS-GP08-W001.

Lead was not detected in sample PGS-GP05-W001.

Lead was not detected above the PADEP SHS Non-Residential MSCs in a Used Aquifer (TDS \leq 2500) and the PADEP Water Action Level for UST Closure Sites in samples PGS-GP02-W001, PGS-GP03-W001, and PGS-GP06-W001.

4.8 Rinehart EM, Inc.

The analytical results for the surface soil samples and the subsurface soil samples collected from the Rinehart EM, Inc. site are summarized in Sections 4.8.1 and 4.8.2, respectively. An analytical data summary table for the soil samples is included as Table 13.

The analytical results for the groundwater samples collected from the Rinehart EM, Inc. site are summarized in Section 4.8.3 and an analytical data summary table for the groundwater samples is included as Table 14.

The laboratory analytical data package for the soil and groundwater samples collected from the Pocono Gas Station site is included as Appendix E.8.

4.8.1 Surface Soil

VOCs

VOCs were not detected in samples REI-GP01-S001, REI-GP05-S001, REI-GP06-S001, REI-GP07-S001, and REI-GP08-S001.

VOCs were detected below the PADEP SHS Residential MSCs for Direct Contact, the SHS PADEP Non-Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer (TDS \leq 2500), the PADEP Clean Fill Concentration Limits,

the PADEP Non-Residential Levels for Soil Reuse on UST Sites, and the PADEP Beneficial Use of Regulated Fill Concentration Limits in soil samples REI-GP02-S001, REI-GP03-S001, and REI-GP04-S001.

PCBs

PCB-1260 was detected above the PADEP SHS Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Direct Contact, and the PADEP Clean Fill Concentration Limits in one sample, REI-GP02-S001.

PCB-1260 was detected above the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$) in samples REI-GP01-S001 and REI-GP02-S001.

PCBs were not detected in REI-GP05-S001.

PCBs were detected below the PADEP SHS Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Direct Contact, PADEP SHS Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$), the PADEP Clean Fill Concentration Limits, the PADEP Non-Residential Levels for Soil Reuse on UST Sites, and the PADEP Beneficial Use of Regulated Fill Concentration Limits in soil samples REI-GP03-S001, REI-GP04-S001, REI-GP06-S001, REI-GP07-S001, and REI-GP08-S001.

Metals

Various metals were detected above the PADEP SHS Residential MSCs for Direct Contact and the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$) in soil samples REI-GP01-S001, REI-GP02-S001, REI-GP03-S001, REI-GP04-S001, REI-GP05-S001, REI-GP06-S001, REI-GP07-S001, and REI-GP08-S001.

Arsenic was detected above the PADEP SHS Non-Residential MSCs for Direct Contact and the PADEP Beneficial Use of Regulated Fill Concentration Limits in sample REI-GP04-S001. Arsenic was also detected above the PADEP Clean Fill Concentration Limits of 12 mg/kg in two samples, REI-GP02-S001 and REI-GP04-S001.

pH

Results for pH in the samples ranged from 8.0 to 8.4.

4.8.2 Subsurface Soil

VOCs

VOCs were not detected in samples REI-GP02-S002, REI-GP03-S002, REI-GP05-S002, REI-GP06-S002, REI-GP07-S002, and REI-GP08-S002.

VOCs were detected below the PADEP SHS Non-Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Direct Contact, the PADEP SHS Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$), the PADEP Clean Fill Concentration Limits, the PADEP Non-Residential Levels for Soil Reuse on UST Sites, and the PADEP Beneficial Use of Regulated Fill Concentration Limits in soil samples REI-GP01-S002 and REI-GP04-S002.

PCBs

PCBs were not detected in samples REI-GP04-S002, REI-GP05-S002, REI-GP06-S002, and REI-GP08-S002.

PCBs were detected below the PADEP SHS Non-Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Direct Contact, PADEP SHS Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$), the PADEP Clean Fill Concentration Limits, the PADEP Non-Residential Levels for Soil Reuse on UST Sites, and the PADEP Beneficial Use of Regulated Fill Concentration Limits in soil samples REI-GP01-S002, REI-GP02-S002, REI-GP03-S002, and REI-GP07-S002.

Metals

Various metals were detected above the PADEP SHS Residential MSCs for Direct Contact and the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$) in soil samples REI-GP01-S002, REI-GP02-S002, REI-GP03-S002, REI-GP04-S002, REI-GP05-S002, REI-GP06-S002, REI-GP07-S002, and REI-GP08-S002.

Arsenic was detected above the PADEP Clean Fill Concentration Limits in one sample, REI-GP02-S002. Lead was detected above the PADEP Action Level for Soil Reuse on UST Sites in two samples, REI-GP01-S002 and REI-GP02-S002.

pH

Results for pH in the samples ranged from 7.5 to 8.2.

4.8.3 Groundwater

VOCs

VOCs were not detected in samples REI-GP02-W001 and REI-GP04-W001.

One VOC (total xylene) was detected below the PADEP SHS Non-Residential MSCs for Groundwater in a Used Aquifer ($TDS \leq 2500$) and the PADEP Water Action Levels at UST Closure Sites in samples REI-GP01-W001 and REI-GP07-W001.

PCBs

PCBs were not detected in samples REI-GP01-W001, REI-GP02-W001, REI-GP04-W001, and REI-GP07-W001.

Metals

Various metals were detected above the PADEP SHS Non-Residential MSCs for Groundwater in a Used Aquifer ($TDS \leq 2500$) and the PADEP Water Action Level at UST Closure Sites in three samples, REI-GP02-W001, REI-GP04-W001, and REI-GP07-W001.

4.9 Perfection Shoe Machinery Company

The analytical results for the surface soil samples and the subsurface soil samples collected from the Perfection Shoe Machinery Company site are summarized in Sections 4.9.1 and 4.9.2, respectively. An analytical data summary table for the soil samples is included as Table 15.

The analytical results for the groundwater samples collected from the Perfection Shoe Machinery Company site are summarized in Section 4.9.3 and an analytical data summary table for the groundwater samples is included as Table 16.

The laboratory analytical data package for the soil and groundwater samples collected from the Perfection Shoe Machinery site is included as Appendix E.9.

4.9.1 Surface Soil

VOCs

VOCs were detected below the PADEP SHS Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$), the PADEP Clean Fill Concentration Limits, and the PADEP Beneficial Use of Regulated Fill Concentration Limits in samples PSC-GP01-S001, PSC-GP02-S001, PSC-GP03-S001, PSC-GP04-S001, PSC-GP05-S001, and PSC-GP06-S001.

SVOCs

Various SVOCs were detected above the PADEP SHS Residential MSCs for Direct Contact in soil sample PSC-GP06-S001.

Various SVOCs were detected above the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$) in soil samples PSC-GP02-S001, PSC-GP03-S001, PSC-GP04-S001, PSC-GP05-S001, and PSC-GP06-S001.

One SVOC (benzo(a)pyrene) was detected above the PADEP Clean Fill Concentration Limits in one sample, PSC-GP06-S001.

SVOCs were not detected above the PADEP SHS Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$), the PADEP Clean Fill Concentration Limits, and the PADEP Beneficial Use of Regulated Fill Concentration Limits in sample PSC-GP01-S001.

PCBs

PCBs were not detected in samples PSC-GP01-S001, PSC-GP02-S001, PSC-GP03-S001, PSC-GP04-S001, PSC-GP05-S001, and PSC-GP06-S001.

Metals

Chromium was detected above the PADEP SHS Residential MSCs for Direct Contact in soil samples PSC-GP01-S001, PSC-GP02-S001, PSC-GP03-S001, PSC-GP04-S001, PSC-GP05-S001, and PSC-GP06-S001.

Various metals were above the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$) in soil samples PSC-GP01-S001, PSC-GP02-S001, PSC-GP03-S001, PSC-GP04-S001, PSC-GP05-S001, and PSC-GP06-S001.

Metals were not detected above the PADEP SHS Non-Residential MSCs for Direct Contact, the PADEP Clean Fill Concentration Limits, and the PADEP Beneficial Use of Regulated Fill Concentration Limits in samples PSC-GP01-S001, PSC-GP02-S001, PSC-GP03-S001, PSC-GP04-S001, PSC-GP05-S001, and PSC-GP06-S001.

4.9.2 Subsurface Soil

VOCs

VOCs were not detected above the PADEP SHS Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$), the PADEP Clean Fill Concentration Limits, and the PADEP Beneficial Use of Regulated Fill Concentration Limits in samples PSC-GP01-S002, PSC-GP02-S002, PSC-GP03-S002, PSC-GP04-S002, PSC-GP05-S002, and PSC-GP06-S002.

SVOCs

SVOCs were detected above the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$) in soil sample PSC-GP04-S002.

SVOCs were not detected in soil sample PSC-GP06-S002.

SVOCs were not detected above the PADEP SHS Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Direct Contact, the PADEP Clean Fill Concentration Limits, and the PADEP Beneficial Use of Regulated Fill Concentration Limits in samples PSC-GP01-S002, PSC-GP02-S002, PSC-GP03-S002, and PSC-GP05-S002.

PCBs

PCBs were not detected in samples PSC-GP01-S002, PSC-GP02-S002, PSC-GP03-S002, PSC-GP04-S002, PSC-GP05-S002, and PSC-GP06-S002.

Metals

Various metals were detected above the PADEP SHS Residential MSCs for Direct Contact in soil samples PSC-GP01-S002, PSC-GP02-S002, PSC-GP03-S002, PSC-GP04-S002, PSC-GP05-S002, and PSC-GP06-S002.

Various metals were above the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$) in soil samples PSC-GP01-S002, PSC-GP02-S002, PSC-GP03-S002, PSC-GP04-S002, PSC-GP05-S002, and PSC-GP06-S002.

Arsenic was detected above the PADEP Clean Fill Concentration Limits in one sample, PSC-GP06-S002.

Metals were not detected above the PADEP SHS Non-Residential MSCs for Direct Contact, the PADEP Clean Fill Concentration Limits, and the PADEP Beneficial Use of Regulated Fill Concentration Limits in samples PSC-GP01-S002, PSC-GP02-S002, PSC-GP03-S002, PSC-GP04-S002, and PSC-GP05-S002.

4.9.3 Groundwater

VOCs

VOCs were not detected in samples PSC-GP01-W001, PSC-GP02-W001, and PSC-GP06-W001.

SVOCs

SVOCs were not detected in samples PSC-GP01-W001, PSC-GP02-W001, and PSC-GP06-W001.

PCBs

PCBs were not detected in samples PSC-GP01-W001, PSC-GP02-W001, and PSC-GP06-W001.

Metals

Metals were not detected in sample PSC-GP06-W001.

Metals were detected below the PADEP SHS Non-Residential MSCs in PSC-GP01-W001 and PSC-GP02-W001.

5.0 SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Investigation Summary

BrightFields conducted Phase III ESAs of nine sites in November/December 2017 and December 2018. The main components of the investigations are summarized below:

- On November 27 and 28, 2017, ten soil borings were advanced across the APS Recycling site. Surface and subsurface soil samples were collected from the borings in accordance with the approved FSP. Groundwater samples were collected from five temporary well points installed in select soil borings.
- On November 28, 2017, four soil borings were advanced across the Biobuffer Solutions, Inc./Pocono Foundry site. Surface and subsurface soil samples were collected from the borings in accordance with the approved FSP. Groundwater samples were collected from two temporary well points installed in select soil borings.
- On November 27, 2017, a geophysical investigation was conducted by SET at the Former Gas Station site to determine if USTs were present and to clear all proposed boring locations and to identify any subsurface anomalies (e.g., utilities). One UST was identified at the site and all proposed boring locations were successfully cleared. The UST was interpreted to be 14 feet by 6 feet wide and is buried at an approximate depth of 3 feet bgs. On November 29, 2017, four soil borings were advanced across the Former Gas Station site. Surface and subsurface soil samples were collected from the borings in accordance with the approved FSP. Groundwater was not encountered; therefore, groundwater samples were not collected.
- On November 30, 2017, five soil borings were advanced across the Former Research Laboratory/Chemical Plant site. Due to limited space on the site, a sixth boring was not advanced. Surface and subsurface soil samples were collected from the borings in accordance with the approved FSP; except for one boring from which a subsurface soil was not collected due to poor recovery. Groundwater was not encountered; therefore, groundwater samples were not collected.
- On November 30, 2017, four soil borings were advanced across the Klingel Cleaners and West Main Street PCE sites. Surface and subsurface soil samples were collected from the borings in accordance with the approved FSP. Groundwater samples were collected from four temporary well points installed in each boring.
- On November 28, 2017, three soil borings were advanced across the Main Street Stop & Go site. Surface and subsurface soil samples were collected from the borings in accordance with the approved FSP. Groundwater samples were collected from three temporary well points installed in each boring.
- On November 30, 2017, two soil borings were advanced across the Pocono Gas Station site. Surface and subsurface soil samples were collected from the borings in accordance with the approved FSP. Groundwater samples were collected from the two temporary well points installed in each boring. On November 28, 2018, a geophysical

investigation was conducted by SET at the Pocono Gas Station site to clear additional proposed boring locations and to identify any subsurface anomalies (e.g., utilities). On December 4, 2018, six additional borings were advanced at the Pocono Gas Station site. Surface and subsurface soil samples were collected from the borings. Groundwater samples were collected from temporary well points installed in three of the borings.

- On December 1, 2017, eight soil borings were advanced across the Rinehart EM, Inc. site. Surface and subsurface soil samples were collected from the borings in accordance with the approved FSP. Groundwater samples were collected from four temporary well points installed in select soil borings.
- On November 28, 2018, a geophysical investigation was conducted by SET at the Perfection Shoe Machinery Company site to clear all proposed boring locations and to identify any subsurface anomalies (e.g., utilities). On December 3, 2018, six borings were advanced at the Perfection Shoe Machinery Company site. Surface and subsurface soil samples were collected from the borings. Groundwater samples were collected from temporary well points installed in three of the borings.

5.2 Conclusions and Recommendations

This section includes the following information: analytical results for soil and groundwater samples collected during the Phase III ESAs which is discussed in greater detail in Section 4.0; and, conclusions and recommendations for each site investigated during the Phase III ESAs. The analytical data summary tables for the soil and groundwater samples are included as Table 1 through Table 16.

No further action at this time is recommended for one of the nine sites of potential concern. The Klingel Cleaners and West Main Street PCE sites do not have contaminant concentrations above regulatory criteria (the PADEP SHS Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs for Direct Contact, the PADEP SHS Non-Residential MSCs Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$), the PADEP Clean Fill Concentration Limits, the PADEP Beneficial Use of Regulated Fill Concentration Limits, and the PADEP SHS Non-Residential MSCs for Groundwater in a Used Aquifer ($TDS \leq 2500$)) and, based on the analysis of samples collected, exposure to environmental media is not expected to present an increased risk to human health.

The Design Team is in the preliminary engineering phase and does not have detailed plans on the locations and sizes of stormwater basins or other post-construction stormwater management features, lines and grades, erosion and sediment control measures, and limits of disturbance. At

this time, the areas sampled included the approximate area that will be impacted as part of highway reconstruction and the locations of the basins. As engineering progresses into final design, the engineers will coordinate with the waste specialist to minimize and avoid the transmission of waste by minimizing impacts to waste sites, and other best management practices.

BrightFields recommends for eight of the nine sites, excluding the Klingel Cleaners and West Main Street PCE sites, unlined basins should not be constructed due to contamination in subsurface soils and/or groundwater above regulatory referenced levels identified during the Phase III investigations. The addition of unlined basins on the impacted sites may lead to leaching of contaminants from the soil to groundwater, further smearing of soil contamination, and/or the creation or progression of groundwater contaminant plumes.

BrightFields recommends that a Waste Management Plan (WMP) and a site-specific Health and Safety Plan (HASP) should be prepared for eight sites (APS Recycling; Biobuffer Solutions, Inc./Pocono Foundry; Former Gas Station; Former Research Laboratory/Chemical Plant; Main Street Stop & Go; Pocono Gas Station; Rinehart EM, Inc.; and Perfection Shoe Machinery Company) to address soil and groundwater management, environmental health, worker safety, and public health safety during all project construction activities for all sites. The WMP and HASP should address all known contaminants that were identified during the Phase III ESA investigations. As final design progresses, the team will prepare the WMP outlining the areas of impact, the magnitude, and recommendations on management, including phasing and staging of material. A summary of the analytical results at these eight sites and subsequent recommendations are provided below.

At the APS Recycling site, the following contaminants were detected above the PADEP SHS Residential MSCs for Direct Contact in surface soil; one PAH in APS-GP06-S001, pesticides in APS-GP05-S001, and metals in APS-GP01-S001, APS-GP02-S002, APS-GP03-S001, APS-GP04-S001, APS-GP05-S001, APS-GP06-S001, APS-GP07-S001, APS-GP08-S001, and APS-GP09-S001. The following contaminants were detected above the PADEP SHS Non-Residential MSCs for Direct Contact in surface soil: pesticides in APS-GP05-S001 and metals in APS-GP06-S001. The following contaminants were detected above the PADEP SHS Non-Residential MSCs Soil to Groundwater in a Used Aquifer (TDS \leq 2500) in surface soil: PAHs in APS-GP01-S001, APS-GP02-S001, APS-GP03-S001, APS-GP04-S001, APS-GP05-S001, APS-GP06-S001, APS-GP07-S001, APS-GP08-S001, and APS-GP09-S001; PCBs in APS-GP05-S001, APS-GP06-S001, APS-GP07-S001, and APS-GP08-S001; pesticides in APS-GP05-S001; and, metals in

APS-GP01-S001, APS-GP02-S001, APS-GP03-S001, APS-GP04-S001, APS-GP05-S001, APS-GP06-S001, APS-GP07-S001, APS-GP08-S001, and APS-GP09-S001. The following contaminants were detected above the PADEP Clean Fill Concentration Limits in surface soil: pesticides in APS-GP05-S001; and metals in APS-GP02-S001, APS-GP05-S001, APS-GP06-S001, and APS-GP09-S001. The following contaminants were detected above the PADEP Beneficial Use of Regulated Fill Concentration Limits in surface soil: pesticides in APS-GP05-S001 and lead in APS-GP05-S001, APS-GP06-S001, and APS-GP09-S001. In subsurface soil, the following contaminants were detected above the PADEP SHS Residential MSCs for Direct Contact: metals in APS-GP01-S002, APS-GP02-S002, APS-GP03-S002, APS-GP04-S002, APS-GP05-S002, APS-GP06-S002, APS-GP07-S002, APS-GP08-S002, APS-GP09-S002, and APS-GP10-S002. The following contaminants were detected above the PADEP SHS Non-Residential MSCs Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$) in subsurface soil: PAHs in APS-GP06-S002 and APS-GP07-S002; PCBs in APS-GP07-S002; and, metals in APS-GP01-S002, APS-GP02-S002, APS-GP03-S002, APS-GP04-S002, APS-GP05-S002, APS-GP06-S002, APS-GP07-S002, APS-GP08-S002, APS-GP09-S002, and APS-GP10-S002. The following contaminants were detected above the PADEP Clean Fill Concentration Limits in subsurface soil: metals in APS-GP05-S002 and APS-GP06-S002. In subsurface soil, lead was also detected above the PADEP Beneficial Use of Regulated Fill Concentration Limits in APS-GP06-S002. In groundwater, the following contaminants were detected above the PADEP SHS Non-Residential MSCs for Groundwater in a Used Aquifer ($TDS \leq 2500$): one VOC in APS-GP07-W001; and metals in APS-GP05-W001, APS-GP06-W001, and APS-GP10-W001.

At the Biobuffer Solutions, Inc./Pocono Foundry site, the following contaminants were detected above the PADEP SHS Residential MSCs for Direct Contact in surface soil: metals in BIO-GP01-S001, BIO-GP02-S001, BIO-GP03-S001, and BIO-GP04-S001. The following contaminants were detected above the PADEP SHS Non-Residential MSCs Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$) in surface soil: PAHs and metals in BIO-GP01-S001, BIO-GP02-S001, BIO-GP03-S001, and BIO-GP04-S001. In surface soil, one metal was detected above the PADEP Clean Fill Concentration Limits in BIO-GP01-S001 and BIO-GP04-S001. In subsurface soil, metals were detected above the PADEP SHS Residential MSCs for Direct Contact and the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$) in BIO-GP01-S002, BIO-GP02-S002, BIO-GP03-S002, and BIO-GP04-S002. In subsurface soil, one metal was detected above the PADEP Clean Fill Concentration Limits in BIO-GP01-S002 and BIO-GP02-S002. In groundwater, various metals were detected above the PADEP SHS Non-Residential MSCs for Groundwater in a Used Aquifer ($TDS \leq 2500$) in BIO-GP01-W001 and BIO-GP03-

W001.

At the Former Gas Station site, lead was detected above the PADEP SHS Non-Residential MSCs Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$) in surface soil in FGS-GP01-S001, FGS-GP02-S001, FGS-GP03-S001, and FGS-GP04-S001. In subsurface soil, lead was detected above the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$) in FGS-GP01-S002, FGS-GP02-S002, FGS-GP03-S002, and FGS-GP04-S002.

At the Former Research Laboratory/Chemical Plant site, SVOCs were detected in surface soil above the PADEP SHS Residential MSCs for Direct Contact in soil samples FRL-GP02-S001, FRL-GP04-S001, and FRL-GP05-S001. SVOCs were detected in surface soil samples above the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$) in FRL-GP01-S001, FRL-GP02-S001, FRL-GP03-S001, FRL-GP04-S001, and FRL-GP05-S001. One SVOC was also detected in surface soil above the PADEP SHS Non-Residential MSCs for Direct Contact, the PADEP Clean Fill Concentration Limits, and the PADEP Beneficial Use of Regulated Fill Concentration Limits in FRL-GP05-S001. In subsurface soil, SVOCs were detected above the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$) in FRL-GP01-S002, FRL-GP02-S002, FRL-GP03-S002, and FRL-GP05-S002.

At the Main Street Stop & Go site, lead was detected above the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$) in surface and subsurface soil from MSG-GP01-S001, MSG-GP01-S002, MSG-GP02-S001, MSG-GP02-S002, MSG-GP03-S001, and MSG-GP03-S002. In Main Street Stop & Go groundwater, the following contaminants were detected above the PADEP SHS Non-Residential MSCs for Groundwater in a Used Aquifer ($TDS \leq 2500$): one VOC in MSG-GP02-W001 and MSG-GP03-W001; and, lead in MSG-GP01-W001. Lead was also detected in groundwater above the PADEP Water Action Levels at UST Closure Sites in MSG-GP01-W001. Depending on excavation locations and depths, additional sampling may be required on this UST site to meet PADEP systematic random sample requirements.

At the Pocono Gas Station site, lead was detected above the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$) in surface and subsurface soil from MSG-PGS-GP01-S001, PGS-GP01-S002, PGS-GP02-S001, PGS-GP02-S002, PGS-GP03-S001, PGS-GP03-S002, PGS-GP04-S001, PGS-GP04-S002, PGS-GP05-S001, PGS-GP05-S002, PGS-GP06-S001, PGS-GP07-S001, PGS-GP07-S002, PGS-GP08-S001, and PGS-GP08-S002. Lead was detected above the PADEP Action Level for Soil Reuse on UST Sites in surface soil from PGS-

GP01-S001, PGS-GP03-S001, PGS-GP04-S001, PGS-GP07-S001, and PGS-GP08-S001. In subsurface soil, lead was detected above the PADEP Action Level for Soil Reuse on UST Sites in PGS-GP03-S002. In groundwater, lead was detected above the PADEP SHS Non-Residential MSCs in a Used Aquifer ($TDS \leq 2500$) and the PADEP Water Action Level for UST Closure Sites in PGS-GP01-W001 and PGS-GP08-W001. Depending on excavation locations and depths, additional sampling may be required on this UST site to meet PADEP systematic random sample requirements.

At the Rinehart EM, Inc. site, the following contaminants were detected above the PADEP SHS Residential MSCs for Direct Contact in surface soil: PCB-1260 in REI-GP02-S001 and metals in REI-GP01-S001, REI-GP02-S001, REI-GP03-S001, REI-GP04-S001, REI-GP05-S001, REI-GP06-S001, REI-GP07-S001, and REI-GP08-S001. The following contaminants were detected above the PADEP SHS Non-Residential MSCs for Direct Contact in surface soil: PCB-1260 in REI-GP02-S001 and arsenic in REI-GP04-S001. The following contaminants were detected above the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$) in surface soil: PCB-1260 in REI-GP01-S001 and REI-GP02-S001 and metals in REI-GP01-S001, REI-GP02-S001, REI-GP03-S001, REI-GP04-S001, REI-GP05-S001, REI-GP06-S001, REI-GP07-S001, and REI-GP08-S001. The following contaminants were detected above the PADEP Clean Fill Concentration Limits: PCB-1260 in REI-GP02-S001 and one metal in REI-GP02-S001 and REI-GP04-S001. The one metal concentration also exceeds the PADEP Beneficial Use of Regulated Fill Concentration Limits in REI-GP04-S001. In subsurface soil, metals were detected above the PADEP SHS Residential MSCs for Direct Contact and the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$) in REI-GP01-S002, REI-GP02-S002, REI-GP03-S002, REI-GP04-S002, REI-GP05-S002, REI-GP06-S002, REI-GP07-S002, and REI-GP08-S002. One metal was detected in subsurface soil above the PADEP Clean Fill Concentration Limits in REI-GP02-S002. One metal was also detected in subsurface soil above the PADEP Action Level for Soil Reuse on UST Sites in REI-GP01-S002 and REI-GP02-S002. In groundwater, metals were detected above the PADEP SHS Non-Residential MSCs for Groundwater in a Used Aquifer ($TDS \leq 2500$) in REI-GP02-W001, REI-GP04-W001, and REI-GP07-W001. Lead was also detected in groundwater at concentrations above the PADEP Water Action Level at UST Closure Sites in REI-GP02-W001, REI-GP04-W001, and REI-GP07-W001. Depending on excavation locations and depths, additional sampling may be required on this UST site to meet PADEP systematic random sample requirements. Note that Toxic Substance Control Act (TSCA) review of the WMP is required since PCBs were detected onsite.

At the Perfection Shoe Machinery Company site, the following contaminants were detected above the PADEP SHS Residential MSCs for Direct Contact in surface soil: SVOCs in PSC-GP06-S001 and one metal in PSC-GP01-S001, PSC-GP02-S001, PSC-GP03-S001, PSC-GP04-S001, PSC-GP05-S001, and PSC-GP06-S001. The following contaminants were detected above the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$) in surface soil: SVOCs in PSC-GP02-S001, PSC-GP03-S001, PSC-GP04-S001, PSC-GP05-S001, and PSC-GP06-S001 and metals in PSC-GP01-S001, PSC-GP02-S001, PSC-GP03-S001, PSC-GP04-S001, PSC-GP05-S001, and PSC-GP06-S001. One SVOC was detected in surface soil above the PADEP Clean Fill Concentration Limits at PSC-GP06-S001. In subsurface soil, metals were detected above the PADEP SHS Residential MSCs for Direct Contact in PSC-GP01-S002, PSC-GP02-S002, PSC-GP03-S002, PSC-GP04-S002, PSC-GP05-S002, and PSC-GP06-S002. The following contaminants were detected above the PADEP SHS Non-Residential MSCs for Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$) in subsurface soil: SVOCs in PSC-GP04-S002 and metals in PSC-GP01-S002, PSC-GP02-S002, PSC-GP03-S002, PSC-GP04-S002, PSC-GP05-S002, and PSC-GP06-S002. One metal was detected in subsurface soil above the PADEP Clean Fill Concentration Limits at PSC-GP06-S002.

The WMP must address soil and groundwater management during construction based on the investigation results. In cases where contaminant concentrations exceed the PADEP SHS Residential MSCs for Direct Contact, the WMP must address public health safety. In cases where contaminant concentrations exceed the PADEP SHS Non-Residential MSCs for Direct Contact, the WMP must address worker health safety. An unlined basin should not be constructed in and nearby areas where soil contamination exceeds the PADEP SHS Non-Residential MSCs Soil to Groundwater in a Used Aquifer ($TDS \leq 2500$). Soil with contaminants above the PADEP Clean Fill Concentration Limits can be reused onsite. Soil with contaminants above the PADEP Clean Fill Concentration Limits cannot be reused on other sites. Soil with contaminants above the PADEP Beneficial Use of Regulated Fill Concentration Limits should not be reused onsite and must be disposed offsite. Additional soil testing may be necessary prior to disposal. Finally, an unlined basin should not be constructed in and nearby areas where groundwater contamination exceeds the PADEP SHS Non-Residential MSCs for Groundwater in a Used Aquifer ($TDS \leq 2500$).

Finally, BrightFields recommends that all sampling data be reviewed and considered by the design team during the design process. When possible, construction activities should be minimized in impacted areas. The location of storm water basins should be reviewed in conjunction with



sampling data.

6.0 REFERENCES

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BrightFields, Inc., 2017, Phase III Environmental Site Assessment Field Sampling Plan, November 2017.

BrightFields, Inc., 2017, Phase I Environmental Site Assessment for the I-80 Reconstruction Project, July 2017.

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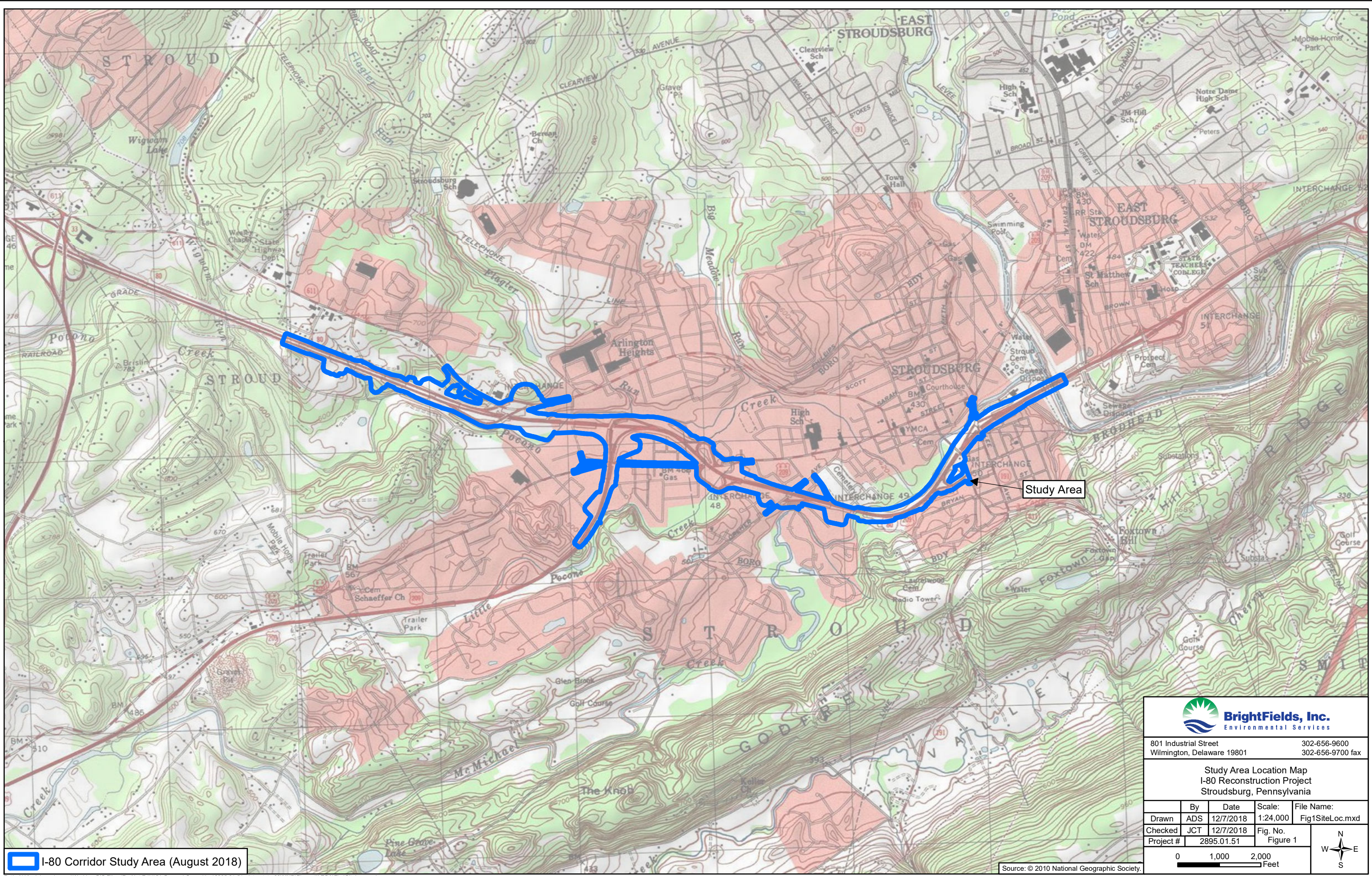
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FIGURES



 I-80 Corridor Study Area (August 2018)

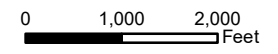
Study Area



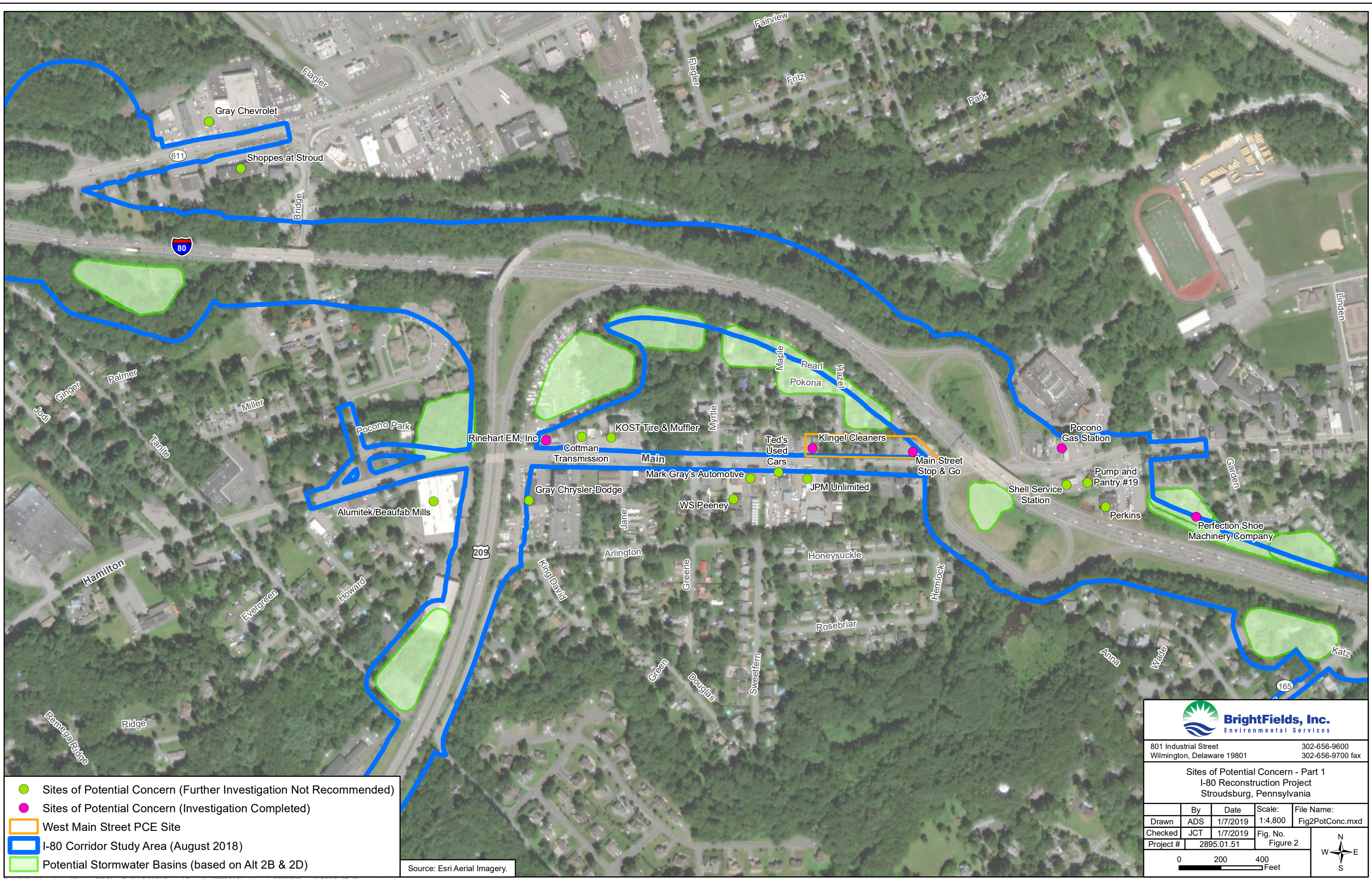
801 Industrial Street
Wilmington, Delaware 19801
302-656-9600
302-656-9700 fax

Study Area Location Map
I-80 Reconstruction Project
Stroudsburg, Pennsylvania

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Checked JCT	12/7/2018	Fig. No.	
Project #	2895.01.51	Figure 1	




Source: © 2010 National Geographic Society.



- Sites of Potential Concern (Further Investigation Not Recommended)
- Sites of Potential Concern (Investigation Completed)
- West Main Street PCE Site
- I-80 Corridor Study Area (August 2018)
- Potential Stormwater Basins (based on Alt 2B & 2D)

Source: Esri Aerial Imagery.



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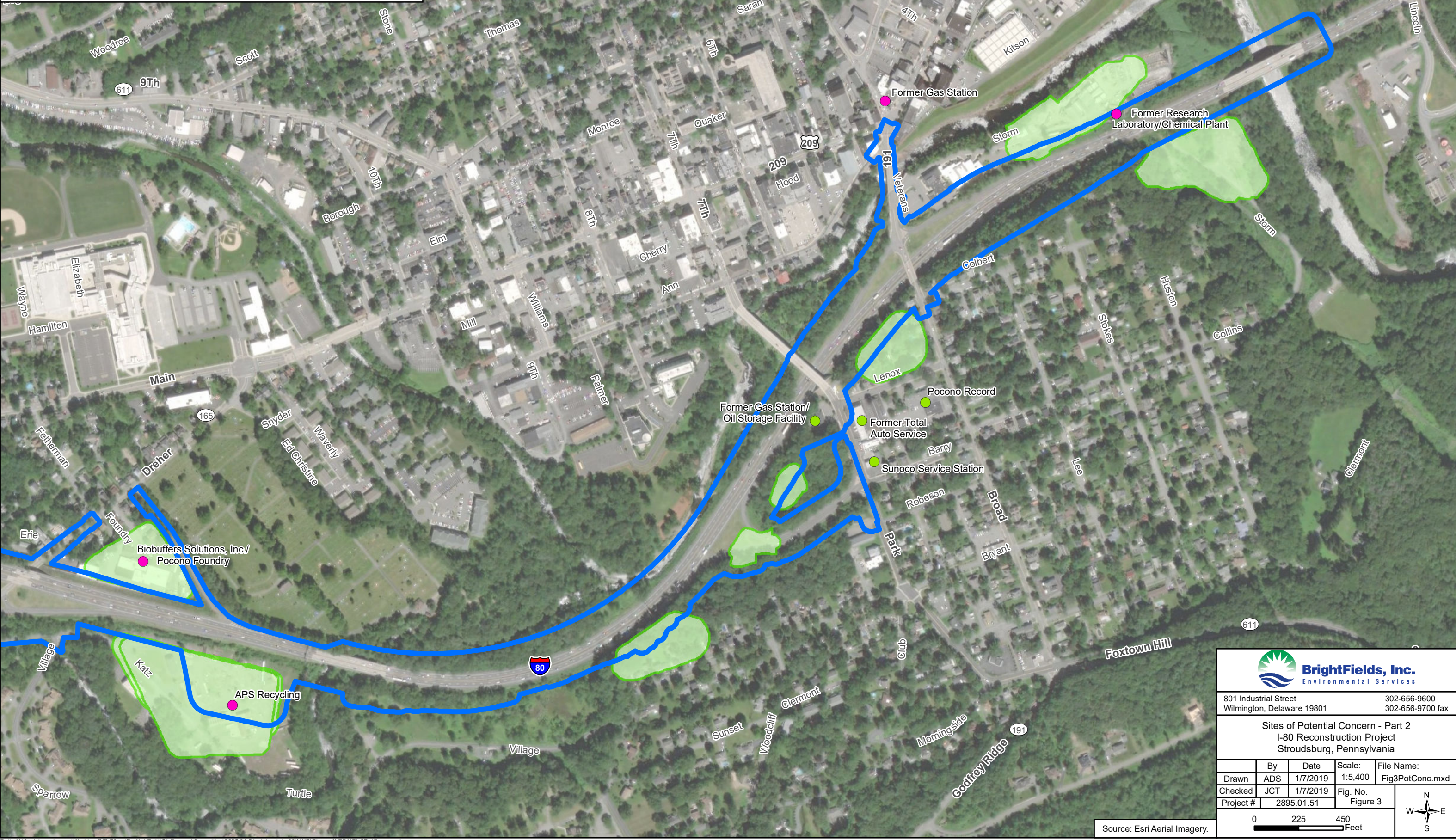
Sites of Potential Concern - Part 1
I-80 Reconstruction Project
Stroudsburg, Pennsylvania

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Checked	JCT	1/7/2019	Fig. No.	
Project #	2895.01.51		Figure 2	

0 200 400 Feet



- Sites of Potential Concern (Further Investigation Not Recommended)
- Sites of Potential Concern (Investigation Completed)
- I-80 Corridor Study Area (August 2018)
- Potential Stormwater Basins (based on Alt 2B & 2D)

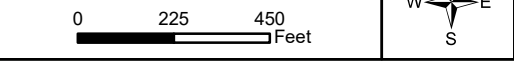


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Sites of Potential Concern - Part 2
I-80 Reconstruction Project
Stroudsburg, Pennsylvania

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Project #	2895.01.51	Figure 3	



Source: Esri Aerial Imagery.



- Soil Boring Location
- ⊗ Soil Boring/Grab Groundwater Sample Location
- I-80 Corridor Study Area (August 2018)



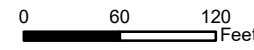
801 Industrial Street
Wilmington, Delaware 19801

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302-656-9700 fax

Sample Location Map -
APS Recycling
I-80 Reconstruction Project
Stroudsburg, Pennsylvania

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Project #	2895.01.51		Figure 4	

Source: Esri Aerial Imagery.





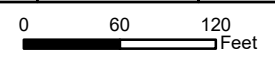
801 Industrial Street
Wilmington, Delaware 19801

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Sample Location Map -
Biobuffer Solutions, Inc/Pocono Foundry
I-80 Reconstruction Project
Stroudsburg, Pennsylvania

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Project #	2895.01.51		Figure 5	

Source: Esri Aerial Imagery.



- Soil Boring Location
- ⊕ Soil Boring/Grab Groundwater Sample Location
- I-80 Corridor Study Area (August 2018)



● Soil Boring Location
 I-80 Corridor Study Area (August 2018)



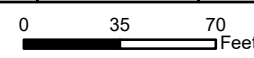
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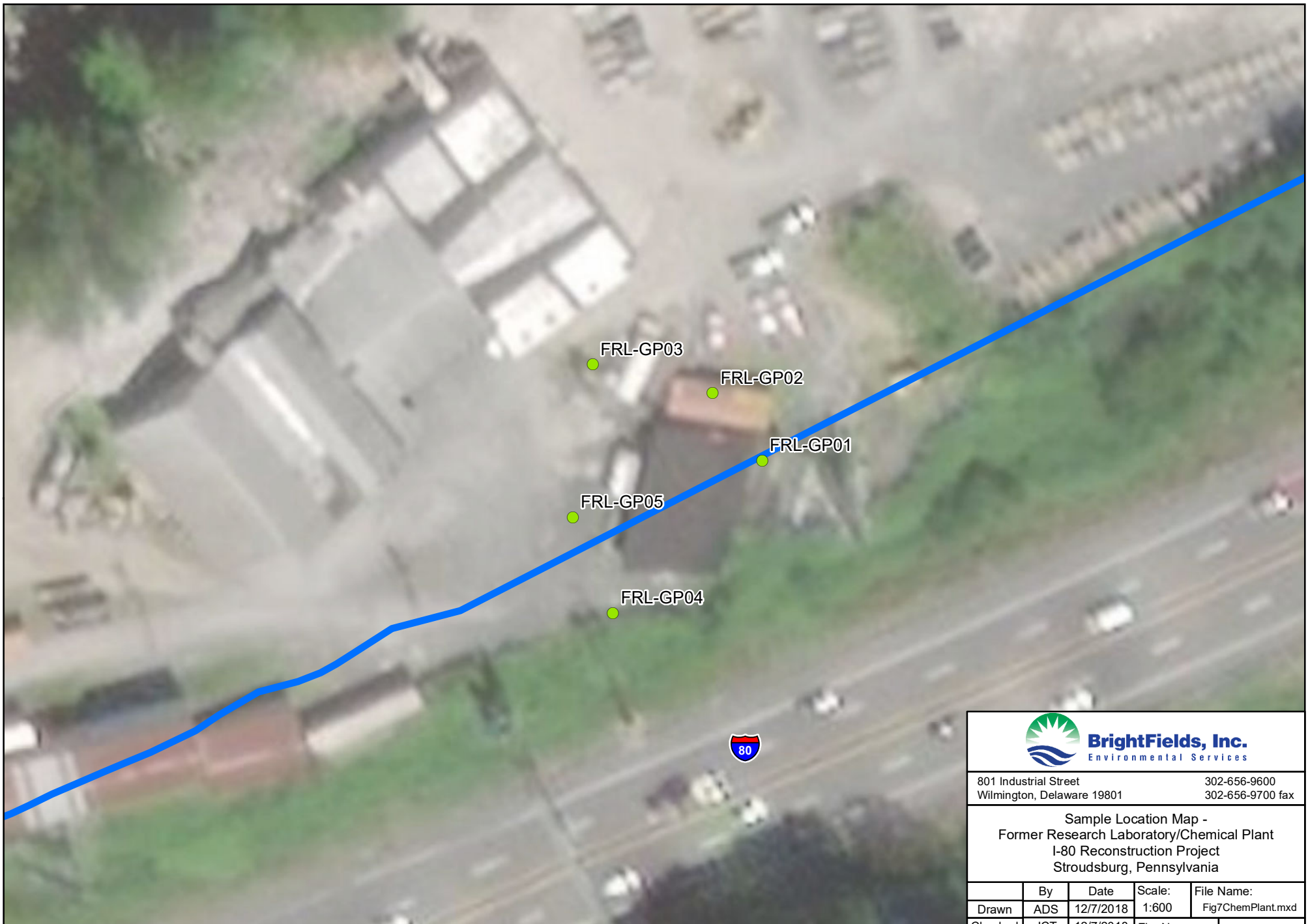
302-656-9600
302-656-9700 fax

Sample Location Map-
 Former Gas Station
 I-80 Reconstruction Project
 Stroudsburg, Pennsylvania

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Project #	2895.01.51		Figure 6	

Source: Esri Aerial Imagery.





● Soil Boring Location
 I-80 Corridor Study Area (August 2018)



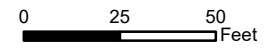
801 Industrial Street
Wilmington, Delaware 19801

302-656-9600
302-656-9700 fax




Sample Location Map -
 Former Research Laboratory/Chemical Plant
 I-80 Reconstruction Project
 Stroudsburg, Pennsylvania


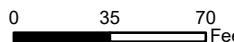

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Project #	2895.01.51		Figure 7	

Source: Esri Aerial Imagery.








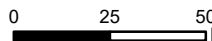

-  Soil Boring/Grab Groundwater Sample Location
-  Potential Stormwater Basins (based on Alt 2B & 2D)
-  I-80 Corridor Study Area (August 2018)

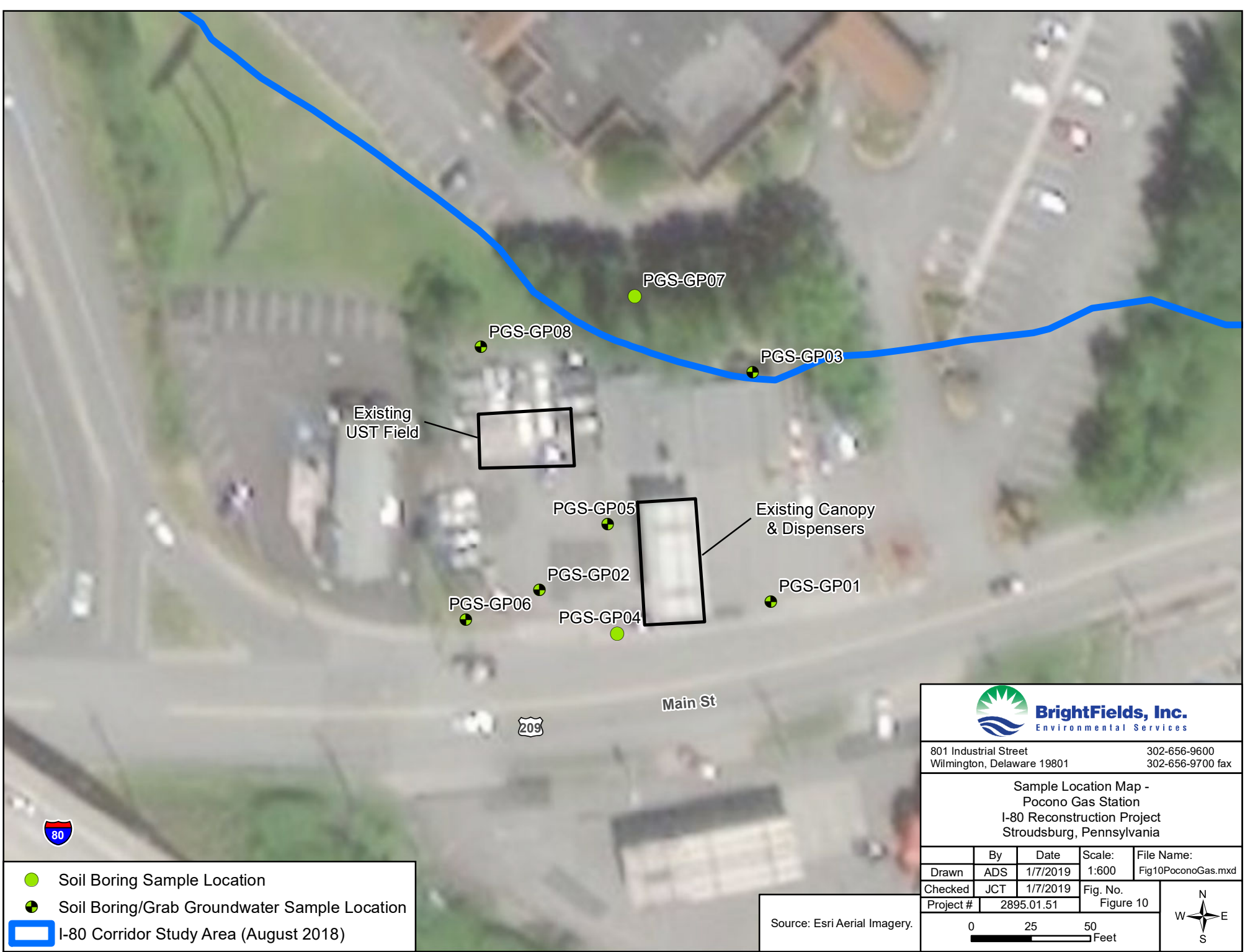
		BrightFields, Inc. Environmental Services		
801 Industrial Street Wilmington, Delaware 19801		302-656-9600 302-656-9700 fax		
Sample Location Map - Klingel Cleaners and West Main St PCE Sites I-80 Reconstruction Project Stroudsburg, Pennsylvania				
	By	Date	Scale:	File Name:
Drawn	ADS	12/7/2018	1:840	Fig8Klingel.mxd
Checked	JCT	12/7/2018	Fig. No.	
Project #	2895.01.51		Figure 8	
Source: Esri Aerial Imagery.			 0 35 70 Feet	
				 N W E S




 Soil Boring/Grab Groundwater Sample Location
 I-80 Corridor Study Area (August 2018)

Source: Esri Aerial Imagery.

 BrightFields, Inc. Environmental Services		801 Industrial Street		302-656-9600
		Wilmington, Delaware 19801		302-656-9700 fax
Sample Location Map - Main Street Stop & Go I-80 Reconstruction Project Stroudsburg, Pennsylvania				
	By	Date	Scale:	File Name:
Drawn	ADS	12/7/2018	1:600	Fig9MainSt.mxd
Checked	JCT	12/7/2018	Fig. No.	
Project #	2895.01.51		Figure 9	
				
				



- Soil Boring Sample Location
- ⊕ Soil Boring/Grab Groundwater Sample Location
- I-80 Corridor Study Area (August 2018)



BrightFields, Inc.
Environmental Services

801 Industrial Street
Wilmington, Delaware 19801

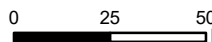
302-656-9600
302-656-9700 fax


Sample Location Map -
Pocono Gas Station
I-80 Reconstruction Project
Stroudsburg, Pennsylvania

	By	Date	Scale:	File Name:
Drawn	ADS	1/7/2019	1:600	Fig10PoconoGas.mxd
Checked	JCT	1/7/2019	Fig. No.	
Project #	2895.01.51		Figure 10	

Source: Esri Aerial Imagery.

0 25 50
Feet







- Soil Boring Location
- ⊕ Soil Boring/Grab Groundwater Sample Location
- I-80 Corridor Study Area (August 2018)

BrightFields, Inc.
Environmental Services

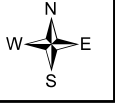
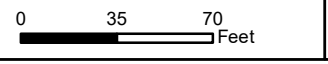
801 Industrial Street
Wilmington, Delaware 19801

302-656-9600
302-656-9700 fax

Sample Location Map -
Rinehart EM, Inc.
I-80 Reconstruction Project
Stroudsburg, Pennsylvania

	By	Date	Scale:	File Name:
Drawn	ADS	12/7/2018	1:840	Fig11Rinehart.mxd
Checked	JCT	12/7/2018	Fig. No.	
Project #	2895.01.51		Figure 11	

Source: Esri Aerial Imagery.





- Soil Boring Sample Location
- ⊕ Soil Boring/Grab Groundwater Sample Location
- I-80 Corridor Study Area (August 2018)



801 Industrial Street
Wilmington, Delaware 19801

302-656-9600
302-656-9700 fax

Sample Location Map -
Perfection Shoe Machinery Company
I-80 Reconstruction Project
Stroudsburg, Pennsylvania

	By	Date	Scale:	File Name:
Drawn	ADS	1/7/2019	1:720	Fig12PerfShoe.mxd
Checked	VMB	1/7/2019	Fig. No.	
Project #	2895.01.51		Figure 12	

Source: Esri Aerial Imagery.

0 30 60 Feet

TABLES

TABLE 1
Soil Analytical Data Summary
APS Recycling
Stroudsburg, Pennsylvania

Sample ID	PADEP SHS Residential MSCs for Direct Contact	PADEP SHS Non-Residential MSCs for Direct Contact		PADEP SHS Non-Residential MSCs Soil to GW for Used Aquifers TDS≤2500 100 X GW MSC mg/kg Soil	PADEP Clean Fill Concentration Limits mg/kg Soil	PADEP Beneficial Use of Regulated Fill Concentration Limits mg/kg Soil	APS-GP01-S001		APS-GP01-S002		APS-GP02-S001		APS-GP02-S002		APS-GP03-S001	
	(0 - 15 feet)	(0 - 2 feet)	(2 - 15 feet)				0.0 - 2.0	10.8 - 12.8	0.0 - 2.0	5.3 - 7.3	0.0 - 2.0	5.3 - 7.3	0.0 - 2.0	5.3 - 7.3		
Sample Depth (ft-ft bgs)																
Sampling Date																
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Analyte																
Volatile Organic Compounds (VOCs)																
Benzene	57	290	330	0.5	0.13	0.13	0.00060	U	0.00050	U	0.0010	J	0.00050	U	0.00080	J
Ethylbenzene	180	890	1,000	70	46	46	0.0010	U	0.0010	U	0.0010	U	0.0010	U	0.0010	U
Isopropylbenzene	7,700	10,000	10,000	350	780	1,600	0.0010	U	0.0010	U	0.0010	U	0.0010	U	0.0010	U
Naphthalene	160	760	190,000	10	25	25	0.0010	U Q2	0.0010	U Q2	0.0010	U	0.0010	U Q2	0.0010	U Q2
Toluene	10,000	10,000	10,000	100	44	44	0.0010	U	0.0010	U	0.010		0.0010	U	0.0010	U
1,2,4-Trimethylbenzene	130	560	640	6.2	9	20	0.0010	U	0.0010	U	0.0010	U	0.0010	U	0.0010	U
Xylene (Total)	1,900	8,000	9,100	1,000	990	990	0.0010	U	0.0010	U	0.0040	J	0.0010	U	0.0010	U
No other Shortlist VOCs were detected above the laboratory method detection limits.																
Polycyclic Aromatic Hydrocarbons (PAHs)																
Acenaphthene	13,000	190,000	190,000	380	2,700	4,700	0.0040	U	0.0030	U	0.0040	J	0.0040	U	0.003	U
Acenaphthylene	13,000	190,000	190,000	700	2,500	6,900	0.028		0.0030	U	0.014	J	0.0040	U	0.008	J
Anthracene	66,000	190,000	190,000	6.6	350	350	0.033		0.0030	U	0.013	J	0.0040	U	0.010	J
Benzo(a)anthracene	6	130	190,000	0.49	25	110	0.14		0.0030	U	0.032		0.0040	U	0.046	
Benzo(a)pyrene	0.58	12	190,000	0.02	2.5	11	0.11	Q2	0.0030	U Q2	0.029	Q2	0.0040	U Q2	0.028	Q2
Benzo(b)fluoranthene	3.5	76	190,000	0.12	25	110	0.17		0.0030	U	0.069		0.0040	U	0.069	
Benzo(g,h,i)perylene	13,000	190,000	190,000	0.026	180	180	0.092		0.0030	U	0.066		0.0040	U	0.033	
Benzo(k)fluoranthene	4	76	190,000	0.055	250	610	0.060		0.0030	U	0.025		0.0040	U	0.029	
Chrysene	35	760	190,000	0.19	230	230	0.15		0.0030	U	0.051		0.0040	U	0.054	
Dibenz(a,h)anthracene	1	22	190,000	0.06	2.50	11	0.030		0.0030	U	0.011	J	0.0040	U	0.0070	J
Fluoranthene	8,800	130,000	190,000	26	3,200	3,200	0.29		0.0030	J	0.035		0.0040	U	0.11	
Fluorene	8,800	130,000	190,000	190	3,000	3,800	0.007	J	0.0030	U	0.004	U	0.0040	U	0.0030	U
Indeno(1,2,3-cd)pyrene	3.5	76	190,000	0.28	25	110	0.081		0.0030	U	0.034		0.0040	U	0.022	
Naphthalene	160	760	190,000	10	25	25	0.042		0.0110	J	0.072		0.0040	U	0.010	J
Phenanthrene	66,000	190,000	190,000	110	10,000	10,000	0.073		0.0030	U	0.039		0.0040	U	0.065	
Pyrene	6,600	96,000	190,000	13	2,200	2,200	0.29		0.0040	J	0.057		0.0040	U	0.083	
Asbestos (%)																
Chrysotile	nca	nca	nca	nca	nca	nca	ND		ND		<0.25 Chrysotile		ND		<0.25 Chrysotile	
No other asbestos types were detected above the laboratory method detection limits.																
Polychlorinated Biphenyls (PCBs)																
PCB-1016	9	46	10,000	0.17	15	200	0.0041	U D2	0.0037	U D2	0.0041	U D2	0.0039	U D2	0.0037	U D1
PCB-1248	9.3	46	10,000	0.17	9.90	44	0.017	J D2	0.0034	U D2	0.025	D2	0.0036	U D2	0.035	D2
PCB-1254	4.4	46	10,000	0.17	4.40	44	0.026	Z D1	0.0034	U Z D1	0.043	Z D1	0.0036	U Z D1	0.072	Z D1
PCB-1260	9	46	190,000	0.17	30	130	0.0056	U Z D1	0.0050	U Z D1	0.041	Z D1	0.0054	U Z D1	0.027	Z D1
No other PCBs were detected above the laboratory method detection limits.																

Notes:
All concentrations are displayed in milligrams per kilogram (mg/kg).
Underlined - Concentration exceed PADEP Residential MSCs for Direct Contact.
Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for Direct Contact.
Orange Text - Concentration exceeds PADEP Non-Residential MSCs for Soil to Groundwater.
Bolded - Concentration exceeds PADEP Clean Fill Concentration Limits.
Italicized - Concentration exceeds PADEP Beneficial Use of Regulated Fill Concentration Limits.
MSC - Medium Specific Concentration.
PADEP - Pennsylvania Department of Environmental Protection.
SHS - Statewide Health Standard.
TDS - Total Dissolved Solids.
D1 - Indicates for dual column analyses that the result is reported from column 1.
D2 - Indicates for dual column analyses that the result is reported from column 2.
E - Concentration exceeds the calibration range.
J - The concentration is an approximate value.
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected above the laboratory method detection limit.
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
Z - Laboratory Defined - see analysis report.
B - Detection in the Blank.
NA - Not analyzed.
nca - No criteria available.
ND - None detected.
Q2 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Low.
Q3 - MS/MSD High.
Q8 - Duplicate (DUP) RPD.
Q9 - MS/MSD Relative Percent Difference (RPD).

TABLE 1
Soil Analytical Data Summary
APS Recycling
Stroudsburg, Pennsylvania

Sample ID	PADEP SHS Residential MSCs for Direct Contact	PADEP SHS Non-Residential MSCs for Direct Contact		PADEP SHS Non-Residential MSCs Soil to GW for Used Aquifers TDS≤2500 100 X GW MSC mg/kg Soil	PADEP Clean Fill Concentration Limits mg/kg Soil	PADEP Beneficial Use of Regulated Fill Concentration Limits mg/kg Soil	APS-GP01-S001	APS-GP01-S002	APS-GP02-S001	APS-GP02-S002	APS-GP03-S001
	Sample Depth (ft-ft bgs)	(0 - 15 feet)	(0 - 2 feet)				(2 - 15 feet)	0.0 - 2.0	10.8 - 12.8	0.0 - 2.0	5.3 - 7.3
Sampling Date							11/27/2017	11/27/2017	11/27/2017	11/27/2017	11/27/2017
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Analyte											
Pesticides											
Alpha BHC	3	14	190,000	0.054	0.046	0.19	0.00019 U D1	0.00017 U D1	0.00019 U D2	0.00019 U D1	0.00018 U D2
Beta BHC	10	51	190,000	0.19	0.22	0.82	0.00034 U D2	0.00031 U D2	0.00034 U D2	0.00033 U D2	0.00031 U D2
Gamma BHC - Lindane	17	83	190,000	0.02	0.072	0.072	0.00019 U D1	0.00017 U D1	0.00019 U D1	0.00019 U D1	0.00018 U D1
Alpha Chlordane	53	260	190,000	0.2	49	49	0.00032 J P D2	0.00017 U D2	0.00090 J P D2	0.00019 U D2	0.00088 P D2
Gamma Chlordane	53	260	190,000	0.2	49	49	0.00041 U V D1	0.00025 U D1	0.0013 U V D1	0.00038 U V D1	0.00026 U D1
p,p-DDE	55	270	190,000	1	41	170	0.00050 J D1	0.00034 U D1	0.00052 J P D2	0.00036 U D1	0.0014 J P D2
p,p-DDT	55	270	190,000	0.55	53	230	0.00041 U D1	0.00037 U D1	0.00041 U D1	0.00039 U D1	0.00037 U D1
Dieldrin	1.2	6	190,000	0.021	0.11	0.44	0.00038 U D2	0.00034 U D1	0.00041 J P D2	0.00036 U D1	0.00034 U D2
Endosulfan II	1,300	19,000	190,000	45	130	260	0.00038 U D1	0.00034 U D1	0.00037 U D1	0.00036 U D1	0.00034 U D1
Endrin	66	960	190,000	0.2	5.5	5.5	0.00039 U D2	0.00035 U D1	0.00054 U V D2	0.00037 U D1	0.00047 U V D2
Endrin Aldehyde	nca	nca	nca	nca	nca	nca	0.00038 U Z D1	0.00034 U Z D1	0.0010 U Z V D1	0.00036 U Z D2	0.00090 J Z D2
Heptachlor	4	20	190,000	0.04	0.68	0.68	0.00019 U D2	0.00017 U D1	0.00019 U D2	0.00019 U D1	0.00018 U D2
Heptachlor Epoxide	2	10	190,000	0.02	1.1	1.1	0.00019 U D1	0.00017 U D1	0.00024 U V D1	0.00019 U D1	0.00035 U V D1
Methoxychlor	1,100	16,000	190,000	4	630	630	0.0019 U D2	0.0017 U D1	0.0019 U D1	0.0019 U D2	0.0018 U D1
No other pesticides were detected above the laboratory method detection limits.											
Metals											
Antimony	88	1,300	190,000	0.6	27	27	<u>2.6</u> Q8	<u>1.7</u> J Q8	<u>6.8</u> Q8	<u>1.3</u> J Q8	<u>10.5</u> Q8
Arsenic	12	61	190,000	1	12	53	<u>8.3</u>	<u>10.3</u>	<u>12.1</u>	<u>5.6</u>	<u>9.1</u>
Beryllium	440	6,400	190,000	0.4	320	320	<u>0.73</u>	<u>0.73</u>	<u>0.53</u> J	<u>0.55</u>	<u>0.43</u> J
Cadmium	110	1,600	190,000	0.5	38	38	<u>0.90</u> Q8	<u>0.61</u> Q8	<u>3.2</u> Q8	<u>0.29</u> J Q8	<u>0.70</u> Q8
Chromium	4	220	20,000	10	94	190	<u>29.9</u>	<u>20.7</u>	<u>22.0</u>	<u>18.3</u>	<u>22.2</u>
Copper	8,100	120,000	190,000	100	8,200	36,000	54.8 B Q2	29.9 B Q2	86.0 B Q2	15.3 B Q2	245 B Q2
Lead	500	1,000	190,000	0.5	450	450	<u>54.0</u> Q2 Q8	<u>24.9</u> Q2 Q8	<u>317</u> Q2 Q8	<u>9.5</u> Q2 Q8	<u>348</u> Q2 Q8
Nickel	4,400	64,000	190,000	10	650	650	<u>37.2</u>	<u>39.4</u>	<u>31.8</u>	<u>26.9</u>	<u>39.2</u>
Selenium	1,100	16,000	190,000	5	26	26	0.88 U	1.8 J	1.0 U	0.84 U	0.81 U
Silver	1,100	16,000	190,000	10	84	84	1.18	1.0	1.1	0.76	1.4
Thallium	2	32	190,000	0.2	14	14	1.3 U	1.3 U	1.5 U	1.2 U	1.2 U
Zinc	66,000	190,000	190,000	200	12,000	12,000	163 Q2 Q8	89.2 Q2 Q8	2,380 Q2 Q8	69.5 Q2 Q8	144 Q2 Q8
Mercury	35	510	190,000	0.2	10	10	0.057 J Q2	0.014 J Q2	<u>0.32</u> Q2	0.010 U Q2	0.059 J Q2
pH (Std. Units)											
pH	nca	nca	nca	nca	nca	nca	8.0	6.7	7.6	7.8	7.8

Notes:

- All concentrations are displayed in milligrams per kilogram (mg/kg).
- Underlined - Concentration exceed PADEP Residential MSCs for Direct Contact.
- Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for Direct Contact.
- Orange Text - Concentration exceeds PADEP Non-Residential MSCs for Soil to Groundwater.
- Bolded - Concentration exceeds PADEP Clean Fill Concentration Limits.
- Italicized - Concentration exceeds PADEP Beneficial Use of Regulated Fill Concentration Limits.
- MSC - Medium Specific Concentration.
- PADEP - Pennsylvania Department of Environmental Protection.
- SHS - Statewide Health Standard.
- TDS - Total Dissolved Solids.
- D1 - Indicates for dual column analyses that the result is reported from column 1.
- D2 - Indicates for dual column analyses that the result is reported from column 2.
- J - The concentration is an approximate value.
- P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
- U - Analyte was not detected above the laboratory method detection limit.
- V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
- Z - Laboratory Defined - see analysis report.
- B - Detection in the Blank.
- NA - Not analyzed.
- nca - No criteria available.
- ND - None detected.
- Q2 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Low.
- Q3 - MS/MSD High.
- Q8 - Duplicate (DUP) RPD.
- Q9 - MS/MSD Relative Percent Difference (RPD).

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Stroudsburg, Pennsylvania

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	(0 - 15 feet)	(0 - 2 feet)	(2 - 15 feet)				5.5 - 7.5	0.0 - 2.0	10.0 - 12.0	0.0 - 2.0				
Sample Depth (ft-ft bgs)														
Sampling Date	(0 - 15 feet)	(0 - 2 feet)	(2 - 15 feet)				11/27/2017	11/27/2017	11/27/2017	11/27/2017	11/27/2017	11/27/2017	11/28/2017	11/28/2017
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Analyte														
Volatile Organic Compounds (VOCs)														
Benzene	57	290	330	0.5	0.13	0.13	0.00050	U	0.00060	U	0.00050	U	0.00060	J
Ethylbenzene	180	890	1,000	70	46	46	0.0010	U	0.0010	U	0.0010	U	0.0010	U
Isopropylbenzene	7,700	10,000	10,000	350	780	1,600	0.0010	U	0.0010	U	0.0010	U	0.0010	U
Naphthalene	160	760	190,000	10	25	25	0.0010	U	0.0010	U	0.0010	U	0.0010	U
Toluene	10,000	10,000	10,000	100	44	44	0.0010	U	0.0010	U	0.0010	U	0.0010	U
1,2,4-Trimethylbenzene	130	560	640	6.2	9	20	0.0010	U	0.0010	U	0.0010	U	0.0010	U
Xylene (Total)	1,900	8,000	9,100	1,000	990	990	0.0010	U	0.0010	J	0.0010	U	0.0010	U
No other Shortlist VOCs were detected above the laboratory method detection limits.														
Polycyclic Aromatic Hydrocarbons (PAHs)														
Acenaphthene	13,000	190,000	190,000	380	2,700	4,700	0.0030	U	0.0040	J	0.0040	U	0.011	J
Acenaphthylene	13,000	190,000	190,000	700	2,500	6,900	0.0030	U	0.0040	U	0.0040	U	0.034	
Anthracene	66,000	190,000	190,000	6.6	350	350	0.0030	U	0.0080	J	0.0040	U	0.081	
Benzo(a)anthracene	6	130	190,000	0.49	25	110	0.0030	U	0.019		0.0060	J	0.24	
Benzo(a)pyrene	0.58	12	190,000	0.02	2.5	11	0.0030	U	0.024		0.0040	U	0.21	
Benzo(b)fluoranthene	3.5	76	190,000	0.12	25	110	0.0030	U	0.033		0.0060	J	0.37	
Benzo(g,h,i)perylene	13,000	190,000	190,000	0.026	180	180	0.0030	U	0.021		0.0040	U	0.23	
Benzo(k)fluoranthene	4	76	190,000	0.055	250	610	0.0030	U	0.015	J	0.0040	U	0.13	
Chrysene	35	760	190,000	0.19	230	230	0.0030	U	0.030		0.0050	J	0.32	
Dibenz(a,h)anthracene	1	22	190,000	0.06	2.50	11	0.0030	U	0.0040	U	0.0040	U	0.069	
Fluoranthene	8,800	130,000	190,000	26	3,200	3,200	0.0030	U	0.037		0.0040	J	0.34	
Fluorene	8,800	130,000	190,000	190	3,000	3,800	0.0030	U	0.0040	U	0.0040	U	0.022	
Indeno(1,2,3-cd)pyrene	3.5	76	190,000	0.28	25	110	0.0030	U	0.019		0.0040	U	0.20	
Naphthalene	160	760	190,000	10	25	25	0.0030	U	0.006	J	0.0040	U	0.058	
Phenanthrene	66,000	190,000	190,000	110	10,000	10,000	0.0040	J	0.019	J	0.0040	J	0.24	
Pyrene	6,600	96,000	190,000	13	2,200	2,200	0.0030	U	0.035		0.0070	J	0.38	
Asbestos (%)														
Chrysotile	nca	nca	nca	nca	nca	nca	ND		ND		ND		ND	
No other asbestos types were detected above the laboratory method detection limits.														
Polychlorinated Biphenyls (PCBs)														
PCB-1016	9	46	10,000	0.17	15	200	0.0037	U D2	0.0040	U D1 Q3	0.0039	U D1 Q3	0.021	U D1 Q3
PCB-1248	9.3	46	10,000	0.17	9.90	44	0.0034	U D2	0.038	D2	0.012	J D1	0.82	D1
PCB-1254	4.4	46	10,000	0.17	4.40	44	0.0034	U Z D1	0.065	D1	0.026	D1	0.79	D1
PCB-1260	9	46	190,000	0.17	30	130	0.0051	U Z D1	0.0054	U D1	0.0054	U D1	0.22	D1
No other PCBs were detected above the laboratory method detection limits.														

Notes:
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Bolded - Concentration exceeds PADEP Clean Fill Concentration Limits.
Italicized - Concentration exceeds PADEP Beneficial Use of Regulated Fill Concentration Limits.
MSC - Medium Specific Concentration.
PADEP - Pennsylvania Department of Environmental Protection.
SHS - Statewide Health Standard.
TDS - Total Dissolved Solids.
D1 - Indicates for dual column analyses that the result is reported from column 1.
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E - Concentration exceeds the calibration range.
J - The concentration is an approximate value.
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V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
Z - Laboratory Defined - see analysis report.
Q2 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Low.
Q3 - MS/MSD High.
Q8 - Duplicate (DUP) RPD.
Q9 - MS/MSD Relative Percent Difference (RPD).
B - Detection in the Blank.
NA - Not analyzed.
nca - No criteria available.
ND - None detected.

TABLE 1
Soil Analytical Data Summary
APS Recycling
Stroudsburg, Pennsylvania

Sample ID Sample Depth (ft-ft bgs) Sampling Date Units Matrix Analyte	PADEP SHS Residential MSCs for Direct Contact	PADEP SHS Non-Residential MSCs for Direct Contact		PADEP SHS Non-Residential MSCs Soil to GW for Used Aquifers TDS≤2500 100 X GW MSC mg/kg Soil	PADEP Clean Fill Concentration Limits mg/kg Soil	PADEP Beneficial Use of Regulated Fill Concentration Limits mg/kg Soil	APS-GP03-S002		APS-GP04-S001		APS-GP04-S002		APS-GP05-S001	
	(0 - 15 feet) mg/kg Soil	(0 - 2 feet) mg/kg Soil	(2 - 15 feet) mg/kg Soil				5.5 - 7.5 11/27/2017 mg/kg Soil	0.0 - 2.0 11/27/2017 mg/kg Soil	10.0 - 12.0 11/27/2017 mg/kg Soil	0.0 - 2.0 11/28/2017 mg/kg Soil				
Pesticides														
Alpha BHC	3	14	190,000	0.054	0.046	0.19	0.00018	U D2	0.00019	U D2 Q2	0.00019	U D2 Q2	3.9	U D2 Q2
Beta BHC	10	51	190,000	0.19	0.22	0.82	0.00031	U D2	0.00033	U D2	0.00033	U D2	6.8	U D2
Gamma BHC - Lindane	17	83	190,000	0.02	0.072	0.072	0.00018	U D2	0.00019	U D2 Q2	0.00019	U D2 Q2	3.9	U D2 Q2
Alpha Chlordane	53	260	190,000	0.2	49	49	0.00018	U D2	0.00023	U V D2	0.00023	J D2	3.9	U D2
Gamma Chlordane	53	260	190,000	0.2	49	49	0.00026	U D1	0.00028	U D2	0.00027	U D2	5.7	U D2
p,p-DDE	55	270	190,000	1	41	170	0.00034	U D1	0.00037	U D2	0.00044	J D2	16	J D2
p,p-DDT	55	270	190,000	0.55	53	230	0.00037	U D1	0.00040	U Z D2 Q3	0.00039	U Z D2 Q3	8.2	U Z D2 Q3
Dieldrin	1.2	6	190,000	0.021	0.11	0.44	0.00034	U D1	0.00094	U D2	0.00036	U D2	13.0	J D2
Endosulfan II	1,300	19,000	190,000	45	130	260	0.00034	U D2	0.00037	U D2 Q2 Q9	0.00036	U D2 Q2 Q9	7.5	U D2 Q2 Q9
Endrin	66	960	190,000	0.2	5.5	5.5	0.00035	U D1	0.00040	U V D2	0.00037	U D2	7.8	U D2
Endrin Aldehyde	nca	nca	nca	nca	nca	nca	0.00034	U Z D1	0.00037	U D2	0.00036	U D2	7.5	U D2
Heptachlor	4	20	190,000	0.04	0.68	0.68	0.00018	U D1	0.00019	U D2	0.00019	U D2	3.9	U D2
Heptachlor Epoxide	2	10	190,000	0.02	1.1	1.1	0.00018	U D1	0.00038	U V D2	0.00019	U D2	46.0	D2
Methoxychlor	1,100	16,000	190,000	4	630	630	0.0018	U D2	0.0019	U D2	0.0019	U D2	39.0	U D2
No other pesticides were detected above the laboratory method detection limits.														
Metals														
Antimony	88	1,300	190,000	0.6	27	27	3.3	Q8	1.0	J	0.87	U	17.9	
Arsenic	12	61	190,000	1	12	53	9.0		3.9		8.8		13.2	
Beryllium	440	6,400	190,000	0.4	320	320	0.57		0.27	J	0.53		0.50	J
Cadmium	110	1,600	190,000	0.5	38	38	0.37	J Q8	0.28	J Q8	0.13	J Q8	3.62	Q8
Chromium	4	220	20,000	10	94	190	19.9		22.0		22.1		62.8	
Copper	8,100	120,000	190,000	100	8,200	36,000	78.8	B Q2	23.0	B	24.4	B	675	B
Lead	500	1,000	190,000	0.5	450	450	84.9	Q2 Q8	58.3	Q3	28.4	Q3	844	Q3
Nickel	4,400	64,000	190,000	10	650	650	30.9		17.2		31.2		57.4	
Selenium	1,100	16,000	190,000	5	26	26	0.76	U	0.90	U	0.93	U	0.99	U
Silver	1,100	16,000	190,000	10	84	84	1.1		0.23	U	0.24	U	0.30	J
Thallium	2	32	190,000	0.2	14	14	1.1	U	1.3	U	1.37	U	1.46	U
Zinc	66,000	190,000	190,000	200	12,000	12,000	74.2	Q2 Q8	92.7		86.8		1,290	
Mercury	35	510	190,000	0.2	10	10	0.011	J Q2	0.03	J Q2	0.038	J Q8	0.53	Q8
pH (Std. Units)														
pH	nca	nca	nca	nca	nca	nca	7.3		10.3	J	9.3		8.4	

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MSC - Medium Specific Concentration.
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Q2 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Low.
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Q8 - Duplicate (DUP) RPD.
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Soil Analytical Data Summary
APS Recycling
Stroudsburg, Pennsylvania

Sample ID Sample Depth (ft-ft bgs) Sampling Date Units Matrix Analyte	PADEP SHS Residential MSCs for Direct Contact	PADEP SHS Non-Residential MSCs for Direct Contact		PADEP SHS Non-Residential MSCs Soil to GW for Used Aquifers TDS≤2500 100 X GW MSC mg/kg Soil	PADEP Clean Fill Concentration Limits mg/kg Soil	PADEP Beneficial Use of Regulated Fill Concentration Limits mg/kg Soil	APS-GP05-S002		APS-GP06-S001		APS-GP06-S101		APS-GP06-S002	
	(0 - 15 feet)	(0 - 2 feet)	(2 - 15 feet)				10.0 - 11.5 11/28/2017 mg/kg Soil	0.0 - 2.0 11/28/2017 mg/kg Soil	0.0 - 2.0 11/28/2017 mg/kg Soil	2.0 - 3.3 11/28/2017 mg/kg Soil				
Volatile Organic Compounds (VOCs)														
Benzene	57	290	330	0.5	0.13	0.13	0.00050	U	0.068	J	0.0040	J	0.00050	U
Ethylbenzene	180	890	1,000	70	46	46	0.0010	U	0.11	J	0.0010	U	0.0010	U
Isopropylbenzene	7,700	10,000	10,000	350	780	1,600	0.0010	U	0.26	J	0.0010	U	0.0010	U
Naphthalene	160	760	190,000	10	25	25	0.0010	U Q2	0.075	J	0.0010	J	0.0010	U
Toluene	10,000	10,000	10,000	100	44	44	0.0010	U	0.27	J	0.0070	J	0.0010	U
1,2,4-Trimethylbenzene	130	560	640	6.2	9	20	0.0010	U	0.12	J	0.0010	J	0.0010	U
Xylene (Total)	1,900	8,000	9,100	1,000	990	990	0.0010	U	0.34	J	0.0030	J	0.0010	U
No other Shortlist VOCs were detected above the laboratory method detection limits.														
Polycyclic Aromatic Hydrocarbons (PAHs)														
Acenaphthene	13,000	190,000	190,000	380	2,700	4,700	0.0040	U	0.12		0.16		0.023	
Acenaphthylene	13,000	190,000	190,000	700	2,500	6,900	0.0040	U	0.13		0.084	J	0.34	
Anthracene	66,000	190,000	190,000	6.6	350	350	0.0040	U	0.34		0.46		0.38	
Benzo(a)anthracene	6	130	190,000	0.49	25	110	0.0040	U	0.84		1.9		0.78	
Benzo(a)pyrene	0.58	12	190,000	0.02	2.5	11	0.0040	U	0.79		1.6		0.33	
Benzo(b)fluoranthene	3.5	76	190,000	0.12	25	110	0.0040	U	1.1		2.6		0.75	
Benzo(g,h,i)perylene	13,000	190,000	190,000	0.026	180	180	0.0040	U	0.67		1.2		0.23	
Benzo(k)fluoranthene	4	76	190,000	0.055	250	610	0.0040	U	0.51		0.95		0.34	
Chrysene	35	760	190,000	0.19	230	230	0.0040	U	0.97		2.1		1.1	
Dibenz(a,h)anthracene	1	22	190,000	0.06	2.50	11	0.0040	U	0.22		0.35		0.087	
Fluoranthene	8,800	130,000	190,000	26	3,200	3,200	0.0050	J	1.3		3.1		1.9	
Fluorene	8,800	130,000	190,000	190	3,000	3,800	0.0040	U	0.097	J	0.14		0.045	
Indeno(1,2,3-cd)pyrene	3.5	76	190,000	0.28	25	110	0.0040	U	0.64		1.2		0.22	
Naphthalene	160	760	190,000	10	25	25	0.0040	U	0.14		0.15		0.12	
Phenanthrene	66,000	190,000	190,000	110	10,000	10,000	0.0040	U	0.92		1.5		0.48	
Pyrene	6,600	96,000	190,000	13	2,200	2,200	0.0060	J	1.3		2.8		1.6	
Asbestos (%)														
Chrysotile	nca	nca	nca	nca	nca	nca	ND		ND		ND		ND	
No other asbestos types were detected above the laboratory method detection limits.														
Polychlorinated Biphenyls (PCBs)														
PCB-1016	9	46	10,000	0.17	15	200	0.0040	U D1 Q3	0.022	U D1 Q3	0.021	U D1 Q3	0.0041	U D1 Q3
PCB-1248	9.3	46	10,000	0.17	9.90	44	0.0037	U D1	1.2	D2	1.8	D1	0.040	D1
PCB-1254	4.4	46	10,000	0.17	4.40	44	0.0044	J Z D1	1.7	D1	2.1	D1	0.069	D1
PCB-1260	9	46	190,000	0.17	30	130	0.0055	U Z D1	0.030	U D1	0.029	U D1	0.048	D1
No other PCBs were detected above the laboratory method detection limits.														

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Sample ID Sample Depth (ft-ft bgs) Sampling Date Units Matrix Analyte	PADEP SHS Residential MSCs for Direct Contact	PADEP SHS Non-Residential MSCs for Direct Contact		PADEP SHS Non-Residential MSCs Soil to GW for Used Aquifers TDS≤2500 100 X GW MSC mg/kg Soil	PADEP Clean Fill Concentration Limits mg/kg Soil	PADEP Beneficial Use of Regulated Fill Concentration Limits mg/kg Soil	APS-GP05-S002		APS-GP06-S001		APS-GP06-S101		APS-GP06-S002	
	(0 - 15 feet) mg/kg Soil	(0 - 2 feet) mg/kg Soil	(2 - 15 feet) mg/kg Soil				10.0 - 11.5 11/28/2017 mg/kg Soil	0.0 - 2.0 11/28/2017 mg/kg Soil	0.0 - 2.0 11/28/2017 mg/kg Soil	2.0 - 3.3 11/28/2017 mg/kg Soil				
Pesticides														
Alpha BHC	3	14	190,000	0.054	0.046	0.19	0.00019	U D2 Q2	0.0041	U D2 Q2	0.010	U D2 Q2	0.00096	U D2 Q2
Beta BHC	10	51	190,000	0.19	0.22	0.82	0.00033	U D2	0.0073	U D2	0.018	U D2	0.0017	U D2
Gamma BHC - Lindane	17	83	190,000	0.02	0.072	0.072	0.00019	U D2 Q2	0.0069	J P D2 Q2	0.010	U D2 Q2	0.00096	U D2 Q2
Alpha Chlordane	53	260	190,000	0.2	49	49	0.00019	U D2	0.0041	U D2	0.010	U D2	0.00096	U D2
Gamma Chlordane	53	260	190,000	0.2	49	49	0.00028	U D2	0.0061	U D1	0.015	U D1	0.0014	U D2
p,p-DDE	55	270	190,000	1	41	170	0.00037	U D2	0.055	D1	0.067	J P D2	0.0019	U D2
p,p-DDT	55	270	190,000	0.55	53	230	0.00040	U Z D2 Q3	0.0087	U D2 Q3	0.021	U D2 Q3	0.0068	J Z D2 Q3
Dieldrin	1.2	6	190,000	0.021	0.11	0.44	0.00037	U D2	0.0080	U D2	0.019	U D2	0.0019	U D2
Endosulfan II	1,300	19,000	190,000	45	130	260	0.00037	U D2 Q2 Q9	0.011	U V D1 Q2 Q9	0.074	J D2 Q2 Q9	0.0019	U D2 Q2 Q9
Endrin	66	960	190,000	0.2	5.5	5.5	0.00038	U D2	0.015	U V D2	0.033	J P D2	0.0019	U D2
Endrin Aldehyde	nca	nca	nca	nca	nca	nca	0.00037	U D2	0.072	Z D1	0.034	J Z P D1	0.0020	J D2
Heptachlor	4	20	190,000	0.04	0.68	0.68	0.00019	U D2	0.0053	J P D2	0.020	J D1	0.00096	U D2
Heptachlor Epoxide	2	10	190,000	0.02	1.1	1.1	0.00019	U D2	0.012	U V D1	0.020	U V D1	0.00096	U D2
Methoxychlor	1,100	16,000	190,000	4	630	630	0.0019	U D2	0.041	U D1	0.10	U D2	0.0096	U D2
No other pesticides were detected above the laboratory method detection limits.														
Metals														
Antimony	88	1,300	190,000	0.6	27	27	0.912	U	17.3		13.2		17.8	
Arsenic	12	61	190,000	1	12	53	13.2		17.4		17.1		14.8	
Beryllium	440	6,400	190,000	0.4	320	320	0.63		0.51	J	0.53		0.51	
Cadmium	110	1,600	190,000	0.5	38	38	0.17	J Q8	18.2	Q8	13.0	Q8	1.3	Q8
Chromium	4	220	20,000	10	94	190	19.9		221		135		33.0	
Copper	8,100	120,000	190,000	100	8,200	36,000	27.9	B	743	B	733	B	343	B
Lead	500	1,000	190,000	0.5	450	450	25.9	Q3	1,320	Q3	780	Q3	571	Q3
Nickel	4,400	64,000	190,000	10	650	650	34.5		155		157		36.1	
Selenium	1,100	16,000	190,000	5	26	26	0.98	U	5.7	U	4.5	U	0.94	U
Silver	1,100	16,000	190,000	10	84	84	0.25	U	3.6		3.4		0.24	U
Thallium	2	32	190,000	0.2	14	14	1.45	J	8.3	U	6.6	U	1.4	U
Zinc	66,000	190,000	190,000	200	12,000	12,000	88.0		2,810		3,320		463	
Mercury	35	510	190,000	0.2	10	10	0.02	J Q8	1.0	Q8	0.82	Q2	0.089	J Q2
pH (Std. Units)														
pH	nca	nca	nca	nca	nca	nca	8.1		9.4		9.3		7.6	

Notes:

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- Z - Laboratory Defined - see analysis report. Q2 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Low.
- B - Detection in the Blank. Q3 - MS/MSD High.
- NA - Not analyzed. Q8 - Duplicate (DUP) RPD.
- nca - No criteria available. Q9 - MS/MSD Relative Percent Difference (RPD).
- ND - None detected.

TABLE 1
Soil Analytical Data Summary
APS Recycling
Stroudsburg, Pennsylvania

Sample ID	PADEP SHS Residential MSCs for Direct Contact	PADEP SHS Non-Residential MSCs for Direct Contact		PADEP SHS Non-Residential MSCs Soil to GW for Used Aquifers TDS≤2500 100 X GW MSC mg/kg Soil	PADEP Clean Fill Concentration Limits mg/kg Soil	PADEP Beneficial Use of Regulated Fill Concentration Limits mg/kg Soil	APS-GP07-S001		APS-GP07-S002		APS-GP08-S001		APS-GP08-S002	
		Residential MSCs for Direct Contact (0 - 15 feet)	Non-Residential MSCs for Direct Contact (0 - 2 feet)				Non-Residential MSCs for Direct Contact (2 - 15 feet)	0.0 - 2.0	10.0 - 11.0	0.0 - 2.0	5.5 - 7.5			
Sample Depth (ft-ft bgs)	(0 - 15 feet)	(0 - 2 feet)	(2 - 15 feet)											
Sampling Date	mg/kg	mg/kg	mg/kg											
Units	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Matrix														
Analyte														
Volatile Organic Compounds (VOCs)														
Benzene	57	290	330	0.5	0.13	0.13	0.0010	J	0.00050	U	0.00050	U	0.00060	U
Ethylbenzene	180	890	1,000	70	46	46	0.0010	U	0.0010	U	0.0010	U	0.0010	U
Isopropylbenzene	7,700	10,000	10,000	350	780	1,600	0.0010	U	0.0010	U	0.0010	U	0.0010	U
Naphthalene	160	760	190,000	10	25	25	0.0010	U Q2	0.0010	U Q2	0.0010	U	0.0010	U Q2
Toluene	10,000	10,000	10,000	100	44	44	0.0030	J	0.0010	U	0.0010	U	0.0010	U
1,2,4-Trimethylbenzene	130	560	640	6.2	9	20	0.0010	U	0.0010	U	0.0010	U	0.0010	U
Xylene (Total)	1,900	8,000	9,100	1,000	990	990	0.0020	J	0.0010	U	0.0010	U	0.0010	U
No other Shortlist VOCs were detected above the laboratory method detection limits.														
Polycyclic Aromatic Hydrocarbons (PAHs)														
Acenaphthene	13,000	190,000	190,000	380	2,700	4,700	0.0040	U	0.0040	U	0.0040	U	0.0040	J
Acenaphthylene	13,000	190,000	190,000	700	2,500	6,900	0.037		0.0050	J	0.0070	J	0.0040	U
Anthracene	66,000	190,000	190,000	6.6	350	350	0.038		0.0080	J	0.0080	J	0.0040	U
Benzo(a)anthracene	6	130	190,000	0.49	25	110	0.11		0.036		0.022		0.0040	U
Benzo(a)pyrene	0.58	12	190,000	0.02	2.5	11	0.13		0.031		0.027		0.0040	U
Benzo(b)fluoranthene	3.5	76	190,000	0.12	25	110	0.20		0.049		0.045		0.0040	U
Benzo(g,h,i)perylene	13,000	190,000	190,000	0.026	180	180	0.12		0.031		0.024		0.0040	U
Benzo(k)fluoranthene	4	76	190,000	0.055	250	610	0.064		0.022		0.018	J	0.0040	U
Chrysene	35	760	190,000	0.19	230	230	0.16		0.041		0.041		0.0040	U
Dibenz(a,h)anthracene	1	22	190,000	0.06	2.50	11	0.047		0.0040	U	0.004	U	0.0040	U
Fluoranthene	8,800	130,000	190,000	26	3,200	3,200	0.18		0.042		0.028		0.0040	U
Fluorene	8,800	130,000	190,000	190	3,000	3,800	0.017	J	0.0040	U	0.0040	U	0.0040	U
Indeno(1,2,3-cd)pyrene	3.5	76	190,000	0.28	25	110	0.098		0.024		0.022		0.0040	U
Naphthalene	160	760	190,000	10	25	25	0.13		0.013	J	0.017	J	0.0290	U
Phenanthrene	66,000	190,000	190,000	110	10,000	10,000	0.14		0.023		0.039		0.0040	J
Pyrene	6,600	96,000	190,000	13	2,200	2,200	0.21		0.055		0.038		0.0050	J
Asbestos (%)														
Chrysotile	nca	nca	nca	nca	nca	nca	ND		ND		ND		ND	
No other asbestos types were detected above the laboratory method detection limits.														
Polychlorinated Biphenyls (PCBs)														
PCB-1016	9	46	10,000	0.17	15	200	0.020	U D1 Q3	0.0040	U D1 Q3	0.0039	U D2 Q3	0.0043	U D2 Q3
PCB-1248	9.3	46	10,000	0.17	9.90	44	0.73	D2	0.20	D1	0.0035	U D2	0.0039	U D2
PCB-1254	4.4	46	10,000	0.17	4.40	44	0.34	D1	0.083	D1	0.0035	U D2	0.0039	U D2
PCB-1260	9	46	190,000	0.17	30	130	0.027	U D1	0.0054	U D1	0.34	D2	0.0058	U D2
No other PCBs were detected above the laboratory method detection limits.														

Notes:
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Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for Direct Contact.
Orange Text - Concentration exceeds PADEP Non-Residential MSCs for Soil to Groundwater.
Bolded - Concentration exceeds PADEP Clean Fill Concentration Limits.
Italicized - Concentration exceeds PADEP Beneficial Use of Regulated Fill Concentration Limits.
MSC - Medium Specific Concentration.
PADEP - Pennsylvania Department of Environmental Protection.
SHS - Statewide Health Standard.
TDS - Total Dissolved Solids.
D1 - Indicates for dual column analyses that the result is reported from column 1.
D2 - Indicates for dual column analyses that the result is reported from column 2.
E - Concentration exceeds the calibration range.
J - The concentration is an approximate value.
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected above the laboratory method detection limit.
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
Z - Laboratory Defined - see analysis report.
B - Detection in the Blank.
NA - Not analyzed.
nca - No criteria available.
ND - None detected.

Q2 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Low.
Q3 - MS/MSD High.
Q8 - Duplicate (DUP) RPD.
Q9 - MS/MSD Relative Percent Difference (RPD).

TABLE 1
Soil Analytical Data Summary
APS Recycling
Stroudsburg, Pennsylvania

Sample ID	PADEP SHS Residential MSCs for Direct Contact		PADEP SHS Non-Residential MSCs for Direct Contact		PADEP SHS Non-Residential MSCs Soil to GW for Used Aquifers TDS≤2500 100 X GW MSC mg/kg Soil	PADEP Clean Fill Concentration Limits mg/kg Soil	PADEP Beneficial Use of Regulated Fill Concentration Limits mg/kg Soil	APS-GP07-S001		APS-GP07-S002		APS-GP08-S001		APS-GP08-S002	
	Sample Depth (ft-ft bgs)	(0 - 15 feet)	(0 - 2 feet)	(2 - 15 feet)				0.0 - 2.0	10.0 - 11.0	0.0 - 2.0	5.5 - 7.5				
Sampling Date	(0 - 15 feet)		(0 - 2 feet)	(2 - 15 feet)				11/28/2017	11/28/2017	11/28/2017	11/28/2017	11/28/2017	11/28/2017	11/28/2017	11/28/2017
Units	mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Matrix	Soil		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Analyte															
Pesticides															
Alpha BHC	3	14	190,000	0.054	0.046	0.19	0.0065	J D1 Q2	0.00019	U D2 Q2	0.00018	U D2 Q2	0.00020	U D2 Q2	
Beta BHC	10	51	190,000	0.19	0.22	0.82	0.0043	J P D1	0.00052	J P D2	0.00032	U D2	0.00035	U D2	
Gamma BHC - Lindane	17	83	190,000	0.02	0.072	0.72	0.0019	U D2 Q2	0.00036	J P D2 Q2	0.00018	U D2 Q2	0.00020	U D2 Q2	
Alpha Chlordane	53	260	190,000	0.2	49	49	0.0021	J P D2	0.00041	J P D2	0.00023	U D2	0.00020	U D2	
Gamma Chlordane	53	260	190,000	0.2	49	49	0.0042	J P D1	0.00046	U V D2	0.00028	U V D2	0.00030	U D2	
p,p-DDE	55	270	190,000	1	41	170	0.0088	J D1	0.0018	J D2	0.00069	U V D2	0.00039	U D2	
p,p-DDT	55	270	190,000	0.55	53	230	0.0040	U D2 Q3	0.00040	U Z D2 Q3	0.0019	U Z D2 Q3	0.00043	U Z D2 Q3	
Dieldrin	1.2	6	190,000	0.021	0.11	0.44	0.0037	U D2	0.00037	U D2	0.0018	U D2	0.00039	U D2	
Endosulfan II	1,300	19,000	190,000	45	130	260	0.0037	U D1 Q2 Q9	0.00044	U V D2 Q2 Q9	0.0018	U D2 Q2 Q9	0.00039	U D2 Q2 Q9	
Endrin	66	960	190,000	0.2	5.5	5.5	0.0038	U D2	0.00052	U V D2	0.0030	U V D2	0.00040	U D2	
Endrin Aldehyde	nca	nca	nca	nca	nca	nca	0.0042	U Z V D1	0.00091	U V D2	0.0079	J P D2	0.00039	U D2	
Heptachlor	4	20	190,000	0.04	0.68	0.68	0.0042	J P D2	0.00093	D2	0.00018	U D2	0.00020	U D2	
Heptachlor Epoxide	2	10	190,000	0.02	1.1	1.1	0.0021	U V D1	0.00053	U V D2	0.00043	U V D2	0.00020	U D2	
Methoxychlor	1,100	16,000	190,000	4	630	630	0.12	D1	0.0019	U D2	0.0091	U D2	0.0020	U D2	
No other pesticides were detected above the laboratory method detection limits.															
Metals															
Antimony	88	1,300	190,000	0.6	27	27	13.9		0.92	U	3.1		0.79	U	
Arsenic	12	61	190,000	1	12	53	9.19		6.3		11.9		8.2		
Beryllium	440	6,400	190,000	0.4	320	320	0.40	J	0.33	J	0.51		0.49		
Cadmium	110	1,600	190,000	0.5	38	38	2.24	Q8	0.33	J Q8	1.3	Q8	0.049	U Q8	
Chromium	4	220	20,000	10	94	190	50.5		37.3		28.6		15.9		
Copper	8,100	120,000	190,000	100	8,200	36,000	213	B	533	B	119	B	20.0	B	
Lead	500	1,000	190,000	0.5	450	450	359	Q3	45.9	Q3	103	Q3	18.0	Q3	
Nickel	4,400	64,000	190,000	10	650	650	50.0		30.7		31.6		23.3		
Selenium	1,100	16,000	190,000	5	26	26	0.97	U	0.99	U	0.84	U	0.84	U	
Silver	1,100	16,000	190,000	10	84	84	0.25	U	0.25	U	0.22	U	0.22	U	
Thallium	2	32	190,000	0.2	14	14	1.4	U	1.5	U	1.2	U	1.2	U	
Zinc	66,000	190,000	190,000	200	12,000	12,000	704		133		348		56.3		
Mercury	35	510	190,000	0.2	10	10	0.91	Q2	0.06	J Q2	0.039	J Q8	0.012	U Q2	
pH (Std. Units)															
pH	nca	nca	nca	nca	nca	nca	11.9	J	10.2	J	8.7		6.3		

Notes:

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- Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for Direct Contact.
- Orange Text - Concentration exceeds PADEP Non-Residential MSCs for Soil to Groundwater.
- Bolded - Concentration exceeds PADEP Clean Fill Concentration Limits.
- Italicized - Concentration exceeds PADEP Beneficial Use of Regulated Fill Concentration Limits.
- MSC - Medium Specific Concentration.
- PADEP - Pennsylvania Department of Environmental Protection.
- SHS - Statewide Health Standard.
- TDS - Total Dissolved Solids.
- D1 - Indicates for dual column analyses that the result is reported from column 1.
- D2 - Indicates for dual column analyses that the result is reported from column 2.
- J - The concentration is an approximate value.
- P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
- U - Analyte was not detected above the laboratory method detection limit.
- V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
- Z - Laboratory Defined - see analysis report.
- B - Detection in the Blank.
- NA - Not analyzed.
- nca - No criteria available.
- ND - None detected.
- Q2 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Low.
- Q3 - MS/MSD High.
- Q8 - Duplicate (DUP) RPD.
- Q9 - MS/MSD Relative Percent Difference (RPD).

TABLE 1
Soil Analytical Data Summary
APS Recycling
Stroudsburg, Pennsylvania

Sample ID	PADEP SHS Residential MSCs for Direct Contact	PADEP SHS Non-Residential MSCs for Direct Contact		PADEP SHS Non-Residential MSCs Soil to GW for Used Aquifers TDS≤2500 100 X GW MSC mg/kg Soil	PADEP Clean Fill Concentration Limits mg/kg Soil	PADEP Beneficial Use of Regulated Fill Concentration Limits mg/kg Soil	APS-GP09-S001		APS-GP09-S002		APS-GP10-S001		APS-GP10-S002	
		Residential MSCs for Direct Contact (0 - 15 feet)	Non-Residential MSCs for Direct Contact (0 - 2 feet)				Non-Residential MSCs for Direct Contact (2 - 15 feet)	0.0 - 2.0	11.5 - 13.5	0.0 - 2.0	10.0 - 11.0			
Sample Depth (ft-ft bgs)														
Sampling Date														
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Analyte														
Volatile Organic Compounds (VOCs)														
Benzene	57	290	330	0.5	0.13	0.13	0.027	U	0.00060	U	0.00060	U	0.00060	U
Ethylbenzene	180	890	1,000	70	46	46	0.054	U	0.0010	U	0.0010	U	0.0010	U
Isopropylbenzene	7,700	10,000	10,000	350	780	1,600	0.054	U	0.0010	U	0.0010	U	0.0010	U
Naphthalene	160	760	190,000	10	25	25	0.054	U	0.0010	U	0.0010	U	0.0010	U
Toluene	10,000	10,000	10,000	100	44	44	0.054	U	0.0010	U	0.0010	U	0.0010	U
1,2,4-Trimethylbenzene	130	560	640	6.2	9	20	0.054	U	0.0010	U	0.0010	U	0.0010	U
Xylene (Total)	1,900	8,000	9,100	1,000	990	990	0.057	J	0.0010	U	0.0010	U	0.0010	U
No other Shortlist VOCs were detected above the laboratory method detection limits.														
Polycyclic Aromatic Hydrocarbons (PAHs)														
Acenaphthene	13,000	190,000	190,000	380	2,700	4,700	0.034	J	0.0040	U	NA	NA	0.0040	U
Acenaphthylene	13,000	190,000	190,000	700	2,500	6,900	0.19		0.0040	U	NA	NA	0.0040	J
Anthracene	66,000	190,000	190,000	6.6	350	350	0.13		0.0040	U	NA	NA	0.0050	J
Benzo(a)anthracene	6	130	190,000	0.49	25	110	0.43		0.0070	J	NA	NA	0.015	J
Benzo(a)pyrene	0.58	12	190,000	0.02	2.5	11	0.46		0.0040	U	NA	NA	0.016	J
Benzo(b)fluoranthene	3.5	76	190,000	0.12	25	110	0.70		0.0080	J	NA	NA	0.023	
Benzo(g,h,i)perylene	13,000	190,000	190,000	0.026	180	180	0.53		0.0040	U	NA	NA	0.013	J
Benzo(k)fluoranthene	4	76	190,000	0.055	250	610	0.26		0.0040	J	NA	NA	0.0080	J
Chrysene	35	760	190,000	0.19	230	230	0.63		0.0070	J	NA	NA	0.021	
Dibenz(a,h)anthracene	1	22	190,000	0.06	2.50	11	0.13		0.0040	U	NA	NA	0.0040	J
Fluoranthene	8,800	130,000	190,000	26	3,200	3,200	0.86		0.010	J	NA	NA	0.028	
Fluorene	8,800	130,000	190,000	190	3,000	3,800	0.025	J	0.0040	U	NA	NA	0.0040	U
Indeno(1,2,3-cd)pyrene	3.5	76	190,000	0.28	25	110	0.49		0.0040	U	NA	NA	0.014	J
Naphthalene	160	760	190,000	10	25	25	0.17		0.0080	J	NA	NA	0.0040	U
Phenanthrene	66,000	190,000	190,000	110	10,000	10,000	0.65		0.0090	J	NA	NA	0.014	J
Pyrene	6,600	96,000	190,000	13	2,200	2,200	0.83		0.013	J	NA	NA	0.026	
Asbestos (%)														
Chrysotile	nca	nca	nca	nca	nca	nca	ND		ND		NA	NA	NA	NA
No other asbestos types were detected above the laboratory method detection limits.														
Polychlorinated Biphenyls (PCBs)														
PCB-1016	9	46	10,000	0.17	15	200	0.0040	U D2 Q3	0.0042	U D2 Q3	NA	NA	0.0043	U D1
PCB-1248	9.3	46	10,000	0.17	9.90	44	0.082	D2	0.0063	J D2	NA	NA	0.0039	U D1
PCB-1254	4.4	46	10,000	0.17	4.40	44	0.052	D2	0.0049	J D2	NA	NA	0.0039	U D1
PCB-1260	9	46	190,000	0.17	30	130	0.0054	U D2	0.0058	U D2	NA	NA	0.0058	U D2
No other PCBs were detected above the laboratory method detection limits.														

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NA - Not analyzed.
nca - No criteria available.
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Q2 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Low.
Q3 - MS/MSD High.
Q8 - Duplicate (DUP) RPD.
Q9 - MS/MSD Relative Percent Difference (RPD).

TABLE 1
Soil Analytical Data Summary
APS Recycling
Stroudsburg, Pennsylvania

Sample ID	PADEP SHS Residential MSCs for Direct Contact		PADEP SHS Non-Residential MSCs for Direct Contact		PADEP SHS Non-Residential MSCs Soil to GW for Used Aquifers TDS≤2500 100 X GW MSC mg/kg Soil	PADEP Clean Fill Concentration Limits mg/kg Soil	PADEP Beneficial Use of Regulated Fill Concentration Limits mg/kg Soil	APS-GP09-S001		APS-GP09-S002		APS-GP10-S001		APS-GP10-S002	
	Sample Depth (ft-ft bgs)	(0 - 15 feet)	(0 - 2 feet)	(2 - 15 feet)				0.0 - 2.0	11.5 - 13.5	0.0 - 2.0	10.0 - 11.0				
Sampling Date	(0 - 15 feet)		(0 - 2 feet)	(2 - 15 feet)				11/28/2017	11/28/2017	11/28/2017	11/28/2017	11/28/2017	11/28/2017	11/28/2017	11/28/2017
Units	mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Matrix	Soil		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Analyte															
Pesticides															
Alpha BHC	3	14	190,000	0.054	0.046	0.19	0.00094	U D2 Q2	0.00020	U D2 Q2	NA	0.00020	U D2		
Beta BHC	10	51	190,000	0.19	0.22	0.82	0.0017	U D2	0.00035	U D2	NA	0.00036	U D2		
Gamma BHC - Lindane	17	83	190,000	0.02	0.072	0.072	0.00094	U D2 Q2	0.00020	U D2 Q2	NA	0.00020	U D1		
Alpha Chlordane	53	260	190,000	0.2	49	49	0.0010	J D2	0.00020	U D2	NA	0.00020	U D2 Q2		
Gamma Chlordane	53	260	190,000	0.2	49	49	0.0014	U D2	0.00029	U D2	NA	0.00030	U D1 Q2 Q9		
p,p-DDE	55	270	190,000	1	41	170	0.0018	U D2	0.00039	U D2	NA	0.00039	U D1 Q2		
p,p-DDT	55	270	190,000	0.55	53	230	0.0048	J Z D2 Q3	0.00042	U Z D2 Q3	NA	0.00043	U D2 Q2		
Dieldrin	1.2	6	190,000	0.021	0.11	0.44	0.0018	U D2	0.00039	U D2	NA	0.00039	U D1 Q2		
Endosulfan II	1,300	19,000	190,000	45	130	260	0.0018	U D2 Q2 Q9	0.00039	U D2 Q2 Q9	NA	0.00039	U D1 Q2		
Endrin	66	960	190,000	0.2	5.5	5.5	0.0019	U D2	0.00040	U D2	NA	0.00040	U D2 Q2		
Endrin Aldehyde	nca	nca	nca	nca	nca	nca	0.0048	J P D2	0.00039	U D2	NA	0.00039	U D2 Q2 Q9		
Heptachlor	4	20	190,000	0.04	0.68	0.68	0.00094	U D2	0.00020	U D2	NA	0.00020	U D1 Q2		
Heptachlor Epoxide	2	10	190,000	0.02	1.1	1.1	0.00095	U V D2	0.00020	U D2	NA	0.00020	U D1 Q2		
Methoxychlor	1,100	16,000	190,000	4	630	630	0.0094	U D2	0.00200	U D2	NA	0.0020	U D1 Q2		
No other pesticides were detected above the laboratory method detection limits.															
Metals															
Antimony	88	1,300	190,000	0.6	27	27	18.1		0.70	U	NA	0.81	U Q2		
Arsenic	12	61	190,000	1	12	53	16.9		8.2		NA	5.1	Q3 Q8		
Beryllium	440	6,400	190,000	0.4	320	320	0.56	Q8	0.49	Q8	NA	0.47	B Q8		
Cadmium	110	1,600	190,000	0.5	38	38	0.053	U	0.043	U	NA	0.34	J Q8		
Chromium	4	220	20,000	10	94	190	23.7		13.9		NA	15.0	Q3 Q8 Q9		
Copper	8,100	120,000	190,000	100	8,200	36,000	550		19.4		NA	13.3	Q3 Q8 Q9		
Lead	500	1,000	190,000	0.5	450	450	865	Q3 Q2 Q8 Q9	16.3	Q3 Q2 Q8 Q9	NA	9.5	Q3 Q8 Q9		
Nickel	4,400	64,000	190,000	10	650	650	28.9		22.3		NA	21.7	Q8		
Selenium	1,100	16,000	190,000	5	26	26	1.1	J	0.75	U	NA	2.1	Q8		
Silver	1,100	16,000	190,000	10	84	84	8.9	Q8	0.34	J Q8	NA	0.43	J		
Thallium	2	32	190,000	0.2	14	14	1.4	U	1.1	U	NA	1.3	U		
Zinc	66,000	190,000	190,000	200	12,000	12,000	276	Q3 Q9	59.1	Q3 Q9	NA	47.1	Q3 Q8		
Mercury	35	510	190,000	0.2	10	10	0.15	Q2	0.016	J Q8	NA	0.012	U Q2 Q8		
pH (Std. Units)															
pH	nca	nca	nca	nca	nca	nca	7.6		7.6		NA	8.19			

Notes:
All concentrations are displayed in milligrams per kilogram (mg/kg).
Underlined - Concentration exceed PADEP Residential MSCs for Direct Contact.
Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for Direct Contact.
Orange Text - Concentration exceeds PADEP Non-Residential MSCs for Soil to Groundwater.
Bolded - Concentration exceeds PADEP Clean Fill Concentration Limits.
Italicized - Concentration exceeds PADEP Beneficial Use of Regulated Fill Concentration Limits.
MSC - Medium Specific Concentration.
PADEP - Pennsylvania Department of Environmental Protection.
SHS - Statewide Health Standard.
TDS - Total Dissolved Solids.
D1 - Indicates for dual column analyses that the result is reported from column 1.
D2 - Indicates for dual column analyses that the result is reported from column 2.
J - The concentration is an approximate value.
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected above the laboratory method detection limit.
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
Z - Laboratory Defined - see analysis report.
B - Detection in the Blank.
NA - Not analyzed.
nca - No criteria available.
ND - None detected.
Q2 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Low.
Q3 - MS/MSD High.
Q8 - Duplicate (DUP) RPD.
Q9 - MS/MSD Relative Percent Difference (RPD).

TABLE 1
Soil Analytical Data Summary
APS Recycling
Stroudsburg, Pennsylvania

Sample ID	PADEP SHS Residential MSCs for Direct Contact	PADEP SHS Non-Residential MSCs for Direct Contact		PADEP SHS Non-Residential MSCs Soil to GW for Used Aquifers TDS≤2500 100 X GW MSC mg/kg Soil	PADEP Clean Fill Concentration Limits mg/kg Soil	PADEP Beneficial Use of Regulated Fill Concentration Limits mg/kg Soil	APS-GP10-S301	
	(0 - 15 feet)	(0 - 2 feet)	(2 - 15 feet)				Trip Blank	11/28/2017
Sample Depth (ft-ft bgs)								
Sampling Date								
Units	mg/kg	mg/kg	mg/kg					
Matrix	Soil	Soil	Soil					
Analyte								
Volatile Organic Compounds (VOCs)								
Benzene	57	290	330	0.5	0.13	0.13	0.00050	U
Ethylbenzene	180	890	1,000	70	46	46	0.0010	U
Isopropylbenzene	7,700	10,000	10,000	350	780	1,600	0.0010	U
Naphthalene	160	760	190,000	10	25	25	0.0010	U
Toluene	10,000	10,000	10,000	100	44	44	0.0010	U
1,2,4-Trimethylbenzene	130	560	640	6.2	9	20	0.0010	U
Xylene (Total)	1,900	8,000	9,100	1,000	990	990	0.0010	U
No other Shortlist VOCs were detected above the laboratory method detection limits.								
Polycyclic Aromatic Hydrocarbons (PAHs)								
Acenaphthene	13,000	190,000	190,000	380	2,700	4,700	NA	
Acenaphthylene	13,000	190,000	190,000	700	2,500	6,900	NA	
Anthracene	66,000	190,000	190,000	6.6	350	350	NA	
Benzo(a)anthracene	6	130	190,000	0.49	25	110	NA	
Benzo(a)pyrene	0.58	12	190,000	0.02	2.5	11	NA	
Benzo(b)fluoranthene	3.5	76	190,000	0.12	25	110	NA	
Benzo(g,h,i)perylene	13,000	190,000	190,000	0.026	180	180	NA	
Benzo(k)fluoranthene	4	76	190,000	0.055	250	610	NA	
Chrysene	35	760	190,000	0.19	230	230	NA	
Dibenz(a,h)anthracene	1	22	190,000	0.06	2.50	11	NA	
Fluoranthene	8,800	130,000	190,000	26	3,200	3,200	NA	
Fluorene	8,800	130,000	190,000	190	3,000	3,800	NA	
Indeno(1,2,3-cd)pyrene	3.5	76	190,000	0.28	25	110	NA	
Naphthalene	160	760	190,000	10	25	25	NA	
Phenanthrene	66,000	190,000	190,000	110	10,000	10,000	NA	
Pyrene	6,600	96,000	190,000	13	2,200	2,200	NA	
Asbestos (%)								
Chrysotile	nca	nca	nca	nca	nca	nca	NA	
No other asbestos types were detected above the laboratory method detection limits.								
Polychlorinated Biphenyls (PCBs)								
PCB-1016	9	46	10,000	0.17	15	200	NA	
PCB-1248	9.3	46	10,000	0.17	9.90	44	NA	
PCB-1254	4.4	46	10,000	0.17	4.40	44	NA	
PCB-1260	9	46	190,000	0.17	30	130	NA	
No other PCBs were detected above the laboratory method detection limits.								

Notes:

- All concentrations are displayed in milligrams per kilogram (mg/kg).
- Underlined - Concentration exceed PADEP Residential MSCs for Direct Contact.
- Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for Direct Contact.
- Orange Text - Concentration exceeds PADEP Non-Residential MSCs for Soil to Groundwater.
- Bolded - Concentration exceeds PADEP Clean Fill Concentration Limits.
- Italicized - Concentration exceeds PADEP Beneficial Use of Regulated Fill Concentration Limits.
- MSC - Medium Specific Concentration.
- PADEP - Pennsylvania Department of Environmental Protection.
- SHS - Statewide Health Standard.
- TDS - Total Dissolved Solids.
- D1 - Indicates for dual column analyses that the result is reported from column 1.
- D2 - Indicates for dual column analyses that the result is reported from column 2.
- E - Concentration exceeds the calibration range.
- J - The concentration is an approximate value.
- P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
- U - Analyte was not detected above the laboratory method detection limit.
- V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
- Z - Laboratory Defined - see analysis report.
- B - Detection in the Blank.
- NA - Not analyzed.
- nca - No criteria available.
- ND - None detected.
- Q2 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Low.
- Q3 - MS/MSD High.
- Q8 - Duplicate (DUP) RPD.
- Q9 - MS/MSD Relative Percent Difference (RPD).

TABLE 1
Soil Analytical Data Summary
APS Recycling
Stroudsburg, Pennsylvania

Sample ID Sample Depth (ft-ft bgs) Sampling Date Units Matrix Analyte	PADEP SHS Residential MSCs for Direct Contact	PADEP SHS Non-Residential MSCs for Direct Contact		PADEP SHS Non- Residential MSCs Soil to GW for Used Aquifers TDS≤2500 100 X GW MSC mg/kg Soil	PADEP Clean Fill Concentration Limits mg/kg Soil	PADEP Beneficial Use of Regulated Fill Concentration Limits mg/kg Soil	APS-GP10-S301 Trip Blank 11/28/2017 mg/kg Soil
	(0 - 15 feet)	(0 - 2 feet)	(2 - 15 feet)				
Pesticides							
Alpha BHC	3	14	190,000	0.054	0.046	0.19	NA
Beta BHC	10	51	190,000	0.19	0.22	0.82	NA
Gamma BHC - Lindane	17	83	190,000	0.02	0.072	0.072	NA
Alpha Chlordane	53	260	190,000	0.2	49	49	NA
Gamma Chlordane	53	260	190,000	0.2	49	49	NA
p,p-DDE	55	270	190,000	1	41	170	NA
p,p-DDT	55	270	190,000	0.55	53	230	NA
Dieldrin	1.2	6	190,000	0.021	0.11	0.44	NA
Endosulfan II	1,300	19,000	190,000	45	130	260	NA
Endrin	66	960	190,000	0.2	5.5	5.5	NA
Endrin Aldehyde	nca	nca	nca	nca	nca	nca	NA
Heptachlor	4	20	190,000	0.04	0.68	0.68	NA
Heptachlor Epoxide	2	10	190,000	0.02	1.1	1.1	NA
Methoxychlor	1,100	16,000	190,000	4	630	630	NA
No other pesticides were detected above the laboratory method detection limits.							
Metals							
Antimony	88	1,300	190,000	0.6	27	27	NA
Arsenic	12	61	190,000	1	12	53	NA
Beryllium	440	6,400	190,000	0.4	320	320	NA
Cadmium	110	1,600	190,000	0.5	38	38	NA
Chromium	4	220	20,000	10	94	190	NA
Copper	8,100	120,000	190,000	100	8,200	36,000	NA
Lead	500	1,000	190,000	0.5	450	450	NA
Nickel	4,400	64,000	190,000	10	650	650	NA
Selenium	1,100	16,000	190,000	5	26	26	NA
Silver	1,100	16,000	190,000	10	84	84	NA
Thallium	2	32	190,000	0.2	14	14	NA
Zinc	66,000	190,000	190,000	200	12,000	12,000	NA
Mercury	35	510	190,000	0.2	10	10	NA
pH (Std. Units)							
pH	nca	nca	nca	nca	nca	nca	NA

Notes:

- All concentrations are displayed in milligrams per kilogram (mg/kg).
- Underlined - Concentration exceed PADEP Residential MSCs for Direct Contact.
- Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for Direct Contact.
- Orange Text - Concentration exceeds PADEP Non-Residential MSCs for Soil to Groundwater.
- Bolded - Concentration exceeds PADEP Clean Fill Concentration Limits.
- Italicized - Concentration exceeds PADEP Beneficial Use of Regulated Fill Concentration Limits.
- MSC - Medium Specific Concentration.
- PADEP - Pennsylvania Department of Environmental Protection.
- SHS - Statewide Health Standard.
- TDS - Total Dissolved Solids.
- D1 - Indicates for dual column analyses that the result is reported from column 1.
- D2 - Indicates for dual column analyses that the result is reported from column 2.
- J - The concentration is an approximate value.
- P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
- U - Analyte was not detected above the laboratory method detection limit.
- V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
- Z - Laboratory Defined - see analysis report.
- B - Detection in the Blank.
- NA - Not analyzed.
- nca - No criteria available.
- ND - None detected.
- Q2 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Low.
- Q3 - MS/MSD High.
- Q8 - Duplicate (DUP) RPD.
- Q9 - MS/MSD Relative Percent Difference (RPD).

TABLE 2
Groundwater Analytical Data Summary
APS Recycling
Stroudsburg, Pennsylvania

Sample ID	PADEP SHS Non- Residential MSCs for Groundwater	APS-GP02-W001 10.0 - 15.0	APS-GP05-W001 10.0 - 15.0	APS-GP06-W001 10.0 - 15.0
Screen Depth (ft - ft bgs)	Used Aquifer TDS ≤ 2500	11/27/2017	11/28/2017	11/28/2017
Sample Date	µg/L	µg/L	µg/L	µg/L
Units	Groundwater	Groundwater	Groundwater	Groundwater
Matrix				
Analyte				
Volatile Organic Compounds (VOCs)				
Methyl Tertiary Butyl Ether	20	0.5 U	0.5 U	0.5 U
No other VOCs were detected above the laboratory method detection limits.				
Polycyclic Aromatic Hydrocarbons (PAHs)				
No PAHs were detected above the laboratory method detection limits.				
Polychlorinated Biphenyls (PCBs)				
No PCBs were detected above the laboratory method detection limits.				
Pesticides				
Beta BHC	1.9	0.019 U V D2	0.0028 U D2	0.0029 U D2
Heptachlor	0.4	0.0018 U D2	0.0016 U D2	0.0017 U D2
No other pesticides were detected above the laboratory method detection limits.				
Metals				
Arsenic	10	9.6 U	9.6 U Q3	11.8 J Q3
Beryllium	4	2.0 U	2.0 U	2.0 U
Cadmium	5	1.8 U	1.8 U	2.7 J
Chromium	100	3.3 U	3.3 U	14.1 J
Copper	1,000	5.2 J Q8	4.0 U Q3	176 Q3
Lead	5	0.11 U	12.6 J Q3	172 Q3
Nickel	100	17.9	5.4 J	26.1
Selenium	50	9.3 U	9.3 U Q2 Q9	9.3 U Q2 Q9
Thallium	2	13.7 U	13.7 U Q2	13.7 U Q2
Zinc	2,000	40.4	22.0 Q3	393 Q3
Mercury	2	0.05 U B	0.05 U B	0.05 U B
No other metals were detected above the laboratory method detection limits.				
Asbestos (million fibers per liter)				
Asbestos	7	NA	<0.18 U	<5.40 U
pH (standard units)				
pH	nca	6.5	6.7	6.9

Notes:

All concentrations are displayed in micrograms per liter (µg/L).

Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for a Used Aquifer.

PADEP - Pennsylvania Department of Environmental Protection.

SHS - Statewide Health Standard.

TDS - Total Dissolved Solids.

V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.

J - The concentrations is an approximate value.

NA - Not analyzed.

U - Analyte was not detected above the MDL.

nca - No criteria available.

MDL - Method Detection Limit.

Q3 - MS/MSD High.

MSC - Medium Specific Concentration.

Q9 - MS/MSD Relative Percent Difference (RPD).

Q2 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Low.

TABLE 2
Groundwater Analytical Data Summary
APS Recycling
Stroudsburg, Pennsylvania

Sample ID	PADEP SHS Non- Residential MSCs for Groundwater	APS-GP07-W001	APS-GP07-W101	APS-GP10-W001
Screen Depth (ft - ft bgs)		10.0 - 15.0	16.0 - 20.0	10.0 - 15.0
Sample Date	Used Aquifer TDS ≤ 2500	11/28/2017	11/28/2017	11/28/2017
Units	µg/L	µg/L	µg/L	µg/L
Matrix	Groundwater	Groundwater	Groundwater	Groundwater
Analyte				
Volatile Organic Compounds (VOCs)				
Methyl Tertiary Butyl Ether	20	48.0	47.0	0.5 U
No other VOCs were detected above the laboratory method detection limits.				
Polycyclic Aromatic Hydrocarbons (PAHs)				
No PAHs were detected above the laboratory method detection limits.				
Polychlorinated Biphenyls (PCBs)				
No PCBs were detected above the laboratory method detection limits.				
Pesticides				
Beta BHC	1.9	NA	NA	0.019 D2
Heptachlor	0.4	NA	NA	0.0028 J D2
No other pesticides were detected above the laboratory method detection limits.				
Metals				
Arsenic	10	NA	NA	328 Q3
Beryllium	4	NA	NA	26.3
Cadmium	5	NA	NA	11.0 J
Chromium	100	NA	NA	565
Copper	1,000	NA	NA	1,850 Q3
Lead	5	NA	NA	1,140 Q3
Nickel	100	NA	NA	1,030
Selenium	50	NA	NA	65.9 J Q2 Q9
Thallium	2	NA	NA	68.5 U Q2
Zinc	2,000	NA	NA	2,730 Q3
Mercury	2	NA	NA	0.44 B
No other metals were detected above the laboratory method detection limits.				
Asbestos (million fibers per liter)				
Asbestos	7	NA	NA	NA
pH (standard units)				
pH	nca	NA	NA	NA

Notes:

All concentrations are displayed in micrograms per liter (µg/L).

Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for a Used Aquifer.

PADEP - Pennsylvania Department of Environmental Protection.

SHS - Statewide Health Standard.

TDS - Total Dissolved Solids.

V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.

J - The concentrations is an approximate value.

NA - Not analyzed.

U - Analyte was not detected above the MDL.

nca - No criteria available.

MDL - Method Detection Limit.

Q3 - MS/MSD High.

MSC - Medium Specific Concentration.

Q9 - MS/MSD Relative Percent Difference (RPD).

Q2 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Low.

TABLE 2
Groundwater Analytical Data Summary
APS Recycling
Stroudsburg, Pennsylvania

Sample ID	PADEP SHS Non- Residential MSCs for Groundwater	APS-GP02-W301 Trip Blank	APS-GP10-W301 Trip Blank
Screen Depth (ft - ft bgs)			
Sample Date	Used Aquifer TDS ≤ 2500	11/27/2017	11/28/2017
Units	µg/L	µg/L	µg/L
Matrix	Groundwater	Groundwater	Groundwater
Analyte			
Volatile Organic Compounds (VOCs)			
Methyl Tertiary Butyl Ether	20	0.5 U	0.5 U
No other VOCs were detected above the laboratory method detection limits.			
Polycyclic Aromatic Hydrocarbons (PAHs)			
No PAHs were detected above the laboratory method detection limits.			
Polychlorinated Biphenyls (PCBs)			
No PCBs were detected above the laboratory method detection limits.			
Pesticides			
Beta BHC	1.9	NA	NA
Heptachlor	0.4	NA	NA
No other pesticides were detected above the laboratory method detection limits.			
Metals			
Arsenic	10	NA	NA
Beryllium	4	NA	NA
Cadmium	5	NA	NA
Chromium	100	NA	NA
Copper	1,000	NA	NA
Lead	5	NA	NA
Nickel	100	NA	NA
Selenium	50	NA	NA
Thallium	2	NA	NA
Zinc	2,000	NA	NA
Mercury	2	NA	NA
No other metals were detected above the laboratory method detection limits.			
Asbestos (million fibers per liter)			
Asbestos	7	NA	NA
pH (standard units)			
pH	nca	NA	NA

Notes:

All concentrations are displayed in micrograms per liter (µg/L).

Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for a Used Aquifer.

PADEP - Pennsylvania Department of Environmental Protection.

SHS - Statewide Health Standard.

TDS - Total Dissolved Solids.

V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.

J - The concentrations is an approximate value.

NA - Not analyzed.

U - Analyte was not detected above the MDL.

nca - No criteria available.

MDL - Method Detection Limit.

Q3 - MS/MSD High.

MSC - Medium Specific Concentration.

Q9 - MS/MSD Relative Percent Difference (RPD).

Q2 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Low.

TABLE 3
Soil Analytical Data Summary
Biobuffer Solutions, Inc./Pocono Foundry
Stroudsburg, Pennsylvania

Sample ID Sample Depth (ft-ft bgs) Sampling Date Units Matrix Analyte	PADEP SHS Residential MSCs for Direct Contact	PADEP SHS Non-Residential MSCs for Direct Contact		PADEP SHS Non-Residential MSCs Soil to GW for Used Aquifers TDS≤2500 100 X GW MSC mg/kg Soil	PADEP Clean Fill Concentration Limits mg/kg Soil	PADEP Beneficial Use of Regulated Fill Concentration Limits mg/kg Soil	BIO-GP01-S001	BIO-GP01-S101	BIO-GP01-S002	BIO-GP02-S001
	(0 - 15 feet) mg/kg Soil	(0-2 feet) mg/kg Soil	(2-15 feet) mg/kg Soil				0.0-2.0 11/28/2017 mg/kg Soil	0.0-2.0 11/28/2017 mg/kg Soil	5.0-6.6 11/28/2017 mg/kg Soil	0.0-2.0 11/28/2017 mg/kg Soil
Volatile Organic Compounds (VOCs)										
Benzene	57	290	330	0.5	0.13	0.13	0.00060 U	0.0006 U	0.00050 U	0.00050 U
Toluene	10,000	10,000	10,000	100	44	44	0.0010 U	0.0010 U	0.0010 U	0.0020 J
Xylene (Total)	1,900	8,000	9,100	1,000	990	990	0.0010 J	0.0010 U	0.0010 U	0.0010 U
No other VOCs were identified above the laboratory method detection limits.										
Polycyclic Aromatic Hydrocarbons (PAHs)										
Acenaphthene	13,000	190,000	190,000	380	2,700	4,700	0.019 U	0.026 J	0.041 J	0.0060 J
Acenaphthylene	13,000	190,000	190,000	700	2,500	6,900	0.074 J	0.086 J	0.018 U	0.014 J
Anthracene	66,000	190,000	190,000	6.6	350	350	0.083 J	0.08 J	0.033 J	0.018
Benzo(a)anthracene	6	130	190,000	0.49	25	110	0.14	0.15	0.018 U	0.049
Benzo(a)pyrene	0.58	12	190,000	0.02	2.5	11	0.14	0.14	0.018 U	0.046
Benzo(b)fluoranthene	3.5	76	190,000	0.12	25	110	0.25 Q2	0.28 Q2	0.019 J Q2	0.088 Q2
Benzo(g,h,i)perylene	13,000	190,000	190,000	0.026	180	180	0.14	0.18	0.018 U	0.074
Benzo(k)fluoranthene	4	76	190,000	0.055	250	610	0.14	0.09 J	0.018 U	0.031
Chrysene	35	760	190,000	0.19	230	230	0.24	0.3	0.018 U	0.11
Dibenz(a,h)anthracene	1	22	190,000	0.06	2.50	11	0.06 J	0.019 U	0.018 U	0.024
Fluoranthene	8,800	130,000	190,000	26	3,200	3,200	0.25	0.26	0.027 J	0.080
Fluorene	8,800	130,000	190,000	190	3,000	3,800	0.019 U	0.019 U	0.049 J	0.012 J
Indeno(1,2,3-cd)pyrene	3.5	76	190,000	0.28	25	110	0.14	0.16	0.018 U	0.051
Naphthalene	160	760	190,000	10	25	25	0.094 J	0.11	1.5	0.073
Phenanthrene	66,000	190,000	190,000	110	10,000	10,000	0.19	0.21	0.057 J	0.10
Pyrene	6,600	96,000	190,000	13	2,200	2,200	0.21	0.23	0.025 J	0.098
No other PAHs were identified above the laboratory method detection limits.										
Polychlorinated Biphenyls (PCBs)										
PCB-1254	4.4	46	10,000	0.17	4.40	44	0.0038 U D1	0.01 J D1	0.0036 U D1	0.0034 U D1
PCB-1260	9	46	190,000	0.17	30	130	0.016 J D1	0.0055 U D1	0.0054 U D1	0.03 D1
No other PCBs were identified above the laboratory method detection limits.										
Metals										
Antimony	88	1,300	190,000	0.6	27	27	1.4 J	0.837 J	3.9 U	0.73 U
Arsenic	12	61	190,000	1	12	53	13.5 Q2	11.6 Q2	17.3 Q2	6.23 Q2
Beryllium	440	6,400	190,000	0.4	320	320	0.36 J	0.312 J	0.62	0.18 J
Cadmium	110	1,600	190,000	0.5	38	38	0.41 Q8	0.363 J Q8	0.11 J Q8	0.75 Q8
Chromium VI	4	220	20,000	10	94	190	14.7 Q8	14.6 Q8	22.6 Q8	52 Q8
Copper	8,100	120,000	190,000	100	8,200	36,000	54.1 Q2	53 Q2	24.4 Q2	58.7 Q2
Lead	500	1,000	190,000	0.5	450	450	181 Q2	141 Q2	23.3 Q2	209 Q2
Nickel	4,400	64,000	190,000	10	650	650	19.6	19.5	30.7	29.4
Selenium	1,100	16,000	190,000	5	26	26	0.73 U Q8	0.833 U Q8	1.22 J Q8	0.78 U Q8
Silver	1,100	16,000	190,000	10	84	84	0.68	0.692	0.21 U	0.34 J
Zinc	66,000	190,000	190,000	200	12,000	12,000	96.7 Q2	110 Q2	95.9 Q2	105 Q2
Mercury	35	510	190,000	0.2	10	10	0.070 J Q8	0.0728 J Q8	0.013 J Q8	0.033 J Q8
No other metals were identified above the laboratory method detection limits.										

Notes:

- All concentrations are displayed in milligrams per kilogram (mg/kg).
- Underlined - Concentration exceed PADEP Residential MSCs for Direct Contact.
- Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for Direct Contact.
- Orange Text - Concentration exceeds PADEP Non-Residential MSCs for Soil to Groundwater.
- Bolded - Concentration exceeds PADEP Clean Fill Concentration Limits.
- Italicized - Concentration exceeds PADEP Beneficial Use of Regulated Fill Concentration Limits.
- PADEP - Pennsylvania Department of Environmental Protection.
- D1 - Indicates for dual column analyses that the result is reported from column 1.
- D2 - Indicates for dual column analyses that the result is reported from column 2.
- U - Analyte was not detected above the laboratory method detection limit.
- MSC - Medium Specific Concentration. SHS - Statewide Health Standard.
- TDS - Total Dissolved Solids. J - The concentration is an approximate value.
- B - Detection in the Blank. Q3 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD) High.
- NA - Not Analyzed. Q8 - Duplicate (DUP) Relative Percent Difference (RPD).
- Q2 - MS/MSD Low. Q9 - MS/MSD RPD.

TABLE 3
Soil Analytical Data Summary
Biobuffer Solutions, Inc./Pocono Foundry
Stroudsburg, Pennsylvania

Sample ID	PADEP SHS Residential MSCs for Direct Contact		PADEP SHS Non-Residential MSCs for Direct Contact		PADEP SHS Non-Residential MSCs Soil to GW for Used Aquifers TDS≤2500 100 X GW MSC	PADEP Clean Fill Concentration Limits	PADEP Beneficial Use of Regulated Fill Concentration Limits	BIO-GP02-S002		BIO-GP03-S001		BIO-GP03-S002		BIO-GP04-S001		
	Sample Depth (ft-ft bgs)	(0 - 15 feet)	(0-2 feet)	(2-15 feet)				15.0-16.0	0.0-2.0	5.0-6.0	0.0-2.0					
Sampling Date	mg/kg		mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
Matrix	Soil		Soil		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Analyte																
Volatile Organic Compounds (VOCs)																
Benzene	57	290	330	0.5	0.13	0.13	0.00050	U	0.0010	J	0.0005	U	0.0005	U		
Toluene	10,000	10,000	10,000	100	44	44	0.0010	U	0.0010	U	0.001	U	0.001	U	Q2 Q9	
Xylene (Total)	1,900	8,000	9,100	1,000	990	990	0.0010	U	0.0010	U	0.001	U	0.001	U	Q2 Q9	
No other VOCs were identified above the laboratory method detection limits.																
Polycyclic Aromatic Hydrocarbons (PAHs)																
Acenaphthene	13,000	190,000	190,000	380	2,700	4,700	0.0030	U	0.019	U	0.019	U	0.019	U	0.004	U
Acenaphthylene	13,000	190,000	190,000	700	2,500	6,900	0.0040	J	0.027	J	0.019	U	0.019	U	0.016	J
Anthracene	66,000	190,000	190,000	6.6	350	350	0.0030	U	0.019	U	0.019	U	0.019	U	0.007	J
Benzo(a)anthracene	6	130	190,000	0.49	25	110	0.013	J	0.043	J	0.023	J	0.023	J	0.021	
Benzo(a)pyrene	0.58	12	190,000	0.02	2.5	11	0.0090	J	0.038	J	0.02	J	0.02	J	0.019	
Benzo(b)fluoranthene	3.5	76	190,000	0.12	25	110	0.022	Q2	0.046	J Q2	0.025	J Q2	0.025	J Q2	0.041	
Benzo(g,h,i)perylene	13,000	190,000	190,000	0.026	180	180	0.010	J	0.046	J	0.019	U	0.019	U	0.03	
Benzo(k)fluoranthene	4	76	190,000	0.055	250	610	0.009	J	0.02	J	0.019	U	0.019	U	0.021	
Chrysene	35	760	190,000	0.19	230	230	0.016	J	0.054	J	0.019	U	0.019	U	0.053	
Dibenz(a,h)anthracene	1	22	190,000	0.06	2.50	11	0.012	J	0.027	J	0.019	U	0.019	U	0.007	J
Fluoranthene	8,800	130,000	190,000	26	3,200	3,200	0.018		0.067	J	0.035	J	0.035	J	0.057	
Fluorene	8,800	130,000	190,000	190	3,000	3,800	0.0050	J	0.019	U	0.019	U	0.019	U	0.008	J
Indeno(1,2,3-cd)pyrene	3.5	76	190,000	0.28	25	110	0.0090	J	0.045	J	0.019	U	0.019	U	0.025	
Naphthalene	160	760	190,000	10	25	25	0.0060	J	0.025	J	0.019	U	0.019	U	0.022	
Phenanthrene	66,000	190,000	190,000	110	10,000	10,000	0.012	J	0.064	J	0.041	J	0.041	J	0.041	
Pyrene	6,600	96,000	190,000	13	2,200	2,200	0.018		0.071	J	0.039	J	0.039	J	0.041	
No other PAHs were identified above the laboratory method detection limits.																
Polychlorinated Biphenyls (PCBs)																
PCB-1254	4.4	46	10,000	0.17	4.40	44	0.0035	U D1	0.0038	U D1	0.0037	U D1	0.0037	U D1	0.0036	U D1
PCB-1260	9	46	190,000	0.17	30	130	0.0051	U D1	0.0056	U D2	0.0055	U D1	0.0055	U D1	0.0054	U D2
No other PCBs were identified above the laboratory method detection limits.																
Metals																
Antimony	88	1,300	190,000	0.6	27	27	3.3	U	3.5	U	3.65	U	3.65	U	3.27	U
Arsenic	12	61	190,000	1	12	53	16.0	Q2	8.1	Q2	10.5	Q2	10.5	Q2	15.9	Q2
Beryllium	440	6,400	190,000	0.4	320	320	0.68		0.38	J	0.475		0.475		0.474	
Cadmium	110	1,600	190,000	0.5	38	38	0.041	U Q8	0.11	J Q8	0.0588	J Q8	0.0588	J Q8	0.152	J Q8
Chromium VI	4	220	20,000	10	94	190	25.4	Q8	18.5	Q8	18.5	Q8	18.5	Q8	21	Q8
Copper	8,100	120,000	190,000	100	8,200	36,000	20.3	Q2	10.2	Q2	13.2	Q2	13.2	Q2	40.9	Q2
Lead	500	1,000	190,000	0.5	450	450	33.7	Q2	19.2	Q2	18	Q2	18	Q2	79.2	Q2
Nickel	4,400	64,000	190,000	10	650	650	35.7		15.5		24.4		24.4		24.1	
Selenium	1,100	16,000	190,000	5	26	26	1.45	J Q8	0.74	U Q8	0.781	U Q8	0.781	U Q8	1.72	Q8
Silver	1,100	16,000	190,000	10	84	84	0.18	U	0.19	U	0.202	U	0.202	U	0.18	U
Zinc	66,000	190,000	190,000	200	12,000	12,000	80.1	Q2	42.1	Q2	51	Q2	51	Q2	82.2	Q2
Mercury	35	510	190,000	0.2	10	10	0.019	J Q8	0.011	U Q8	0.0133	J Q8	0.0133	J Q8	0.0294	J Q8
No other metals were identified above the laboratory method detection limits.																

Notes:

- All concentrations are displayed in milligrams per kilogram (mg/kg).
- Underlined - Concentration exceed PADEP Residential MSCs for Direct Contact.
- Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for Direct Contact.
- Orange Text - Concentration exceeds PADEP Non-Residential MSCs for Soil to Groundwater.
- Bolded - Concentration exceeds PADEP Clean Fill Concentration Limits.
- Italicized - Concentration exceeds PADEP Beneficial Use of Regulated Fill Concentration Limits.
- PADEP - Pennsylvania Department of Environmental Protection.
- D1 - Indicates for dual column analyses that the result is reported from column 1.
- D2 - Indicates for dual column analyses that the result is reported from column 2.
- U - Analyte was not detected above the laboratory method detection limit.
- MSC - Medium Specific Concentration. SHS - Statewide Health Standard.
- TDS - Total Dissolved Solids. J - The concentration is an approximate value.
- B - Detection in the Blank. Q3 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD) High.
- NA - Not Analyzed. Q8 - Duplicate (DUP) Relative Percent Difference (RPD).
- Q2 - MS/MSD Low. Q9 - MS/MSD RPD.

TABLE 3
Soil Analytical Data Summary
Biobuffer Solutions, Inc./Pocono Foundry
Stroudsburg, Pennsylvania

Sample ID	PADEP SHS Residential MSCs for Direct Contact	PADEP SHS Non-Residential MSCs for Direct Contact		PADEP SHS Non-Residential MSCs Soil to GW for Used Aquifers TDS≤2500 100 X GW MSC	PADEP Clean Fill Concentration Limits	PADEP Beneficial Use of Regulated Fill Concentration Limits	BIO-GP04-S002		BIO-GP04-S301	
	(0 - 15 feet)	(0-2 feet)	(2-15 feet)				5.0-6.0	Trip Blank		
Sample Depth (ft-ft bgs)										
Sampling Date							11/28/2017			11/28/2017
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg			mg/kg
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil			Soil
Analyte										
Volatile Organic Compounds (VOCs)										
Benzene	57	290	330	0.5	0.13	0.13	0.0005	U	0.0005	U
Toluene	10,000	10,000	10,000	100	44	44	0.001	U Q2 Q9	0.001	J
Xylene (Total)	1,900	8,000	9,100	1,000	990	990	0.001	U Q2 Q9	0.001	U
No other VOCs were identified above the laboratory method detection limits.										
Polycyclic Aromatic Hydrocarbons (PAHs)										
Acenaphthene	13,000	190,000	190,000	380	2,700	4,700	0.004	U		NA
Acenaphthylene	13,000	190,000	190,000	700	2,500	6,900	0.004	U		NA
Anthracene	66,000	190,000	190,000	6.6	350	350	0.004	U		NA
Benzo(a)anthracene	6	130	190,000	0.49	25	110	0.004	U		NA
Benzo(a)pyrene	0.58	12	190,000	0.02	2.5	11	0.004	U		NA
Benzo(b)fluoranthene	3.5	76	190,000	0.12	25	110	0.004	U		NA
Benzo(g,h,i)perylene	13,000	190,000	190,000	0.026	180	180	0.004	U		NA
Benzo(k)fluoranthene	4	76	190,000	0.055	250	610	0.004	U		NA
Chrysene	35	760	190,000	0.19	230	230	0.004	U		NA
Dibenz(a,h)anthracene	1	22	190,000	0.06	2.50	11	0.004	U		NA
Fluoranthene	8,800	130,000	190,000	26	3,200	3,200	0.004	U		NA
Fluorene	8,800	130,000	190,000	190	3,000	3,800	0.004	U		NA
Indeno(1,2,3-cd)pyrene	3.5	76	190,000	0.28	25	110	0.004	U		NA
Naphthalene	160	760	190,000	10	25	25	0.004	U		NA
Phenanthrene	66,000	190,000	190,000	110	10,000	10,000	0.004	U		NA
Pyrene	6,600	96,000	190,000	13	2,200	2,200	0.004	U		NA
No other PAHs were identified above the laboratory method detection limits.										
Polychlorinated Biphenyls (PCBs)										
PCB-1254	4.4	46	10,000	0.17	4.40	44	0.0036	U D1		NA
PCB-1260	9	46	190,000	0.17	30	130	0.0053	U D1		NA
No other PCBs were identified above the laboratory method detection limits.										
Metals										
Antimony	88	1,300	190,000	0.6	27	27	0.677	U Q2		NA
Arsenic	12	61	190,000	1	12	53	6.15	Q2		NA
Beryllium	440	6,400	190,000	0.4	320	320	0.533			NA
Cadmium	110	1,600	190,000	0.5	38	38	0.042	U Q2		NA
Chromium VI	4	220	20,000	10	94	190	19.5	B Q3		NA
Copper	8,100	120,000	190,000	100	8,200	36,000	25.6	Q3		NA
Lead	500	1,000	190,000	0.5	450	450	18.8	Q2 Q9		NA
Nickel	4,400	64,000	190,000	10	650	650	29.2	Q3		NA
Selenium	1,100	16,000	190,000	5	26	26	0.723	U		NA
Silver	1,100	16,000	190,000	10	84	84	0.74			NA
Zinc	66,000	190,000	190,000	200	12,000	12,000	73.2	Q3 Q2 Q9		NA
Mercury	35	510	190,000	0.2	10	10	0.0209	J Q8		NA
No other metals were identified above the laboratory method detection limits.										

Notes:

All concentrations are displayed in milligrams per kilogram (mg/kg).

Underlined - Concentration exceed PADEP Residential MSCs for Direct Contact.

Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for Direct Contact.

Orange Text - Concentration exceeds PADEP Non-Residential MSCs for Soil to Groundwater.

Bolded - Concentration exceeds PADEP Clean Fill Concentration Limits.

Italicized - Concentration exceeds PADEP Beneficial Use of Regulated Fill Concentration Limits.

PADEP - Pennsylvania Department of Environmental Protection.

D1 - Indicates for dual column analyses that the result is reported from column 1.

D2 - Indicates for dual column analyses that the result is reported from column 2.

U - Analyte was not detected above the laboratory method detection limit.

MSC - Medium Specific Concentration.

SHS - Statewide Health Standard.

TDS - Total Dissolved Solids.

J - The concentration is an approximate value.

B - Detection in the Blank.

Q3 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD) High.

NA - Not Analyzed.

Q8 - Duplicate (DUP) Relative Percent Difference (RPD).

Q2 - MS/MSD Low.

Q9 - MS/MSD RPD.

TABLE 4
Groundwater Analytical Data Summary
Biobuffer Solutions, Inc./Pocono Foundry
Stroudsburg, Pennsylvania

Sample ID	PADEP SHS Non- Residential MSCs for Groundwater	BIO-GP01-W001	BIO-GP03-W001	BIO-GP03-W101	BIO-GP04-W301
Screen Depth (ft - ft bgs)		10.0 - 15.0	10.0 - 15.0	10.0 - 15.0	Trip Blank
Sample Date	Used Aquifer TDS <= 2500	11/28/2017	11/28/2017	11/28/2017	11/28/2017
Units	µg/L	µg/L	µg/L	µg/L	µg/L
Matrix	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Analyte					
Volatile Organic Compounds (VOCs)					
No VOCs were detected above the laboratory method detection limits.					
Polychlorinated Biphenyls (PCBs)					
No PCBs were detected above the laboratory method detection limits.					
Metals					
Arsenic	10	141 Q3	13.8 J Q3	9.6 U Q3	NA
Beryllium	4	19.8 J	2.0 U	2.0 U	NA
Chromium	100	68.4 J	23.7	16.3	NA
Copper	1,000	2,290 Q3	26.6 Q3	15.6 Q3	NA
Lead	5	501 Q3	32.9 Q3	26.9 Q3	NA
Nickel	100	145	29.7	17.4	NA
Zinc	2,000	659 Q3	58.7 Q3	25.5 Q3	NA
No other metals were detected above the laboratory method detection limits.					

Notes:

All concentrations are displayed in micrograms per liter (µg/L).

Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for a Used Aquifer.

MSC - Medium Specific Concentration.

PADEP - Pennsylvania Department of Environmental Protection.

SHS - Statewide Health Standard.

TDS - Total Dissolved Solids.

J - The concentrations is an approximate value.

NA - Not Analyzed.

U - Analyte was not detected above the laboratory method detection limit.

Q3 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD) High.

TABLE 5
Soil Analytical Data Summary
Former Gas Station
Stroudsburg, Pennsylvania

Sample ID	PADEP SHS Residential MSCs for Direct Contact	PADEP SHS Non-Residential MSCs for Direct Contact		PADEP SHS Non-Residential MSCs Soil to GW for Used Aquifers TDS≤2500 100 X GW MSC mg/kg	PADEP Clean Fill Concentration Limits mg/kg	PADEP Non-Residential Action Levels for Reuse of Soil on UST Sites (No Water Encountered) mg/kg	PADEP Beneficial Use of Regulated Fill Concentration Limits mg/kg	FGS-GP01-S001 0.5-2.0 11/29/2017 mg/kg	FGS-GP01-S002 2.0-3.3 11/29/2017 mg/kg	FGS-GP01-S102 2.0-3.3 11/29/2017 mg/kg	FGS-GP02-S001 0.6-2.0 11/29/2017 mg/kg	FGS-GP02-S002 2.0-3.2 11/29/2017 mg/kg
		(0 - 15 feet)	(0-2 feet)									
Sample Depth (ft-ft bgs)												
Sampling Date												
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Analyte												
Volatile Organic Compounds (VOCs)												
Benzene	57	290	330	0.5	0.13	0.5	0.13	0.00050 U	0.00300 J	0.00060 U	0.00070 J	0.00060 U
1,2-Dibromoethane	0.74	3.7	4.3	0.005	0.0012	0.005	0.0012	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
1,2-Dichloroethane	17	86	98	0.5	0.10	0.5	0.1	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
Ethylbenzene	180	890	1,000	70	46	70	46	0.0010 U	0.0010 U	0.0010 U	0.0010 U Q2 Q9	0.0010 U Q2 Q9
Isopropylbenzene (cumene)	7,700	10,000	10,000	350	780	2,500	1,600	0.0010 U	0.0010 U	0.0010 U	0.0010 U Q2 Q9	0.0010 U Q2 Q9
Methyl Tertiary Butyl Ether	1,700	8,600	9,900	2	0.28	2	0.28	0.00050 U	0.00060 U	0.00060 U	0.00060 U	0.00060 U
Naphthalene	160	760	190,000	10	25	25	25	0.0010 U Q2	0.0020 J Q2	0.0010 U Q2	0.0010 U Q2 Q9	0.0010 U Q2 Q9
Toluene	10,000	10,000	10,000	100	44	100	44	0.0010 U	0.0030 J	0.0010 U	0.0010 U Q2 Q9	0.0010 U Q2 Q9
1,2,4-Trimethylbenzene	130	560	640	6.2	9	35	20	0.0010 U	0.0010 U	0.0010 U	0.0010 U Q2 Q9	0.0010 U Q2 Q9
1,3,5-Trimethylbenzene	2,200	10,000	10,000	120	2.8	210	6.2	0.0010 U	0.0010 U	0.0010 U	0.0010 U Q2 Q9	0.0010 U Q2 Q9
Xylene (Total)	1,900	8,000	9,100	1,000	990	1,000	990	0.0010 U	0.0010 U	0.0010 U	0.0010 U Q2 Q9	0.0010 U Q2 Q9
Lead												
Lead	500	1,000	190,000	0.5	450	450	450	24.4 Q3	107 Q3	224 Q3	52.1 Q3	27.6 Q3

Notes:

- All concentrations are displayed in milligrams per kilogram (mg/kg).
- * - Concentration exceed PADEP Residential MSCs for Direct Contact.
- Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for Direct Contact.
- Orange Text - Concentration exceeds PADEP Non-Residential MSCs for Soil to Groundwater.
- Bolded - Concentration exceeds PADEP Clean Fill Concentration Limits.
- Underlined - Concentration exceeds PADEP Action Levels for Soil Reuse on UST Sites.
- Italicized - Concentration exceeds PADEP Beneficial Use of Regulated Fill Concentration Limits.
- MSC - Medium Specific Concentration.
- PADEP - Pennsylvania Department of Environmental Protection.
- SHS - Statewide Health Standard.
- TDS - Total Dissolved Solids.
- UST - Underground Storage Tank.
- J - The concentration is an approximate value.
- NA - Not Analyzed.
- U - Analyte was not detected above the laboratory method detection limit.
- Q2 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Low.
- Q3 - MS/MSD High.
- Q9 - MS/MSD Relative Percent Difference (RPD).

TABLE 5
Soil Analytical Data Summary
Former Gas Station
Stroudsburg, Pennsylvania

Sample ID Sample Depth (ft-ft bgs) Sampling Date Units Matrix Analyte	PADEP SHS Residential MSCs for Direct Contact	PADEP SHS Non-Residential MSCs for Direct Contact		PADEP SHS Non-Residential MSCs Soil to GW for Used Aquifers TDS≤2500 100 X GW MSC mg/kg Soil	PADEP Clean Fill Concentration Limits mg/kg Soil	PADEP Non-Residential Action Levels for Reuse of Soil on UST Sites (No Water Encountered) mg/kg Soil	PADEP Beneficial Use of Regulated Fill Concentration Limits mg/kg Soil	FGS-GP03-S001		FGS-GP03-S002		FGS-GP04-S001		FGS-GP04-S002		FGS-GP04-S301	
	(0 - 15 feet)	(0-2 feet)	(2-15 feet)					0.7-2.0 11/29/2017 mg/kg Soil	2.0-2.9 11/29/2017 mg/kg Soil	0.0-2.0 11/29/2017 mg/kg Soil	2.0-2.8 11/29/2017 mg/kg Soil	Trip Blank 11/29/2017 mg/kg Soil					
Volatile Organic Compounds (VOCs)																	
Benzene	57	290	330	0.5	0.13	0.5	0.13	0.00060	U	0.0009	J	0.0006	U	0.001	J	0.0005	U Q2
1,2-Dibromoethane	0.74	3.7	4.3	0.005	0.0012	0.005	0.0012	0.0010	U	0.0010	U	0.0010	U	0.0010	U	0.001	U
1,2-Dichloroethane	17	86	98	0.5	0.10	0.5	0.1	0.0010	U	0.0010	U	0.0010	U	0.0010	U	0.001	U
Ethylbenzene	180	890	1,000	70	46	70	46	0.0010	U Q2 Q9	0.0010	U Q2 Q9	0.0010	U Q2 Q9	0.0010	U	0.001	U
Isopropylbenzene (cumene)	7,700	10,000	10,000	350	780	2,500	1,600	0.0010	U Q2 Q9	0.0010	U Q2 Q9	0.0010	U Q2 Q9	0.0010	U	0.001	U
Methyl Tertiary Butyl Ether	1,700	8,600	9,900	2	0.28	2	0.28	0.00060	U	0.00060	U	0.00060	U	0.00060	U	0.0005	U Q2
Naphthalene	160	760	190,000	10	25	25	25	0.0010	U Q2 Q9	0.0010	U Q2 Q9	0.0010	U Q2 Q9	0.0010	U Q2	0.001	U Q2
Toluene	10,000	10,000	10,000	100	44	100	44	0.0010	U Q2 Q9	0.0020	J Q2 Q9	0.0010	U Q2 Q9	0.0010	U	0.001	U
1,2,4-Trimethylbenzene	130	560	640	6.2	9	35	20	0.0010	U Q2 Q9	0.0010	U Q2 Q9	0.0010	U Q2 Q9	0.0010	U	0.001	U
1,3,5-Trimethylbenzene	2,200	10,000	10,000	120	2.8	210	6.2	0.0010	U Q2 Q9	0.0010	U Q2 Q9	0.0010	U Q2 Q9	0.0010	U	0.001	U
Xylene (Total)	1,900	8,000	9,100	1,000	990	1,000	990	0.0010	U Q2 Q9	0.0010	U Q2 Q9	0.0010	U Q2 Q9	0.0010	U	0.001	U
Lead																	
Lead	500	1,000	190,000	0.5	450	450	450	58.2	Q3	31.4	Q3	26.9	Q3	28.1	Q3	NA	NA

Notes:

All concentrations are displayed in milligrams per kilogram (mg/kg).

* - Concentration exceed PADEP Residential MSCs for Direct Contact.

Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for Direct Contact.

Orange Text - Concentration exceeds PADEP Non-Residential MSCs for Soil to Groundwater.

Bolded - Concentration exceeds PADEP Clean Fill Concentration Limits.

Underlined - Concentration exceeds PADEP Action Levels for Soil Reuse on UST Sites.

Italicized - Concentration exceeds PADEP Beneficial Use of Regulated Fill Concentration Limits.

MSC - Medium Specific Concentration.

PADEP - Pennsylvania Department of Environmental Protection.

SHS - Statewide Health Standard.

TDS - Total Dissolved Solids.

UST - Underground Storage Tank.

J - The concentration is an approximate value.

NA - Not Analyzed.

U - Analyte was not detected above the laboratory method detection limit.

Q2 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Low.

Q3 - MS/MSD High.

Q9 - MS/MSD Relative Percent Difference (RPD).

TABLE 6
Soil Analytical Data Summary
Former Research Laboratory / Chemical Plant
Stroudsburg, Pennsylvania

Sample ID	PADEP SHS Residential MSCs for Direct Contact	PADEP SHS Non-Residential MSCs for Direct Contact		PADEP SHS Non-Residential MSCs Soil to GW for Used Aquifers TDS≤2500 100 X GW MSC	PADEP Clean Fill Concentration Limits	PADEP Beneficial Use of Regulated Fill Concentration Limits	FRL-GP01-S001		FRL-GP01-S002		FRL-GP02-S001		FRL-GP02-S002		FRL-GP03-S001	
	(0 - 15 feet)	(0 - 2 feet)	(2 - 15 feet)				0.0-2.0	10.0-11.2	0.0-2.0	5.0-6.6	0.0-2.0	0.0-2.0				
Sample Depth (ft-ft bgs)																
Sampling Date							11/30/2017	11/30/2017	11/30/2017	11/30/2017	11/30/2017	11/30/2017	11/30/2017	11/30/2017	11/30/2017	11/30/2017
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Analyte																
Volatile Organic Compounds (VOCs)																
Acetone	10,000	10,000	10,000	10,000	41	110	0.16	Q3	0.11	Q3	0.055	Q3	0.024	Q3	0.061	Q3
2-Butanone (Methyl Ethyl Ketone)	570	2,400	2,800	400	54	110	0.016	Q3	0.015	Q3	0.0040	U Q3	0.0050	U Q3	0.0060	J Q3
Carbon Disulfide	10,000	10,000	10,000	620	160	350	0.041	Q2	0.0010	U Q2	0.0070	Q2	0.0010	U Q2	0.0010	U Q2
Carbon Tetrachloride	74	370	430	0.5	0.26	0.26	0.0010	U	0.0010	U Q2	0.0010	U	0.0010	J	0.0010	U Q2
Methyl Acetate	10,000	10,000	10,000	10,000	690	1,900	0.0030	U Q3	0.0020	U Q3	0.0020	U Q3	0.0020	U Q3	0.0020	U Q3
Methylene Chloride (Dichloromethane)	1,300	10,000	10,000	0.5	0.076	0.076	0.0040	J Q3	0.0020	U Q4	0.010	Q3	0.0020	U Q3	0.0020	U Q3
Tetrachloroethene	770	3,200	3,600	0.5	0.43	0.43	0.0020	J	0.0020	J	0.0010	J	0.0010	U	0.0010	U
Toluene	10,000	10,000	10,000	100	44	44	0.0010	U Q3	0.0010	U Q3	0.0010	J Q3	0.0010	U Q3	0.0010	U Q3
Xylene (Total)	1,900	8,000	9,100	1,000	990	990	0.0010	U	0.0010	U	0.0010	U	0.0010	U	0.0010	U
No other VOCs were identified above the laboratory detection limits.																
Semi Volatile Organic Compounds (SVOCs)																
Acenaphthene	13,000	190,000	190,000	380	2,700	4,700	0.025	J	0.019	U	0.24	U	0.0060	J	0.027	
Acenaphthylene	13,000	190,000	190,000	700	2,500	6,900	0.18		0.050	J	0.92		0.040		0.020	
Acetophenone	10,000	10,000	10,000	1,200	200	540	0.10	U	0.096	U	0.091	U	0.021	J	0.017	U
Anthracene	66,000	190,000	190,000	6.6	350	350	0.10		0.048	J	1.5		0.033		0.10	
Benzo(a)anthracene	6	130	190,000	0.49	25	110	0.38		0.087	J	3.1		0.065		0.24	
Benzo(a)pyrene	0.58	12	190,000	0.02	2.5	11	0.37		0.10		2.5		0.066		0.19	
Benzo(b)fluoranthene	3.5	76	190,000	0.12	25	110	0.50		0.16		3.1		0.11		0.28	
Benzo(g,h,i)perylene	13,000	190,000	190,000	0.026	180	180	0.33		0.11		1.7		0.067		0.15	
Benzo(k)fluoranthene	4	76	190,000	0.055	250	610	0.18		0.071	J	1.4		0.051		0.10	
1,1'-Biphenyl	2,300	11,000	190,000	43	790	2,200	0.10	U	0.096	U	0.091	U	0.018	U	0.017	U
Di-n-butylphthalate	10,000	10,000	10,000	1,200	1,500	4,100	0.40	U	0.38	U	0.36	U	0.41		0.068	U
Carbazole	930	4,600	190,000	17	21	83	0.10	U	0.096	U	0.22		0.018	U	0.017	U
Chrysene	35	760	190,000	0.19	230	230	0.40		0.13		3.1		0.11		0.25	
Dibenz(a,h)anthracene	1	22	190,000	0.06	2.5	11	0.087	J	0.019	U	0.49		0.022		0.034	
Dibenzofuran	220	3,200	190,000	12	nca	nca	0.10	U	0.096	U	0.21		0.018	U	0.017	U
2,4-Dimethylphenol	4400	10,000	10,000	230	32	87	0.10	U	0.096	U	0.091	U	0.018	U	0.017	U
bis(2-Ethylhexyl)phthalate	1,300	6,500	10,000	0.6	130	130	0.40	U	0.38	U	0.36	U	0.075	J	0.068	U
Fluoranthene	8,800	130,000	190,000	26	3,200	3,200	0.48		0.15		7.2		0.15		0.48	
Fluorene	8,800	130,000	190,000	190	3,000	3,800	0.026	J	0.019	U	0.53		0.0070	J	0.029	
Indeno(1,2,3-cd)pyrene	3.5	76	190,000	0.28	25	110	0.27		0.072	J	1.7		0.055		0.13	
2-Methylnaphthalene	880	13,000	190,000	47	2,900	8,000	0.031	J	0.036	J	0.081	J	0.015	J	0.0080	J
2-Methylphenol	11,000	160,000	190,000	580	64	180	0.10	U	0.096	U	0.091	U	0.018	U	0.017	U
4-Methylphenol	1,100	16,000	190,000	58	4.2	12	0.10	U	0.096	U	0.091	U	0.018	U	0.017	U
Naphthalene	160	760	190,000	10	25	25	0.025	J	0.033	J	0.082	J	0.026		0.013	J
Phenanthrene	66,000	190,000	190,000	110	10,000	10,000	0.16	Q3	0.093	J Q3	4.8	J Q3	0.067	Q3	0.36	Q3
Phenol	3800	16,000	18,000	200	66	66	0.10	U	0.096	U	0.091	U	0.023	J	0.017	U
Pyrene	6,600	96,000	190,000	13	2,200	2,200	0.57	Q3	0.16	Q3	6.1	Q3	0.13	Q3	0.42	Q3
No other SVOCs were identified above the laboratory detection limits.																

Notes:
All concentrations are displayed in milligrams per kilogram (mg/kg).
Underlined - Concentration exceed PADEP Residential MSCs for Direct Contact.
Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for Direct Contact.
Orange Text - Concentration exceeds PADEP Non-Residential MSCs for Soil to Groundwater.
Bolded - Concentration exceeds PADEP Clean Fill Concentration Limits.
Italicized - Concentration exceeds PADEP Beneficial Use of Regulated Fill Concentration Limits.
MSC - Medium Specific Concentration.
PADEP - Pennsylvania Department of Environmental Protection.
SHS - Statewide Health Standard.
TDS - Total Dissolved Solids.
J - The concentration is an approximate value.
U - Analyte was not detected above the laboratory method detection limit.
Q2 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Low.
Q3 - MS/MSD High.
NA - Not Analyzed.
nca - No criteria available.

TABLE 6
Soil Analytical Data Summary
Former Research Laboratory / Chemical Plant
Stroudsburg, Pennsylvania

Sample ID Sample Depth (ft-ft bgs) Sampling Date Units Matrix Analyte	PADEP SHS Residential MSCs for Direct Contact	PADEP SHS Non-Residential MSCs for Direct Contact		PADEP SHS Non-Residential MSCs Soil to GW for Used Aquifers TDS≤2500 100 X GW MSC	PADEP Clean Fill Concentration Limits	PADEP Beneficial Use of Regulated Fill Concentration Limits	FRL-GP03-S002		FRL-GP03-S102		FRL-GP04-S001		FRL-GP05-S001		FRL-GP05-S002		FRL-GP04-S301		
	(0 - 15 feet)	(0 - 2 feet)	(2 - 15 feet)				5.0-6.6	5.0-6.6	0.0-1.5	0.0-2.0	10.0-11.8	Trip Blank							
	mg/kg Soil	mg/kg Soil	mg/kg Soil	mg/kg Soil	mg/kg Soil	mg/kg Soil	mg/kg Soil	mg/kg Soil	mg/kg Soil	mg/kg Soil	mg/kg Soil	mg/kg Soil	mg/kg Soil	mg/kg Soil	mg/kg Soil	mg/kg Soil	mg/kg Soil	mg/kg Soil	mg/kg Soil
Volatile Organic Compounds (VOCs)																			
Acetone	10,000	10,000	10,000	10,000	41	110	0.068	Q3	0.054	Q3	0.056	Q3	0.40	U	0.069	Q3	0.007	U	Q3
2-Butanone (Methyl Ethyl Ketone)	570	2,400	2,800	400	54	110	0.0050	U Q3	0.0050	U Q3	0.0050	U Q3	0.23	U	0.0050	U Q3	0.004	U	Q3
Carbon Disulfide	10,000	10,000	10,000	620	160	350	0.0010	U Q2	0.0010	U Q2	0.0040	J Q2	0.058	U	0.0010	U Q2	0.001	U	Q2
Carbon Tetrachloride	74	370	430	0.5	0.26	0.26	0.0010	U	0.0010	U	0.0010	U	0.058	U	0.0010	U	0.001	U	U
Methyl Acetate	10,000	10,000	10,000	10,000	690	1,900	0.0020	U Q3	0.0020	U Q3	0.0020	U Q3	0.12	U	0.0030	J Q3	0.002	U	Q3
Methylene Chloride (Dichloromethane)	1,300	10,000	10,000	0.5	0.076	0.076	0.0020	U Q3	0.0030	J Q3	0.0020	U Q3	0.12	U	0.0020	U Q3	0.002	U	Q3
Tetrachloroethene	770	3,200	3,600	0.5	0.43	0.43	0.0010	U	0.0010	U	0.0010	U	0.058	U	0.0010	U	0.001	U	U
Toluene	10,000	10,000	10,000	100	44	44	0.0010	J Q3	0.0010	J Q3	0.0010	U Q3	0.058	U	0.0010	U Q3	0.001	U	Q3
Xylene (Total)	1,900	8,000	9,100	1,000	990	990	0.0010	U	0.0010	U	0.0010	U	0.058	U	0.0010	J	0.001	U	U
No other VOCs were identified above the laboratory detection limits.																			
Semi Volatile Organic Compounds (SVOCs)																			
Acenaphthene	13,000	190,000	190,000	380	2,700	4,700	0.0040	U	0.008	J	0.16		4.7		0.010	J		NA	
Acenaphthylene	13,000	190,000	190,000	700	2,500	6,900	0.037		0.031		1.4		0.61		0.028			NA	
Acetophenone	10,000	10,000	10,000	1,200	200	540	0.020	U	0.020	U	0.091	U	0.090	U	0.021	U		NA	
Anthracene	66,000	190,000	190,000	6.6	350	350	0.032		0.027		1.1		13.0		0.016	J		NA	
Benzo(a)anthracene	6	130	190,000	0.49	25	110	0.071		0.091		3.6		19.0		0.037			NA	
Benzo(a)pyrene	0.58	12	190,000	0.02	2.5	11	0.073		0.071		3.3		14.0		0.040			NA	
Benzo(b)fluoranthene	3.5	76	190,000	0.12	25	110	0.12		0.12		4.3		17.0		0.050			NA	
Benzo(g,h,i)perylene	13,000	190,000	190,000	0.026	180	180	0.069		0.069		2.3		9.1		0.046			NA	
Benzo(k)fluoranthene	4	76	190,000	0.055	250	610	0.046		0.047		2.0		7.8		0.025			NA	
1,1'-Biphenyl	2,300	11,000	190,000	43	790	2,200	0.020	U	0.020	U	0.091	U	0.70		0.021	U		NA	
Di-n-butylphthalate	10,000	10,000	10,000	1,200	1,500	4,100	0.081	U	0.080	U	0.36	U	0.36	U	0.085	U		NA	
Carbazole	930	4,600	190,000	17	21	83	0.020	U	0.020	U	0.15	J	5.9		0.021	U		NA	
Chrysene	35	760	190,000	0.19	230	230	0.097		0.11		4.0		18.0		0.048			NA	
Dibenz(a,h)anthracene	1	22	190,000	0.06	2.5	11	0.020	J	0.019	J	0.74		2.5		0.004	U		NA	
Dibenzofuran	220	3,200	190,000	12	nca	nca	0.020	U	0.020	U	0.091	U	4.1		0.021	U		NA	
2,4-Dimethylphenol	4400	10,000	10,000	230	32	87	0.020	U	0.020	U	0.091	U	0.19		0.021	U		NA	
bis(2-Ethylhexyl)phthalate	1,300	6,500	10,000	0.6	130	130	0.081	U	0.080	U	0.36	U	0.36	U	0.085	U		NA	
Fluoranthene	8,800	130,000	190,000	26	3,200	3,200	0.13		0.14		5.6		50.0		0.070			NA	
Fluorene	8,800	130,000	190,000	190	3,000	3,800	0.0060	J	0.010	J	0.21		5.4		0.012	J		NA	
Indeno(1,2,3-cd)pyrene	3.5	76	190,000	0.28	25	110	0.072		0.057		2.2		8.9		0.029			NA	
2-Methylnaphthalene	880	13,000	190,000	47	2,900	8,000	0.030		0.023		0.028	J	2.5		0.0090	J		NA	
2-Methylphenol	11,000	160,000	190,000	580	64	180	0.020	U	0.020	U	0.091	U	0.12	J	0.021	U		NA	
4-Methylphenol	1,100	16,000	190,000	58	4.2	12	0.020	U	0.020	U	0.091	U	0.37		0.021	U		NA	
Naphthalene	160	760	190,000	10	25	25	0.064		0.067		0.081	J	7.1		0.019	J		NA	
Phenanthrene	66,000	190,000	190,000	110	10,000	10,000	0.068	Q3	0.070	Q3	2.5	Q3	51.0	Q3	0.053	Q3		NA	
Phenol	3800	16,000	18,000	200	66	66	0.020	U	0.020	U	0.091	U	0.19		0.021	U		NA	
Pyrene	6,600	96,000	190,000	13	2,200	2,200	0.13	Q3	0.14	Q3	5.4	Q3	39.0	Q3	0.070	Q3		NA	
No other SVOCs were identified above the laboratory detection limits.																			

Notes:
All concentrations are displayed in milligrams per kilogram (mg/kg).
Underlined - Concentration exceed PADEP Residential MSCs for Direct Contact.
Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for Direct Contact.
Orange Text - Concentration exceeds PADEP Non-Residential MSCs for Soil to Groundwater.
Bolded - Concentration exceeds PADEP Clean Fill Concentration Limits.
Italicized - Concentration exceeds PADEP Beneficial Use of Regulated Fill Concentration Limits.
MSC - Medium Specific Concentration.
PADEP - Pennsylvania Department of Environmental Protection.
SHS - Statewide Health Standard.
TDS - Total Dissolved Solids.
J - The concentration is an approximate value.
U - Analyte was not detected above the laboratory method detection limit.
Q2 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Low.
Q3 - MS/MSD High.
NA - Not Analyzed.
nca - No criteria available.

TABLE 7
Soil Analytical Data Summary
Klingel Cleaners and West Main Street PCE Sites
Stroudsburg, Pennsylvania

Sample ID	PADEP SHS Residential MSCs for Direct Contact	PADEP SHS Non-Residential MSCs for Direct Contact		PADEP SHS Non-Residential MSCs Soil to GW for Used Aquifers TDS _s ≤2500 100 X GW MSC	PADEP Clean Fill Concentration Limits	PADEP Beneficial Use of Regulated Fill Concentration Limits	WMP-GP01-S001 0.0 - 2.0 11/29/2017 mg/kg Soil	WMP-GP01-S002 5.0 - 5.6 11/29/2017 mg/kg Soil	WMP-GP02-S001 0.0 - 2.0 11/30/2017 mg/kg Soil	WMP-GP02-S002 5.6 - 8.0 11/30/2017 mg/kg Soil	WMP-GP03-S001 0.0 - 1.5 11/30/2017 mg/kg Soil
		(0 - 15 feet)	(0-2 feet)								
Volatile Organic Compounds (VOCs)											
cis-1,2-Dichloroethene	440	6,400	10,000	7	1.6	1.6	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
Tetrachloroethene	770	3,200	3,600	0.5	0.43	0.43	0.0020 J Q3	0.022 Q3	0.015 Q3	0.0020 J Q3	0.0010 U Q3
Trichloroethene	38	160	180	0.5	0.17	0.17	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
Vinyl Chloride	0.9	61	280	0.2	0.03	0.027	0.0010 U Q3	0.0010 U Q3	0.0010 U Q3	0.0010 U Q3	0.0010 U Q3

Notes:

All concentrations are displayed in milligrams per kilogram (mg/kg).

Underlined - Concentration exceed PADEP Residential MSCs for Direct Contact.

Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for Direct Contact.

Orange Text - Concentration exceeds PADEP Non-Residential MSCs for Soil to Groundwater.

Bolded - Concentration exceeds PADEP Clean Fill Concentration Limits.

Italicized - Concentration exceeds PADEP Beneficial Use of Regulated Fill Concentration Limits.

MSC - Medium Specific Concentration.

PADEP - Pennsylvania Department of Environmental Protection.

SHS - Statewide Health Standard.

TDS - Total Dissolved Solids.

J - The concentration is an approximate value.

U - Analyte was not detected above the laboratory method detection limit.

Q3 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD) High.

Only the listed VOCs were analyzed for.

TABLE 7
Soil Analytical Data Summary
Klingel Cleaners and West Main Street PCE Sites
Stroudsburg, Pennsylvania

Sample ID	PADEP SHS Residential MSCs for Direct Contact	PADEP SHS Non-Residential MSCs for Direct Contact		PADEP SHS Non-Residential MSCs Soil to GW for Used Aquifers TDS≤2500 100 X GW MSC	PADEP Clean Fill Concentration Limits	PADEP Beneficial Use of Regulated Fill Concentration Limits	WMP-GP03-S002	WMP-GP04-S001	WMP-GP04-S101	WMP-GP04-S002	WMP-GP04-S301
	(0 - 15 feet)	(0-2 feet)	(2-15 feet)				5.3 - 7.3	0.0 - 2.0	0.0 - 2.0	5.2 - 7.2	Trip Blank
Sample Depth (ft-ft bgs)											
Sampling Date							11/30/2017	11/30/2017	11/30/2017	11/30/2017	11/30/2017
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Analyte											
Volatile Organic Compounds (VOCs)											
cis-1,2-Dichloroethene	440	6,400	10,000	7	1.6	1.6	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.001 U
Tetrachloroethene	770	3,200	3,600	0.5	0.43	0.43	0.0010 U Q3	0.0010 U Q3	0.0010 U Q3	0.0010 U Q3	0.001 U Q3
Trichloroethene	38	160	180	0.5	0.17	0.17	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.001 U
Vinyl Chloride	0.9	61	280	0.2	0.03	0.027	0.0010 U Q3	0.0010 U Q3	0.0010 U Q3	0.0010 U Q3	0.001 U Q3

Notes:

All concentrations are displayed in milligrams per kilogram (mg/kg).

Underlined - Concentration exceed PADEP Residential MSCs for Direct Contact.

Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for Direct Contact.

Orange Text - Concentration exceeds PADEP Non-Residential MSCs for Soil to Groundwater.

Bolded - Concentration exceeds PADEP Clean Fill Concentration Limits.

Italicized - Concentration exceeds PADEP Beneficial Use of Regulated Fill Concentration Limits.

MSC - Medium Specific Concentration.

PADEP - Pennsylvania Department of Environmental Protection.

SHS - Statewide Health Standard.

TDS - Total Dissolved Solids.

J - The concentration is an approximate value.

U - Analyte was not detected above the laboratory method detection limit.

Q3 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD) High.

Only the listed VOCs were analyzed for.

TABLE 8
Groundwater Analytical Data Summary
Klingel Cleaners and West Main Street PCE Sites
Stroudsburg, Pennsylvania

Sample ID	PADEP SHS Non- Residential MSCs for Groundwater	WMP-GP01-W001	WMP-GP02-W001	WMP-GP03-W001	WMP-GP04-W001
Screen Depth (ft - ft bgs)		10.0 - 15.0	10.0 - 15.0	10.0 - 15.0	10.0 - 15.0
Sample Date	Used Aquifer TDS ≤ 2500	11/29/2017	11/30/2017	11/30/2017	11/30/2017
Units	µg/L	µg/L	µg/L	µg/L	µg/L
Matrix	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Analyte					
Volatile Organic Compounds (VOCs)					
cis-1,2-Dichloroethene	70	0.50 U	0.50 U	0.50 U	0.50 U
Ethene	nca	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	5	2.0	0.50 U	0.50 U	0.50 U
Trichloroethene	5	0.50 U	0.50 U	0.50 U	0.50 U
Vinyl Chloride	2	0.50 U	0.50 U	0.50 U	0.50 U

Notes:

All concentrations are displayed in micrograms per liter (µg/L).

Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for a Used Aquifer.

MSC - Medium Specific Concentration.

PADEP - Pennsylvania Department of Environmental Protection.

SHS - Statewide Health Standard.

TDS - Total Dissolved Solids.

nca - No criteria available.

NA - Not analyzed.

U - Analyte was not detected above the laboratory method detection limit.

Only the listed VOCs were analyzed for.

TABLE 8
Groundwater Analytical Data Summary
Klingel Cleaners and West Main Street PCE Sites
Stroudsburg, Pennsylvania

Sample ID	PADEP SHS Non- Residential MSCs for Groundwater	WMP-GP04-W101	WMP-GP04-W301
Screen Depth (ft - ft bgs)	Used Aquifer TDS ≤ 2500	10.0 - 15.0	Trip Blank
Sample Date	Used Aquifer TDS ≤ 2500	11/30/2017	11/30/2017
Units	µg/L	µg/L	µg/L
Matrix	Groundwater	Groundwater	Groundwater
Analyte			
Volatile Organic Compounds (VOCs)			
cis-1,2-Dichloroethene	70	0.50 U	0.5 U
Ethene	nca	1.0 U	NA
Tetrachloroethene	5	0.50 U	0.5 U
Trichloroethene	5	0.50 U	0.5 U
Vinyl Chloride	2	0.50 U	0.5 U

Notes:

All concentrations are displayed in micrograms per liter (µg/L).

Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for a Used Aquifer.

MSC - Medium Specific Concentration.

PADEP - Pennsylvania Department of Environmental Protection.

SHS - Statewide Health Standard.

TDS - Total Dissolved Solids.

nca - No criteria available.

NA - Not analyzed.

U - Analyte was not detected above the laboratory method detection limit.

Only the listed VOCs were analyzed for.

TABLE 9
Soil Analytical Data Summary
Main Street Stop And Go
Stroudsburg, Pennsylvania

Sample ID Sample Depth (ft-ft bgs) Sampling Date Units Matrix Analyte	PADEP SHS Residential MSCs for Direct Contact	PADEP SHS Non-Residential MSCs for Direct Contact		PADEP SHS Non-Residential MSCs Soil to GW for Used Aquifers TDS≤2500 100 X GW MSC mg/kg Soil	PADEP Clean Fill Concentration Limits mg/kg Soil	PADEP Non-Residential Action Levels for Reuse of Soil on UST Sites (Water Encountered) mg/kg Soil	PADEP Beneficial Use of Regulated Fill Concentration Limits mg/kg Soil	MSG-GP01-S001		MSG-GP01-S101		MSG-GP01-S002	
	(0 - 15 feet) mg/kg Soil	(0-2 feet) mg/kg Soil	(2-15 feet) mg/kg Soil					0.6 - 2.0 11/29/2017 mg/kg Soil	0.6 - 2.0 11/29/2017 mg/kg Soil	5.0 - 7.0 11/29/2017 mg/kg Soil			
Volatile Organic Compounds (VOCs)													
Benzene	57	290	330	0.5	0.13	0.5	0.13	0.029	U	0.028	U	0.0090	J
Ethylbenzene	180	890	1,000	70	46	70	46	1.2		1.3		0.0010	U Q2 Q9
Isopropylbenzene	7,700	10,000	10,000	350	780	350	1,600	0.44		0.46		0.0010	U Q2 Q9
Naphthalene	160	760	190,000	10	25	10	25	6.7		6.5		0.0010	J Q2 Q9
Tetrachloroethene	770	3,200	3,600	0.5	0.43	nca	0.43	0.058	U	0.057	U	0.0030	J Q3 Q9
Toluene	10,000	10,000	10,000	100	44	100	44	0.058	U	0.057	U	0.0020	J Q2 Q9
1,2,4-Trimethylbenzene	130	560	640	6.2	9	6.2	20	0.14	J	0.12	J	0.0050	J Q2 Q9
1,3,5-Trimethylbenzene	2,200	10,000	10,000	120	2.8	120	6.2	0.060	J	0.057	U	0.0010	J Q2 Q9
Xylene (Total)	1,900	8,000	9,100	1,000	990	1,000	990	0.15	J	0.15	J	0.0030	J Q2 Q9
No other VOCs were detected above the laboratory method detection limits.													
Lead													
Lead	500	1,000	190,000	0.5	450	45	450	25.5	Q3 Q2 Q9	19.2	Q3 Q2 Q9	6.1	Q3 Q2 Q9

Notes:
All concentrations are displayed in milligrams per kilogram (mg/kg).
* - Concentration exceed PADEP Residential MSCs for Direct Contact.
Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for Direct Contact.
Orange Text - Concentration exceeds PADEP Non-Residential MSCs for Soil to Groundwater.
Bolded - Concentration exceeds PADEP Clean Fill Concentration Limits.
Underlined - Concentration exceeds PADEP Action Levels for Soil Reuse on UST Sites.
Italicized - Concentration exceeds PADEP Beneficial Use of Regulated Fill Concentration Limits.
MSC - Medium Specific Concentration.
PADEP - Pennsylvania Department of Environmental Protection.
SHS - Statewide Health Standard.
TDS - Total Dissolved Solids.
UST - Underground Storage Tank.
NA - Not Analyzed.
nca - No criteria available.
J - The concentration is an approximate value.
U - Analyte was not detected above the laboratory method detection limit.
Q2 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Low.
Q3 - MS/MSD High.
Q9 - MS/MSD Relative Percent Difference (RPD).

TABLE 9
Soil Analytical Data Summary
Main Street Stop And Go
Stroudsburg, Pennsylvania

Sample ID Sample Depth (ft-ft bgs) Sampling Date Units Matrix Analyte	PADEP SHS Residential MSCs for Direct Contact	PADEP SHS Non-Residential MSCs for Direct Contact		PADEP SHS Non-Residential MSCs Soil to GW for Used Aquifers TDS≤2500 100 X GW MSC mg/kg Soil	PADEP Clean Fill Concentration Limits mg/kg Soil	PADEP Non-Residential Action Levels for Reuse of Soil on UST Sites (Water Encountered) mg/kg Soil	PADEP Beneficial Use of Regulated Fill Concentration Limits mg/kg Soil	MSG-GP02-S001		MSG-GP02-S002		MSG-GP03-S001	
	(0 - 15 feet) mg/kg Soil	(0-2 feet) mg/kg Soil	(2-15 feet) mg/kg Soil					0.0 - 2.0 11/29/2017 mg/kg Soil	5.0 - 6.5 11/29/2017 mg/kg Soil	0.0 - 2.0 11/29/2017 mg/kg Soil			
Volatile Organic Compounds (VOCs)													
Benzene	57	290	330	0.5	0.13	0.5	0.13	0.0010	J	0.00050	U	0.00050	U
Ethylbenzene	180	890	1,000	70	46	70	46	0.0010	U	0.0010	U Q2 Q9	0.0010	U
Isopropylbenzene	7,700	10,000	10,000	350	780	350	1,600	0.0010	U	0.0010	U Q2 Q9	0.0010	U
Naphthalene	160	760	190,000	10	25	10	25	0.0010	J	0.0010	U Q2 Q9	0.0010	U Q2 Q9
Tetrachloroethene	770	3,200	3,600	0.5	0.43	nca	0.43	0.0010	U Q3	0.0540	Q3 Q9	0.016	Q3 Q9
Toluene	10,000	10,000	10,000	100	44	100	44	0.0030	J	0.0010	U Q2 Q9	0.0010	U
1,2,4-Trimethylbenzene	130	560	640	6.2	9	6.2	20	0.0040	J	0.0010	U Q2 Q9	0.0010	U Q3
1,3,5-Trimethylbenzene	2,200	10,000	10,000	120	2.8	120	6.2	0.0010	J	0.0010	U Q2 Q9	0.0010	U Q3
Xylene (Total)	1,900	8,000	9,100	1,000	990	1,000	990	0.0050	J	0.0010	U Q2 Q9	0.0010	U
No other VOCs were detected above the laboratory method detection limits.													
Lead													
Lead	500	1,000	190,000	0.5	450	45	450	22.8	Q3 Q2 Q9	15.3	Q3 Q2 Q9	33.7	Q3 Q2 Q9

Notes:
All concentrations are displayed in milligrams per kilogram (mg/kg).
* - Concentration exceed PADEP Residential MSCs for Direct Contact.
Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for Direct Contact.
Orange Text - Concentration exceeds PADEP Non-Residential MSCs for Soil to Groundwater.
Bolded - Concentration exceeds PADEP Clean Fill Concentration Limits.
Underlined - Concentration exceeds PADEP Action Levels for Soil Reuse on UST Sites.
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TABLE 9
Soil Analytical Data Summary
Main Street Stop And Go
Stroudsburg, Pennsylvania

Sample ID Sample Depth (ft-ft bgs) Sampling Date Units Matrix Analyte	PADEP SHS Residential MSCs for Direct Contact	PADEP SHS Non-Residential MSCs for Direct Contact		PADEP SHS Non-Residential MSCs Soil to GW for Used Aquifers TDS≤2500 100 X GW MSC mg/kg Soil	PADEP Clean Fill Concentration Limits mg/kg Soil	PADEP Non-Residential Action Levels for Reuse of Soil on UST Sites (Water Encountered) mg/kg Soil	PADEP Beneficial Use of Regulated Fill Concentration Limits mg/kg Soil	MSG-GP03-S002		MSG-GP02-S301	
	(0 - 15 feet)	(0-2 feet)	(2-15 feet)					5.0 - 6.3	Trip Blank		
								11/29/2017	mg/kg Soil	11/29/2017	mg/kg Soil
Volatile Organic Compounds (VOCs)											
Benzene	57	290	330	0.5	0.13	0.5	0.13	0.00050	U	0.0005	U
Ethylbenzene	180	890	1,000	70	46	70	46	0.0010	U	0.001	U Q2 Q9
Isopropylbenzene	7,700	10,000	10,000	350	780	350	1,600	0.0010	U	0.001	U Q2 Q9
Naphthalene	160	760	190,000	10	25	10	25	0.0010	U Q2 Q9	0.001	U Q2 Q9
Tetrachloroethene	770	3,200	3,600	0.5	0.43	nca	0.43	0.0040	J Q3 Q9	0.001	U Q3 Q9
Toluene	10,000	10,000	10,000	100	44	100	44	0.0010	U	0.001	U Q2 Q9
1,2,4-Trimethylbenzene	130	560	640	6.2	9	6.2	20	0.0010	U Q3	0.001	U Q2 Q9
1,3,5-Trimethylbenzene	2,200	10,000	10,000	120	2.8	120	6.2	0.0010	U Q3	0.001	U Q2 Q9
Xylene (Total)	1,900	8,000	9,100	1,000	990	1,000	990	0.0010	U	0.001	U Q2 Q9
No other VOCs were detected above the laboratory method detection limits.											
Lead											
Lead	500	1,000	190,000	0.5	450	45	450	6.0	Q3 Q2 Q9	NA	

Notes:

All concentrations are displayed in milligrams per kilogram (mg/kg).

* - Concentration exceed PADEP Residential MSCs for Direct Contact.

Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for Direct Contact.

Orange Text - Concentration exceeds PADEP Non-Residential MSCs for Soil to Groundwater.

Bolded - Concentration exceeds PADEP Clean Fill Concentration Limits.

Underlined - Concentration exceeds PADEP Action Levels for Soil Reuse on UST Sites.

Italicized - Concentration exceeds PADEP Beneficial Use of Regulated Fill Concentration Limits.

MSC - Medium Specific Concentration.

PADEP - Pennsylvania Department of Environmental Protection.

SHS - Statewide Health Standard.

TDS - Total Dissolved Solids.

UST - Underground Storage Tank.

NA - Not Analyzed.

nca - No criteria available.

J - The concentration is an approximate value.

U - Analyte was not detected above the laboratory method detection limit.

Q2 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Low.

Q3 - MS/MSD High.

Q9 - MS/MSD Relative Percent Difference (RPD).

TABLE 10
Groundwater Analytical Data Summary
Main Street Stop And Go
Stroudsburg, Pennsylvania

Sample ID	PADEP SHS Non- Residential MSCs for Groundwater	PADEP Water Action Levels at UST Closure Sites	MSG-GP01-W001 10.0 - 15.0 11/29/2017 µg/L Groundwater	MSG-GP01-W101 10.0 - 15.0 11/29/2017 µg/L Groundwater	MSG-GP02-W001 10.0 - 15.0 11/29/2017 µg/L Groundwater
Screen Depth (ft - ft bgs)	Used Aquifer TDS ≤ 2500				
Sample Date					
Units	µg/L	µg/L	µg/L	µg/L	µg/L
Matrix	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Analyte					
Volatile Organic Compounds (VOCs)					
Ethene	nca	nca	3.4 J	2.8 J	1.0 U
Ethylbenzene	700	700	1.0	2.0	0.50 U
Naphthalene	100	100	3.0 J	3.0 J	1.0 U
Tetrachloroethene	5	nca	0.50 U	0.50 U	9.0
1,2,4-Trimethylbenzene	62	15	1.0 J	1.0 J	1.0 U
Xylene (Total)	10,000	10,000	3.0	3.0	0.50 U
No other VOCs were detected above the laboratory method detection limits.					
Lead					
Lead	5	5	38.4 Q3 Q9	16.6 Q3 Q9	1.3 Q3 Q9

Notes:

All concentrations are displayed in micrograms per liter (µg/L).

Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for a Used Aquifer.

Bolded - Concentration exceeds PADEP Water Action Levels at UST Closure Sites.

MSC - Medium Specific Concentration.

PADEP - Pennsylvania Department of Environmental Protection.

SHS - Statewide Health Standard.

TDS - Total Dissolved Solids.

UST - Underground Storage Tank.

nca - No criteria available.

J - The concentration is an approximate value.

NA - Not analyzed.

U - Analyte was not detected above the laboratory method detection limit.

Q3 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD) High.

Q9 - MS/MSD Relative Percent Difference (RPD).

TABLE 10
Groundwater Analytical Data Summary
Main Street Stop And Go
Stroudsburg, Pennsylvania

Sample ID	PADEP SHS Non- Residential MSCs for Groundwater	MSG-GP03-W001		MSG-GP02-W301	
Screen Depth (ft - ft bgs)	Used Aquifer TDS ≤ 2500	10.0 - 15.0		Trip Blank	
Sample Date	µg/L	11/29/2017		11/29/2017	
Units	Groundwater	µg/L		µg/L	
Matrix	Groundwater	Groundwater		Groundwater	
Analyte	Groundwater	Groundwater		Groundwater	
Volatile Organic Compounds (VOCs)					
Ethene	nca	1.9	J	NA	
Ethylbenzene	700	0.50	U	0.5	U
Naphthalene	100	1.0	U	1.0	U
Tetrachloroethene	5	19.0		0.5	U
1,2,4-Trimethylbenzene	62	1.0	U	1.0	U
Xylene (Total)	10,000	0.50	U	0.5	U
No other VOCs were detected above the laboratory method detection limits.					
Lead					
Lead	5	0.11	U Q3 Q9	NA	

Notes:

All concentrations are displayed in micrograms per liter (µg/L).

Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for a Used Aquifer.

Bolded - Concentration exceeds PADEP Water Action Levels at UST Closure Sites.

MSC - Medium Specific Concentration.

PADEP - Pennsylvania Department of Environmental Protection.

SHS - Statewide Health Standard.

TDS - Total Dissolved Solids.

UST - Underground Storage Tank.

nca - No criteria available.

J - The concentration is an approximate value.

NA - Not analyzed.

U - Analyte was not detected above the laboratory method detection limit.

Q3 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD) High.

Q9 - MS/MSD Relative Percent Difference (RPD).

TABLE 11
Soil Analytical Data Summary
Pocono Gas Station
Stroudsburg, Pennsylvania

Sample ID	PADEP Residential MSCs for Direct Contact	PADEP Non-Residential MSCs for Direct Contact		PADEP SHS Non-Residential MSCs Soil to GW for Used Aquifers TDS≤2500 100 X GW MSC	PADEP Clean Fill Concentration Limits	PADEP Action Levels for Soil Reuse on UST Sites (Water Encountered)	PADEP Beneficial Use of Regulated Fill Concentration Limits	PGS-GP01-S001		PGS-GP01-S002		PGS-GP02-S001		PGS-GP02-S101		PGS-GP02-S002	
	(0 - 15 feet)	(0 - 2 feet)	(2 - 15 feet)					0.0 - 2.0	5.0 - 6.3	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	5.6 - 7.6				
Sample Depth (ft-ft bgs)																	
Sampling Date																	
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Analyte																	
Volatile Organic Compounds (VOCs)																	
Benzene	57	290	330	0.5	0.13	0.5	0.13	0.0005	U	0.0005	U	0.0005	U	0.0005	U	0.0006	U
1,2-Dichloroethane	17	86	98	0.5	0.1	0.5	0.1	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
Ethylbenzene	180	890	1,000	70	46	70	46	0.001	U	0.0010	J	0.001	U	0.001	U	0.001	U
Naphthalene	160	760	190,000	10	25	10	nca	0.001	U	0.0010	U	0.001	U	0.0020	J	0.001	U
Toluene	10,000	10,000	10,000	100	44	100	44	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
1,2,4-Trimethylbenzene	130	560	640	6.2	9	1.5	20	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
Xylenes (Total)	1,900	8,000	9,100	1,000	990	1,000	990	0.001	U	0.0090		0.001	U	0.001	U	0.001	U
No other PADEP Shortlist VOCs were detected above the laboratory method detection limits.																	
Lead																	
Lead	500	1,000	190,000	0.5	450	45	450	<u>45.4</u>	Q3Q8Q9	29.9	Q3Q8Q9	26.9	Q3Q9	18.3	Q3Q9	9.5	Q3Q9

Notes:

All concentrations are displayed in milligrams per kilogram (mg/kg) unless noted otherwise.

* - Concentration exceed PADEP Residential MSCs for Direct Contact.

Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for Direct Contact.

Orange Text - Concentration exceeds PADEP Non-Residential MSCs for Soil to Groundwater.

Bolded - Concentration exceeds PADEP Clean Fill Concentration Limits.

Underlined - Concentration exceeds PADEP Action Levels for Soil Reuse on UST Sites.

Italicized - Concentration exceeds PADEP Beneficial Use of Regulated Fill Concentration Limits.

MSC - Medium Specific Concentration.

PADEP - Pennsylvania Department of Environmental Protection.

SHS - Statewide Health Standard.

TDS - Total Dissolved Solids.

UST - Underground Storage Tank.

NA - Not analyzed.

nca - No criteria available.

J - The concentration is an approximate value.

U - Analyte was not detected above the laboratory method detection limit.

Q3 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD) High.

Q8 - Duplicate (DUP) Relative Percent Difference (RPD).

Q9 - MS/MSD RPD.

TABLE 11
Soil Analytical Data Summary
Pocono Gas Station
Stroudsburg, Pennsylvania

Sample ID	PADEP Residential MSCs for Direct Contact	PADEP Non-Residential MSCs for Direct Contact		PADEP SHS Non-Residential MSCs Soil to GW for Used Aquifers TDS≤2500 100 X GW MSC	PADEP Clean Fill Concentration Limits	PADEP Action Levels for Soil Reuse on UST Sites (Water Encountered)	PADEP Beneficial Use of Regulated Fill Concentration Limits	PGS-GP03-S001	PGS-GP03-S002	PGS-GP04-S001	PGS-GP04-S002	PGS-GP05-S001
	(0 - 15 feet)	(0 - 2 feet)	(2 - 15 feet)					0.0 - 2.0	5.0 - 5.5	0.0 - 2.0	3.0 - 5.0	0.5 - 2.0
Sample Depth (ft-ft bgs)												
Sampling Date								12/3/2018	12/3/2018	12/4/2018	12/4/2018	12/4/2018
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Analyte												
Volatile Organic Compounds (VOCs)												
Benzene	57	290	330	0.5	0.13	0.5	0.13	0.0003 U	0.0003 U	0.0005 U Q2	0.0004 U	0.0004 U
1,2-Dichloroethane	17	86	98	0.5	0.1	0.5	0.1	0.0003 U	0.0003 U	0.0003 U Q2Q9	0.0003 U	0.0003 U
Ethylbenzene	180	890	1,000	70	46	70	46	0.0003 U	0.0003 U	0.0005 U Q2Q9	0.003 J	0.0004 U
Naphthalene	160	760	190,000	10	25	10	nca	0.0005 U	0.0005 U	0.0007 U Q2Q9	0.0006 U	0.0006 U
Toluene	10,000	10,000	10,000	100	44	100	44	0.0003 U	0.0003 J	0.0003 U Q2Q9	0.0004 J	0.0003 U
1,2,4-Trimethylbenzene	130	560	640	6.2	9	1.5	20	0.0005 J	0.0005 U	0.0007 U Q2Q9	0.0006 U	0.0006 U
Xylenes (Total)	1,900	8,000	9,100	1,000	990	1,000	990	0.0008 U	0.0008 U	0.001 U Q2Q9	0.019	0.0009 U
No other PADEP Shortlist VOCs were detected above the laboratory method detection limits.												
Lead												
Lead	500	1,000	190,000	0.5	450	45	450	<u>45.9</u>	<u>167</u>	<u>49.4</u> Q3Q9	9.5	32.1

Notes:
All concentrations are displayed in milligrams per kilogram (mg/kg) unless noted otherwise.
* - Concentration exceed PADEP Residential MSCs for Direct Contact.
Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for Direct Contact.
Orange Text - Concentration exceeds PADEP Non-Residential MSCs for Soil to Groundwater.
Bolded - Concentration exceeds PADEP Clean Fill Concentration Limits.
Underlined - Concentration exceeds PADEP Action Levels for Soil Reuse on UST Sites.
Italicized - Concentration exceeds PADEP Beneficial Use of Regulated Fill Concentration Limits.
MSC - Medium Specific Concentration.
PADEP - Pennsylvania Department of Environmental Protection.
SHS - Statewide Health Standard.
TDS - Total Dissolved Solids.
UST - Underground Storage Tank.
NA - Not analyzed.
nca - No criteria available.
J - The concentration is an approximate value.
U - Analyte was not detected above the laboratory method detection limit.
Q3 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD) High.
Q8 - Duplicate (DUP) Relative Percent Difference (RPD).
Q9 - MS/MSD RPD.

TABLE 11
Soil Analytical Data Summary
Pocono Gas Station
Stroudsburg, Pennsylvania

Sample ID	PADEP Residential MSCs for Direct Contact	PADEP Non-Residential MSCs for Direct Contact		PADEP SHS Non-Residential MSCs Soil to GW for Used Aquifers TDS≤2500 100 X GW MSC	PADEP Clean Fill Concentration Limits	PADEP Action Levels for Soil Reuse on UST Sites (Water Encountered)	PADEP Beneficial Use of Regulated Fill Concentration Limits	PGS-GP05-S002		PGS-GP06-S001		PGS-GP07-S001		PGS-GP07-S002	
	(0 - 15 feet)	(0 - 2 feet)	(2 - 15 feet)					2.0 - 4.0	0.0 - 1.0	0.0 - 1.0	5.5 - 7.5				
Sample Depth (ft-ft bgs)															
Sampling Date								12/4/2018	12/4/2018	12/4/2018	12/4/2018	12/4/2018	12/4/2018	12/4/2018	12/4/2018
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Analyte															
Volatile Organic Compounds (VOCs)															
Benzene	57	290	330	0.5	0.13	0.5	0.13	0.0004	U	0.0005	U	0.001	J	0.0004	U
1,2-Dichloroethane	17	86	98	0.5	0.1	0.5	0.1	0.0003	U	0.0004	U	0.0008	J	0.0003	U
Ethylbenzene	180	890	1,000	70	46	70	46	0.0004	U	0.0005	U	0.0004	U	0.0004	U
Naphthalene	160	760	190,000	10	25	10	nca	0.0006	U	0.0007	U	0.0006	U	0.0006	U
Toluene	10,000	10,000	10,000	100	44	100	44	0.0003	U	0.0004	U	0.0006	J	0.0003	U
1,2,4-Trimethylbenzene	130	560	640	6.2	9	1.5	20	0.0006	U	0.0007	U	0.0006	U	0.0006	U
Xylenes (Total)	1,900	8,000	9,100	1,000	990	1,000	990	0.0009	U	0.001	U	0.0008	U	0.0008	U
No other PADEP Shortlist VOCs were detected above the laboratory method detection limits.															
Lead															
Lead	500	1,000	190,000	0.5	450	45	450	14.2		25.0		47.4		11.2	

Notes:
All concentrations are displayed in milligrams per kilogram (mg/kg) unless noted otherwise.
* - Concentration exceed PADEP Residential MSCs for Direct Contact.
Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for Direct Contact.
Orange Text - Concentration exceeds PADEP Non-Residential MSCs for Soil to Groundwater.
Bolded - Concentration exceeds PADEP Clean Fill Concentration Limits.
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NA - Not analyzed.
nca - No criteria available.
J - The concentration is an approximate value.
U - Analyte was not detected above the laboratory method detection limit.
Q3 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD) High.
Q8 - Duplicate (DUP) Relative Percent Difference (RPD).
Q9 - MS/MSD RPD.

TABLE 11
Soil Analytical Data Summary
Pocono Gas Station
Stroudsburg, Pennsylvania

Sample ID	PADEP Residential MSCs for Direct Contact	PADEP Non-Residential MSCs for Direct Contact		PADEP SHS Non-Residential MSCs Soil to GW for Used Aquifers TDS≤2500 100 X GW MSC	PADEP Clean Fill Concentration Limits	PADEP Action Levels for Soil Reuse on UST Sites (Water Encountered)	PADEP Beneficial Use of Regulated Fill Concentration Limits	PGS-GP07-S102		PGS-GP08-S001		PGS-GP08-S201		PGS-GP08-S301	
	(0 - 15 feet)	(0 - 2 feet)	(2 - 15 feet)					5.5 - 7.5	0.0 - 1.5	Equipment Blank		Trip Blank			
Sample Depth (ft-ft bgs)															
Sampling Date								12/4/2018		12/4/2018		12/4/2018		12/4/2018	
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg		ug/L		mg/kg	
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil		Soil		Soil		Soil	
Analyte															
Volatile Organic Compounds (VOCs)															
Benzene	57	290	330	0.5	0.13	0.5	0.13	0.0004	U	0.0005	U	0.2	U	0.2	U
1,2-Dichloroethane	17	86	98	0.5	0.1	0.5	0.1	0.0003	U	0.0004	U	2	U	2	U
Ethylbenzene	180	890	1,000	70	46	70	46	0.0004	U	0.0005	U	0.2	U	0.2	U
Naphthalene	160	760	190,000	10	25	10	nca	0.0005	U	0.0007	U	4	U	4	U
Toluene	10,000	10,000	10,000	100	44	100	44	0.0003	U	0.0007	J	0.2	U	0.2	U
1,2,4-Trimethylbenzene	130	560	640	6.2	9	1.5	20	0.0005	U	0.0007	U	0.3	U	0.3	U
Xylenes (Total)	1,900	8,000	9,100	1,000	990	1,000	990	0.0008	U	0.001	U	0.5	U	0.5	U
No other PADEP Shortlist VOCs were detected above the laboratory method detection limits.															
Lead															
Lead	500	1,000	190,000	0.5	450	45	450	10.1		172		0.0011	U	NA	

Notes:

All concentrations are displayed in milligrams per kilogram (mg/kg) unless noted otherwise.

* - Concentration exceed PADEP Residential MSCs for Direct Contact.

Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for Direct Contact.

Orange Text - Concentration exceeds PADEP Non-Residential MSCs for Soil to Groundwater.

Bolded - Concentration exceeds PADEP Clean Fill Concentration Limits.

Underlined - Concentration exceeds PADEP Action Levels for Soil Reuse on UST Sites.

Italicized - Concentration exceeds PADEP Beneficial Use of Regulated Fill Concentration Limits.

MSC - Medium Specific Concentration.

PADEP - Pennsylvania Department of Environmental Protection.

SHS - Statewide Health Standard.

TDS - Total Dissolved Solids.

UST - Underground Storage Tank.

NA - Not analyzed.

nca - No criteria available.

J - The concentration is an approximate value.

U - Analyte was not detected above the laboratory method detection limit.

Q3 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD) High.

Q8 - Duplicate (DUP) Relative Percent Difference (RPD).

Q9 - MS/MSD RPD.

TABLE 12
Groundwater Analytical Data Summary
Pocono Gas Station
Stroudsburg, Pennsylvania

Sample ID	PADEP SHS Non-Residential MSCs for Groundwater	PADEP Water Action Levels at UST Closure Sites	PGS-GP01-W001	PGS-GP02-W001	PGS-GP02-W101	PGS-GP02-W301	PGS-GP03-W001	PGS-GP05-W001
Screen Depth (ft - ft bgs)	Used Aquifer TDS ≤ 2500		10.0 - 15.0	10.0 - 15.0	10.0 - 15.0	Trip Blank	5.0 - 10.0	5.0 - 10.0
Sample Date			11/30/2017	11/30/2017	11/30/2017	11/30/2017	12/3/2018	12/4/2018
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Matrix	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Analyte								
Volatile Organic Compounds (VOCs)								
Ethylbenzene	700	700	0.5 U	0.5 U	0.5 U	0.5 U	0.2 U	0.2 J
Toluene	1,000	1,000	0.5 U	0.5 U	0.5 U	0.5 U	0.2 U	2
Xylene (Total)	10,000	10,000	0.5 U	0.9 J	1	0.5 U	0.5 U	0.2 J
No other PADEP Shortlist VOCs were detected above the laboratory method detection limits.								
Lead								
Lead (Dissolved)	5	5	58 Q3Q2Q9	0.20 J Q3Q2Q9	0.1 U Q3Q2Q9	NA	1.7 J	1.1 U

Notes:

All concentrations are displayed in micrograms per liter (µg/L).

Shaded - Concentration exceeds PADEP Non-Residential MSCs for a Used Aquifer.

Bolded - Concentration exceeds PADEP Water Action Levels at UST Closure Sites.

MSC - Medium Specific Concentration.

PADEP - Pennsylvania Department of Environmental Protection.

SHS - Statewide Health Standard.

TDS - Total Dissolved Solids.

UST - Underground Storage Tank.

J - The concentration is an approximate value.

NA - Not analyzed.

U - Analyte was not detected above the laboratory method detection limit.

Q2 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD)Low.

Q3 - MS/MSD High.

Q9 - MS/MSD Relative Percent Difference (RPD).

TABLE 12
Groundwater Analytical Data Summary
Pocono Gas Station
Stroudsburg, Pennsylvania

Sample ID	PADEP SHS Non-Residential MSCs for Groundwater	PADEP Water Action Levels at UST Closure Sites	PGS-GP06-W001	PGS-GP06-W101	PGS-GP08-W001	PGS-GP08-W201	PGS-GP08-W301
Screen Depth (ft - ft bgs)	Used Aquifer TDS ≤ 2500		5.0 - 10.0	5.0 - 10.0	5.0 - 10.0	Equipment Blank	Trip Blank
Sample Date			12/4/2018	12/4/2018	12/4/2018	12/4/2018	12/4/2018
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Matrix	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Analyte							
Volatile Organic Compounds (VOCs)							
Ethylbenzene	700	700	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Toluene	1,000	1,000	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Xylene (Total)	10,000	10,000	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
No other PADEP Shortlist VOCs were detected above the laboratory method detection limits.							
Lead							
Lead (Dissolved)	5	5	2.1 J	1.1 U	6.7	1.1 U	NA

Notes:

All concentrations are displayed in micrograms per liter (µg/L).

Shaded - Concentration exceeds PADEP Non-Residential MSCs for a Used Aquifer.

Bolded - Concentration exceeds PADEP Water Action Levels at UST Closure Sites.

MSC - Medium Specific Concentration.

PADEP - Pennsylvania Department of Environmental Protection.

SHS - Statewide Health Standard.

TDS - Total Dissolved Solids.

UST - Underground Storage Tank.

J - The concentration is an approximate value.

NA - Not analyzed.

U - Analyte was not detected above the laboratory method detection limit.

Q2 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD)Low.

Q3 - MS/MSD High.

Q9 - MS/MSD Relative Percent Difference (RPD).

TABLE 13
Soil Analytical Data Summary
Rinehart EM, Inc.
Stroudsburg, Pennsylvania

Sample ID Sample Depth (ft-ft bgs) Sampling Date Units Matrix Analyte	PADEP SHS Residential MSCs for Direct Contact	PADEP SHS Non-Residential MSCs for Direct Contact		PADEP SHS Non-Residential MSCs Soil to GW for Used Aquifers TDS≤2500 100 X GW MSC mg/kg Soil	PADEP Clean Fill Concentration Limits mg/kg Soil	PADEP Non-Residential Action Levels for Reuse of Soil on UST Sites (Water Encountered) mg/kg Soil	PADEP Beneficial Use of Regulated Fill Concentration Limits mg/kg Soil	REI-GP01-S001		REI-GP01-S002		REI-GP02-S001		REI-GP02-S101	
	(0 - 15 feet)	(0-2 feet)	(2-15 feet)					0.0 - 1.4	5.0 - 5.8	0.0 - 2.0	0.0 - 2.0				
								0.0050	U Q3	0.0050	U	0.0060	U	0.0050	U
Benzene	57	290	330	0.5	0.13	0.5	0.13	0.0010	U	0.0010	J	0.0020	J	0.0010	U
Ethylbenzene	180	890	1,000	70	46	70	46	0.0010	U	0.0010	J	0.0020	J	0.0010	U
Isopropylbenzene	7,700	10,000	10,000	350	780	350	1,600	0.0010	U	0.0010	U	0.0220	U	0.012	U
Naphthalene	160	760	190,000	10	25	10	25	0.0010	U Q2	0.0010	U	0.0020	J	0.0040	J
Toluene	10,000	10,000	10,000	100	44	100	44	0.0010	U Q3	0.0010	U	0.0020	J	0.0020	J
1,2,4-Trimethylbenzene	130	560	640	6.2	9	6.2	20	0.0010	U Q3	0.0010	U	0.022	U	0.012	U
1,3,5-Trimethylbenzene	2,200	10,000	10,000	120	2.8	120	6.2	0.0010	U Q3	0.0010	U	0.047	U	0.028	U
Xylene (Total)	1,900	8,000	9,100	1,000	990	1,000	990	0.0010	U	0.0090	U	0.0060	J	0.0030	J
No other Shortlist VOCs were detected above the laboratory method detection limits.															
Polychlorinated Biphenyls (PCBs)															
PCB-1260	9	46	190,000	0.17	30	nca	130	1.1	D2 Q3	0.12	D2 Q3	99.0*	D2 Q3	130*	D2 Q3
No other PCBs were detected above the laboratory method detection limits.															
Metals															
Arsenic	12	61	190,000	1	12	nca	53	6.8		10.0		15.7*		7.2	
Beryllium	440	6,400	190,000	0.4	320	nca	320	0.64		0.65		0.88		0.64	
Chromium VI	4	220	20,000	10	94	nca	190	19.0*	Q3	24.4*	Q3	17.4*	Q3	17.5*	Q3
Copper	8,100	120,000	190,000	100	8,200	nca	36,000	23.5	Q3	17.3	Q3	22.0	Q3	40.4	Q3
Lead	500	1,000	190,000	0.5	450	45	450	23.6	Q3 Q9	45.5	Q3 Q9	33.9	Q3 Q9	71.2	Q3 Q9
Nickel	4,400	64,000	190,000	10	650	nca	650	32.9		31.6		29.9		30.1	
Zinc	66,000	190,000	190,000	200	12,000	nca	12,000	108	Q2 Q8 Q9	75.4	Q2 Q8 Q9	105	Q2 Q8 Q9	170	Q2 Q8 Q9
Mercury	35	510	190,000	0.2	10	nca	10	0.030	J	0.013	J	0.028	J	0.030	J
No other metals were detected above the laboratory method detection limits.															
pH (Std. Units)															
pH	nca	nca	nca	nca	nca	nca	nca	8.0		8.1		8.1		8.2	

Notes:
All concentrations are displayed in milligrams per kilogram (mg/kg).
* - Concentration exceed PADEP Residential MSCs for Direct Contact.
Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for Direct Contact.
Orange Text - Concentration exceeds PADEP Non-Residential MSCs for Soil to Groundwater.
Bolded - Concentration exceeds PADEP Clean Fill Concentration Limits.
Underlined - Concentration exceeds PADEP Action Levels for Soil Reuse on UST Sites.
Italicized - Concentration exceeds PADEP Beneficial Use of Regulated Fill Concentration Limits.
MSC - Medium Specific Concentration.
PADEP - Pennsylvania Department of Environmental Protection.
TDS - Total Dissolved Solids.
SHS - Statewide Health Standard.
UST - Underground Storage Tank.
D2 - Indicates for dual column analyses that the result is reported from column 2.
J - The concentration is an approximate value.
NA - Not Analyzed.
nca - No criteria available.
U - Analyte was not detected above the laboratory method detection limit.
Q2 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Low.
Q3 - MS/MSD High.
Q8 - Duplicate (DUP) Relative Percent Difference (RPD).
Q9 - MS/MSD RPD.

TABLE 13
Soil Analytical Data Summary
Rinehart EM, Inc.
Stroudsburg, Pennsylvania

Sample ID Sample Depth (ft-ft bgs) Sampling Date Units Matrix Analyte	PADEP SHS Residential MSCs for Direct Contact	PADEP SHS Non-Residential MSCs for Direct Contact		PADEP SHS Non-Residential MSCs Soil to GW for Used Aquifers TDS≤2500 100 X GW MSC mg/kg Soil	PADEP Clean Fill Concentration Limits mg/kg Soil	PADEP Non-Residential Action Levels for Reuse of Soil on UST Sites (Water Encountered) mg/kg Soil	PADEP Beneficial Use of Regulated Fill Concentration Limits mg/kg Soil	REI-GP02-S002		REI-GP03-S001		REI-GP03-S002		REI-GP04-S001	
	(0 - 15 feet)	(0-2 feet)	(2-15 feet)					5.0 - 7.0	12/1/2017	0.0 - 2.0	12/1/2017	5.0 - 6.4	12/1/2017	0.0 - 2.0	12/1/2017
Volatile Organic Compounds (VOCs)															
Benzene	57	290	330	0.5	0.13	0.5	0.13	0.00050	U	0.0010	J	0.00050	U	0.0040	J
Ethylbenzene	180	890	1,000	70	46	70	46	0.0010	U	0.0010	U	0.0010	U	0.0010	U
Isopropylbenzene	7,700	10,000	10,000	350	780	350	1,600	0.0010	U	0.0010	U	0.0010	U	0.0010	U
Naphthalene	160	760	190,000	10	25	10	25	0.0010	U	0.0010	U	0.0010	U	0.0010	U
Toluene	10,000	10,000	10,000	100	44	100	44	0.0010	U	0.0040	J	0.0010	U	0.010	
1,2,4-Trimethylbenzene	130	560	640	6.2	9	6.2	20	0.0010	U	0.0010	U	0.0010	U	0.0010	U
1,3,5-Trimethylbenzene	2,200	10,000	10,000	120	2.8	120	6.2	0.0010	U	0.0010	U	0.0010	U	0.0010	U
Xylene (Total)	1,900	8,000	9,100	1,000	990	1,000	990	0.0010	U	0.0020	J	0.0010	U	0.0060	
No other Shortlist VOCs were detected above the laboratory method detection limits.															
Polychlorinated Biphenyls (PCBs)															
PCB-1260	9	46	190,000	0.17	30	nca	130	0.16	D2 Q3	0.12	D2	0.13	D2 Q3	0.0082	J D2 Q3
No other PCBs were detected above the laboratory method detection limits.															
Metals															
Arsenic	12	61	190,000	1	12	nca	53	36.3*		5.9		8.94		88.3*	
Beryllium	440	6,400	190,000	0.4	320	nca	320	0.61		0.68		0.71		0.69	
Chromium VI	4	220	20,000	10	94	nca	190	18.5*	Q3	17.0*	Q3	20.7*	Q3	19.6*	Q3
Copper	8,100	120,000	190,000	100	8,200	nca	36,000	32.7	Q3	17.7	Q3	17.9	Q3	43.4	Q3
Lead	500	1,000	190,000	0.5	450	45	450	71.5	Q3 Q9	18.8	Q3 Q9	13.1	Q3 Q9	40.9	Q3 Q9
Nickel	4,400	64,000	190,000	10	650	nca	650	29.9		29.1		30.6		35.0	
Zinc	66,000	190,000	190,000	200	12,000	nca	12,000	63.8	Q2 Q8 Q9	97.2	Q2 Q8 Q9	106	Q2 Q8 Q9	76.4	Q2 Q8 Q9
Mercury	35	510	190,000	0.2	10	nca	10	0.019	J	0.016	J	0.014	J	0.020	J
No other metals were detected above the laboratory method detection limits.															
pH (Std. Units)															
pH	nca	nca	nca	nca	nca	nca	nca	7.6		8.1		8.2		8.2	

Notes:
All concentrations are displayed in milligrams per kilogram (mg/kg).
* - Concentration exceed PADEP Residential MSCs for Direct Contact.
Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for Direct Contact.
Orange Text - Concentration exceeds PADEP Non-Residential MSCs for Soil to Groundwater.
Bolded - Concentration exceeds PADEP Clean Fill Concentration Limits.
Underlined - Concentration exceeds PADEP Action Levels for Soil Reuse on UST Sites.
Italicized - Concentration exceeds PADEP Beneficial Use of Regulated Fill Concentration Limits.
MSC - Medium Specific Concentration.
PADEP - Pennsylvania Department of Environmental Protection.
TDS - Total Dissolved Solids.
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NA - Not Analyzed.
nca - No criteria available.
U - Analyte was not detected above the laboratory method detection limit.
Q2 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Low.
Q3 - MS/MSD High.
Q8 - Duplicate (DUP) Relative Percent Difference (RPD).
Q9 - MS/MSD RPD.

TABLE 13
Soil Analytical Data Summary
Rinehart EM, Inc.
Stroudsburg, Pennsylvania

Sample ID Sample Depth (ft-ft bgs) Sampling Date Units Matrix Analyte	PADEP SHS Residential MSCs for Direct Contact	PADEP SHS Non-Residential MSCs for Direct Contact		PADEP SHS Non-Residential MSCs Soil to GW for Used Aquifers TDS≤2500 100 X GW MSC mg/kg Soil	PADEP Clean Fill Concentration Limits mg/kg Soil	PADEP Non-Residential Action Levels for Reuse of Soil on UST Sites (Water Encountered) mg/kg Soil	PADEP Beneficial Use of Regulated Fill Concentration Limits mg/kg Soil	REI-GP04-S002		REI-GP05-S001		REI-GP05-S002		REI-GP06-S001	
	(0 - 15 feet)	(0-2 feet)	(2-15 feet)					5.2 - 7.2	0.0 - 2.0	5.0 - 6.3	0.0 - 2.0				
								12/1/2017	12/1/2017	12/1/2017	12/1/2017	12/1/2017	12/1/2017	12/1/2017	12/1/2017
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Volatile Organic Compounds (VOCs)															
Benzene	57	290	330	0.5	0.13	0.5	0.13	0.0020	J	0.00060	U	0.00060	U	0.00050	U
Ethylbenzene	180	890	1,000	70	46	70	46	0.00090	U	0.0010	U	0.0010	U	0.00090	U
Isopropylbenzene	7,700	10,000	10,000	350	780	350	1,600	0.00090	U	0.0010	U	0.0010	U	0.00090	U
Naphthalene	160	760	190,000	10	25	10	25	0.00090	U	0.0010	U	0.0010	U	0.00090	U
Toluene	10,000	10,000	10,000	100	44	100	44	0.0050		0.0010	U	0.0010	U	0.00090	U
1,2,4-Trimethylbenzene	130	560	640	6.2	9	6.2	20	0.00090	U	0.0010	U	0.0010	U	0.00090	U
1,3,5-Trimethylbenzene	2,200	10,000	10,000	120	2.8	120	6.2	0.00090	U	0.0010	U	0.0010	U	0.00090	U
Xylene (Total)	1,900	8,000	9,100	1,000	990	1,000	990	0.0040	J	0.0010	U	0.0010	U	0.00090	U
No other Shortlist VOCs were detected above the laboratory method detection limits.															
Polychlorinated Biphenyls (PCBs)															
PCB-1260	9	46	190,000	0.17	30	nca	130	0.0052	U D2 Q3	0.0055	U D2 Q3	0.0054	U D2 Q3	0.012	J D2 Q3
No other PCBs were detected above the laboratory method detection limits.															
Metals															
Arsenic	12	61	190,000	1	12	nca	53	9.2		6.5		4.6		6.81	
Beryllium	440	6,400	190,000	0.4	320	nca	320	0.72		0.52		0.52		0.50	
Chromium VI	4	220	20,000	10	94	nca	190	23.9*	Q3	12.7*	Q3	14.3*	Q3	11.8*	Q3
Copper	8,100	120,000	190,000	100	8,200	nca	36,000	23.1	Q3	16.0	Q3	11.6	Q3	16.0	Q3
Lead	500	1,000	190,000	0.5	450	45	450	13.8	Q3 Q9	23.5	Q3 Q9	12.7	Q3 Q9	16.9	Q3 Q9
Nickel	4,400	64,000	190,000	10	650	nca	650	36.5		18.0		21.0		19.4	
Zinc	66,000	190,000	190,000	200	12,000	nca	12,000	84.3	Q2 Q8 Q9	82.2	Q2 Q8 Q9	76.2	Q2 Q8 Q9	62.8	Q2 Q8 Q9
Mercury	35	510	190,000	0.2	10	nca	10	0.016	J	0.022	J	0.018	J	0.019	J
No other metals were detected above the laboratory method detection limits.															
pH (Std. Units)															
pH	nca	nca	nca	nca	nca	nca	nca	7.7		8.1		8.1		8.4	

Notes:
All concentrations are displayed in milligrams per kilogram (mg/kg).
* - Concentration exceed PADEP Residential MSCs for Direct Contact.
Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for Direct Contact.
Orange Text - Concentration exceeds PADEP Non-Residential MSCs for Soil to Groundwater.
Bolded - Concentration exceeds PADEP Clean Fill Concentration Limits.
Underlined - Concentration exceeds PADEP Action Levels for Soil Reuse on UST Sites.
Italicized - Concentration exceeds PADEP Beneficial Use of Regulated Fill Concentration Limits.
MSC - Medium Specific Concentration.
PADEP - Pennsylvania Department of Environmental Protection.
TDS - Total Dissolved Solids.
SHS - Statewide Health Standard.
UST - Underground Storage Tank.
D2 - Indicates for dual column analyses that the result is reported from column 2.
J - The concentration is an approximate value.
NA - Not Analyzed.
nca - No criteria available.
U - Analyte was not detected above the laboratory method detection limit.
Q2 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Low.
Q3 - MS/MSD High.
Q8 - Duplicate (DUP) Relative Percent Difference (RPD).
Q9 - MS/MSD RPD.

TABLE 13
Soil Analytical Data Summary
Rinehart EM, Inc.
Stroudsburg, Pennsylvania

Sample ID Sample Depth (ft-ft bgs) Sampling Date Units Matrix Analyte	PADEP SHS Residential MSCs for Direct Contact	PADEP SHS Non-Residential MSCs for Direct Contact		PADEP SHS Non-Residential MSCs Soil to GW for Used Aquifers TDS≤2500 100 X GW MSC mg/kg Soil	PADEP Clean Fill Concentration Limits mg/kg Soil	PADEP Non-Residential Action Levels for Reuse of Soil on UST Sites (Water Encountered) mg/kg Soil	PADEP Beneficial Use of Regulated Fill Concentration Limits mg/kg Soil	REI-GP06-S002		REI-GP07-S001		REI-GP07-S002		REI-GP08-S001	
	(0 - 15 feet)	(0-2 feet)	(2-15 feet)					5.6 - 7.6	0.0 - 2.0	5.0 - 6.5	0.0 - 2.0				
	(0 - 15 feet)	(0-2 feet)	(2-15 feet)					12/1/2017	12/1/2017	12/1/2017	12/1/2017	12/1/2017	12/1/2017	12/1/2017	12/1/2017
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Volatile Organic Compounds (VOCs)															
Benzene	57	290	330	0.5	0.13	0.5	0.13	0.00050	U Q3	0.00050	U Q3	0.00060	U Q3	0.00050	U Q3
Ethylbenzene	180	890	1,000	70	46	70	46	0.0010	U	0.0010	U	0.0010	U	0.0010	U
Isopropylbenzene	7,700	10,000	10,000	350	780	350	1,600	0.0010	U	0.0010	U	0.0010	U	0.0010	U
Naphthalene	160	760	190,000	10	25	10	25	0.0010	U Q2	0.0010	U Q2	0.0010	U Q2 Q9	0.0010	U Q2 Q9
Toluene	10,000	10,000	10,000	100	44	100	44	0.0010	U Q3	0.0010	U Q3	0.0010	U Q3	0.0010	U Q3
1,2,4-Trimethylbenzene	130	560	640	6.2	9	6.2	20	0.0010	U Q3	0.0010	U Q3	0.0010	U Q3	0.0010	U Q3
1,3,5-Trimethylbenzene	2,200	10,000	10,000	120	2.8	120	6.2	0.0010	U Q3	0.0010	U Q3	0.0010	U Q3	0.0010	U Q3
Xylene (Total)	1,900	8,000	9,100	1,000	990	1,000	990	0.0010	U	0.0010	U	0.0010	U	0.0010	U
No other Shortlist VOCs were detected above the laboratory method detection limits.															
Polychlorinated Biphenyls (PCBs)															
PCB-1260	9	46	190,000	0.17	30	nca	130	0.0052	U D2 Q3	0.11	D2 Q3	0.0085	J P D2 Q3	0.13	D2 Q3
No other PCBs were detected above the laboratory method detection limits.															
Metals															
Arsenic	12	61	190,000	1	12	nca	53	9.52		8.8		10.1		6.75	
Beryllium	440	6,400	190,000	0.4	320	nca	320	0.80		0.60		0.60		0.74	
Chromium VI	4	220	20,000	10	94	nca	190	23.9*	Q3	19.2*	Q3	20.0*	Q3	27.7*	Q3
Copper	8,100	120,000	190,000	100	8,200	nca	36,000	26.2	Q3	26.9	Q3	13.5	Q3	28.2	Q3
Lead	500	1,000	190,000	0.5	450	45	450	16.2	Q3 Q9	41.2	Q3 Q9	13.4	Q3 Q9	39.8	Q3 Q9
Nickel	4,400	64,000	190,000	10	650	nca	650	36.1		27.9		27.4		32.1	
Zinc	66,000	190,000	190,000	200	12,000	nca	12,000	83.8	Q2 Q8 Q9	142	Q2 Q8 Q9	67.2	Q2 Q8 Q9	127	Q2 Q8 Q9
Mercury	35	510	190,000	0.2	10	nca	10	0.026	J	0.021	J	0.022	J	0.026	J
No other metals were detected above the laboratory method detection limits.															
pH (Std. Units)															
pH	nca	nca	nca	nca	nca	nca	nca	8.2		8.4		7.5		8.2	

Notes:
All concentrations are displayed in milligrams per kilogram (mg/kg).
* - Concentration exceed PADEP Residential MSCs for Direct Contact.
Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for Direct Contact.
Orange Text - Concentration exceeds PADEP Non-Residential MSCs for Soil to Groundwater.
Bolded - Concentration exceeds PADEP Clean Fill Concentration Limits.
Underlined - Concentration exceeds PADEP Action Levels for Soil Reuse on UST Sites.
Italicized - Concentration exceeds PADEP Beneficial Use of Regulated Fill Concentration Limits.
MSC - Medium Specific Concentration.
PADEP - Pennsylvania Department of Environmental Protection.
TDS - Total Dissolved Solids.
SHS - Statewide Health Standard.
UST - Underground Storage Tank.
D2 - Indicates for dual column analyses that the result is reported from column 2.
J - The concentration is an approximate value.
NA - Not Analyzed.
nca - No criteria available.
U - Analyte was not detected above the laboratory method detection limit.
Q2 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Low.
Q3 - MS/MSD High.
Q8 - Duplicate (DUP) Relative Percent Difference (RPD).
Q9 - MS/MSD RPD.

TABLE 13
Soil Analytical Data Summary
Rinehart EM, Inc.
Stroudsburg, Pennsylvania

Sample ID Sample Depth (ft-ft bgs) Sampling Date Units Matrix Analyte	PADEP SHS Residential MSCs for Direct Contact	PADEP SHS Non-Residential MSCs for Direct Contact		PADEP SHS Non-Residential MSCs Soil to GW for Used Aquifers TDS≤2500 100 X GW MSC mg/kg Soil	PADEP Clean Fill Concentration Limits mg/kg Soil	PADEP Non-Residential Action Levels for Reuse of Soil on UST Sites (Water Encountered) mg/kg Soil	PADEP Beneficial Use of Regulated Fill Concentration Limits mg/kg Soil	REI-GP08-S002		REI-GP08-S301	
	(0 - 15 feet)	(0-2 feet)	(2-15 feet)					5.0 - 6.6	Trip Blank		
	mg/kg Soil	mg/kg Soil	mg/kg Soil					12/1/2017	mg/kg Soil	12/1/2017	mg/kg Soil
Volatile Organic Compounds (VOCs)											
Benzene	57	290	330	0.5	0.13	0.5	0.13	0.00050	U Q3	0.0005	U Q3
Ethylbenzene	180	890	1,000	70	46	70	46	0.0010	U	0.001	U
Isopropylbenzene	7,700	10,000	10,000	350	780	350	1,600	0.0010	U	0.001	U
Naphthalene	160	760	190,000	10	25	10	25	0.0010	U Q2 Q9	0.001	U Q2 Q9
Toluene	10,000	10,000	10,000	100	44	100	44	0.0010	U Q3	0.001	U Q3
1,2,4-Trimethylbenzene	130	560	640	6.2	9	6.2	20	0.0010	U Q3	0.001	U Q3
1,3,5-Trimethylbenzene	2,200	10,000	10,000	120	2.8	120	6.2	0.0010	U Q3	0.001	U Q3
Xylene (Total)	1,900	8,000	9,100	1,000	990	1,000	990	0.0010	U	0.001	U
No other Shortlist VOCs were detected above the laboratory method detection limits.											
Polychlorinated Biphenyls (PCBs)											
PCB-1260	9	46	190,000	0.17	30	nca	130	0.0054	U D2 Q3	NA	NA
No other PCBs were detected above the laboratory method detection limits.											
Metals											
Arsenic	12	61	190,000	1	12	nca	53	6.9			NA
Beryllium	440	6,400	190,000	0.4	320	nca	320	0.35	J		NA
Chromium VI	4	220	20,000	10	94	nca	190	9.7*	Q3		NA
Copper	8,100	120,000	190,000	100	8,200	nca	36,000	15.2	Q3		NA
Lead	500	1,000	190,000	0.5	450	45	450	9.0	Q3 Q9		NA
Nickel	4,400	64,000	190,000	10	650	nca	650	17.5			NA
Zinc	66,000	190,000	190,000	200	12,000	nca	12,000	39.8	Q2 Q8 Q9		NA
Mercury	35	510	190,000	0.2	10	nca	10	0.02	J		NA
No other metals were detected above the laboratory method detection limits.											
pH (Std. Units)											
pH	nca	nca	nca	nca	nca	nca	nca	7.7			NA

Notes:

- All concentrations are displayed in milligrams per kilogram (mg/kg).
- * - Concentration exceed PADEP Residential MSCs for Direct Contact.
- Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for Direct Contact.
- Orange Text - Concentration exceeds PADEP Non-Residential MSCs for Soil to Groundwater.
- Bolded - Concentration exceeds PADEP Clean Fill Concentration Limits.
- Underlined - Concentration exceeds PADEP Action Levels for Soil Reuse on UST Sites.
- Italicized - Concentration exceeds PADEP Beneficial Use of Regulated Fill Concentration Limits.
- MSC - Medium Specific Concentration.
- PADEP - Pennsylvania Department of Environmental Protection.
- TDS - Total Dissolved Solids.
- SHS - Statewide Health Standard.
- UST - Underground Storage Tank.
- D2 - Indicates for dual column analyses that the result is reported from column 2.
- J - The concentration is an approximate value.
- NA - Not Analyzed.
- nca - No criteria available.
- U - Analyte was not detected above the laboratory method detection limit.
- Q2 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Low.
- Q3 - MS/MSD High.
- Q8 - Duplicate (DUP) Relative Percent Difference (RPD).
- Q9 - MS/MSD RPD.

TABLE 14
Groundwater Analytical Data Summary
Rinehart EM, Inc.
Stroudsburg, Pennsylvania

Sample ID	PADEP SHS Non- Residential MSCs for Groundwater Used Aquifer TDS <= 2500	PADEP Water Action Levels at UST Closure Sites	REI-GP01-W001	REI-GP02-W001	REI-GP02-W101	REI-GP04-W001
Screen Depth (ft - ft bgs)			10.0 - 15.0	10.0 - 15.0	10.0 - 15.0	10.0 - 15.0
Sample Date			12/1/2017	12/1/2017	12/1/2017	12/1/2017
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Matrix	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Analyte						
Volatile Organic Compounds (VOCs)						
Xylene (Total)	10,000	10,000	0.70 J	0.50 U	0.50 U	0.50 U
No other VOCs were detected above the laboratory method detection limits.						
Polychlorinated Biphenyls (PCBs)						
No PCBs were detected above the laboratory method detection limits.						
Metals						
Arsenic	10	nca	NA	75.5 J	103	121 Q8
Beryllium	4	nca	NA	18.6 J	19.2 J	5.2
Cadmium	5	nca	NA	9 U	9 U	2.6 J
Chromium	100	nca	NA	100	63.5 J	160
Copper	1,000	nca	NA	1,330	1,610	238
Lead	5	5	NA	565	577	261 Q8
Nickel	100	nca	NA	267	259	196
Selenium	50	nca	NA	46.5 U	46.5 U	12.4 J
Thallium	2	nca	NA	68.5 U	68.5 U	13.7 U
Zinc	2,000	nca	NA	802	750	494
Mercury	2	nca	NA	0.050 U	0.050 U	0.41
No other metals were detected above the laboratory method detection limits.						
pH (Std. Units)						
pH	nca	nca	NA	7.0	7.1	6.6

Notes:

- All concentrations are displayed in micrograms per liter (µg/L).
- Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for a Used Aquifer.
- Bolded - Concentration exceeds PADEP Water Action Levels at UST Closure Sites.
- MSC - Medium Specific Concentration.
- PADEP - Pennsylvania Department of Environmental Protection.
- SHS - Statewide Health Standard.
- TDS - Total Dissolved Solids.
- UST - Underground Storage Tank.
- NA - Not analyzed.
- nca - No criteria available.
- J - The concentration is an approximate value.
- U - Analyte was not detected above the laboratory method detection limit.
- Q8 - Duplicate (DUP) Relative Percent Difference (RPD).

TABLE 14
Groundwater Analytical Data Summary
Rinehart EM, Inc.
Stroudsburg, Pennsylvania

Sample ID	PADEP SHS Non- Residential MSCs for Groundwater Used Aquifer TDS <= 2500	REI-GP07-W001	REI-GP08-W301
Screen Depth (ft - ft bgs)		10.0 - 15.0	Trip Blank
Sample Date		12/1/2017	12/1/2017
Units	µg/L	µg/L	µg/L
Matrix	Groundwater	Groundwater	Groundwater
Analyte			
Volatile Organic Compounds (VOCs)			
Xylene (Total)	10,000	0.90 J	0.5 U
No other VOCs were detected above the laboratory method detection limits.			
Polychlorinated Biphenyls (PCBs)			
No PCBs were detected above the laboratory method detection limits.			
Metals			
Arsenic	10	127 Q8	NA
Beryllium	4	4.2 J	NA
Cadmium	5	2.8 J	NA
Chromium	100	119	NA
Copper	1,000	121	NA
Lead	5	122 Q8	NA
Nickel	100	151	NA
Selenium	50	23.4	NA
Thallium	2	25.7 J	NA
Zinc	2,000	343	NA
Mercury	2	0.21	NA
No other metals were detected above the laboratory method detection limits.			
pH (Std. Units)			
pH	nca	6.8	NA

Notes:

- All concentrations are displayed in micrograms per liter (µg/L).
- Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for a Used Aquifer.
- Bolded - Concentration exceeds PADEP Water Action Levels at UST Closure Sites.
- MSC - Medium Specific Concentration.
- PADEP - Pennsylvania Department of Environmental Protection.
- SHS - Statewide Health Standard.
- TDS - Total Dissolved Solids.
- UST - Underground Storage Tank.
- NA - Not analyzed.
- nca - No criteria available.
- J - The concentration is an approximate value.
- U - Analyte was not detected above the laboratory method detection limit.
- Q8 - Duplicate (DUP) Relative Percent Difference (RPD).

TABLE 15
Soil Analytical Data Summary
Perfection Shoe Machinery Company
Stroudsburg, Pennsylvania

Sample ID	PADEP SHS Residential MSCs for Direct Contact	PADEP SHS Non-Residential MSCs for Direct Contact		PADEP SHS Non-Residential MSCs Soil to GW for Used Aquifers TDS≤2500	PADEP Clean Fill Concentration Limits	PADEP Beneficial Use of Regulated Fill Concentration Limits	PSC-GP01-S001	PSC-GP01-S002	PSC-GP02-S001	PSC-GP02-S002	PSC-GP03-S001	PSC-GP03-S002		
	Sample Depth (ft-ft bgs)	(0 - 15 feet)	(0 - 2 feet)				(2 - 15 feet)	0.0 - 1.0	5.0 - 7.0	0.0 - 2.0	5.5 - 7.5	0.0 - 2.0	5.0 - 7.0	
Sampling Date							12/3/2018	12/3/2018	12/3/2018	12/3/2018	12/3/2018	12/3/2018		
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil		
Analyte														
TCL Volatile Organic Compounds (VOCs)														
Acetone	10,000	10,000	10,000	10,000	41	110	0.14		0.014	J	0.29	0.034	0.22	0.044
Benzene	57	290	330	0.5	0.13	0.13	0.001	J	0.0004	U	0.0005	U	0.0004	U Q3
2-Butanone (Methyl Ethyl Ketone)	570	2,400	2,800	400	54	110	0.004	J	0.0009	U	0.022	0.002	J	0.016
Carbon Disulfide	10,000	10,000	10,000	620	160	350	0.088		0.0004	U	0.003	J	0.0004	U
Methyl Acetate	10,000	10,000	10,000	10,000	690	1,900	0.002	U	0.0009	U	0.003	J	0.001	U
4-Methyl-2-pentanone	10,000	10,000	10,000	930	2.9	6.3	0.002	U	0.0009	U	0.003	J	0.001	U
Toluene	10,000	10,000	10,000	100	44	44	0.0006	J	0.0003	U	0.0007	J	0.0003	U
1,2,4-Trimethylbenzene	130	560	640	6.2	9	20	0.0009	U	0.0005	U	0.0007	U	0.0006	U
No other TCL VOCs were detected above the laboratory method detection limits.														
TCL Semivolatile Organic Compounds (SVOCs)														
Acenaphthene	13,000	190,000	190,000	380	2,700	4,700	0.004	U	0.004	U	0.005	U	0.004	U
Acenaphthylene	13,000	190,000	190,000	700	2,500	6,900	0.006	J	0.004	U	0.005	U	0.004	U
Acetophenone	10,000	10,000	10,000	1,200	200	540	0.029	U	0.025	U	0.034	U	0.029	U
Anthracene	66,000	190,000	190,000	6.6	350	350	0.006	J	0.004	U	0.005	U	0.004	U
Benzo(a)anthracene	6	130	190,000	0.49	25	110	0.019	J	0.004	U	0.016	J	0.004	U
Benzo(a)pyrene	0.58	12	190,000	0.02	3	11	0.017	J	0.007	U	0.022	J	0.007	U
Benzo(b)fluoranthene	3.5	76	190,000	0.12	25	110	0.036		0.004	J	0.038		0.004	J
Benzo(g,h,i)perylene	13,000	190,000	190,000	0.026	180	180	0.013	J	0.007	U	0.026		0.007	U
Benzo(k)fluoranthene	4	76	190,000	0.055	250	610	0.012	J	0.004	U	0.017	J	0.004	J
1,1'-Biphenyl	2,300	11,000	190,000	43	790	2,200	0.020	U	0.018	U	0.024	U	0.018	U
Carbazole	930	4,600	190,000	17	21	83	0.020	U	0.018	U	0.024	U	0.018	U
4-Chloroaniline	93	460	190,000	1.7	19	19	0.041	U	0.035	U	0.049	U	0.035	U
Chrysene	35	760	190,000	0.19	230	230	0.040	U	0.004	U	0.022	J	0.004	U
Dibenz(a,h)anthracene	1	22	190,000	0.06	3	11	0.007	J	0.004	U	0.007	J	0.004	U
Dibenzofuran	220	3,200	190,000	12	nca	nca	0.020	U	0.018	U	0.024	U	0.018	U
Fluoranthene	8,800	130,000	190,000	26	3,200	3,200	0.035		0.004	J	0.028		0.004	U
Fluorene	8,800	130,000	190,000	190	3,000	3,800	0.004	U	0.004	U	0.005	U	0.004	U
Indeno(1,2,3-cd)pyrene	3.5	76	190,000	0.28	25	1,200	0.010	J	0.007	U	0.017	J	0.007	U
2-Methylnaphthalene	880	13,000	190,000	47	2,900	8,000	0.013	J	0.011	U	0.015	U	0.011	U
Naphthalene	160	760	190,000	10	25	25	0.015	J	0.007	U	0.033		0.007	U
2-Nitroaniline	2,200	32,000	190,000	120	19	0.1	0.025	U	0.021	U	0.029	U	0.021	U
Phenanthrene	66,000	190,000	190,000	110	10,000	10,000	0.028		0.006	J	0.014	J	0.004	U
Pyrene	6,600	96,000	190,000	13	2,200	2,200	0.035		0.004	U	0.031		0.004	U
2,4,6-Trichlorophenol	220	3,200	190,000	12	3	8.9	0.025	U	0.021	U	0.029	U	0.021	U
No other TCL SVOCs were detected above the laboratory method detection limits.														

Notes:
All concentrations are displayed in milligrams per kilogram (mg/kg) unless noted otherwise.
Underlined - Concentration exceed PADEP Residential MSCs for Direct Contact.
Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for Direct Contact.
Orange Text - Concentration exceeds PADEP Non-Residential MSCs for Soil to Groundwater.
Bolded - Concentration exceeds PADEP Clean Fill Concentration Limits.
Italicized - Concentration exceeds PADEP Beneficial Use of Regulated Fill Concentration Limits.
MSC - Medium Specific Concentration.
PADEP - Pennsylvania Department of Environmental Protection.
SHS - Statewide Health Standard.
TDS - Total Dissolved Solids.
U - Analyte was not detected above the laboratory method detection limit.
Q2 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Low.
Q8 - Duplicate (DUP) Relative Percent Difference (RPD).
Q9 - MS/MSD RPD.
B - Detection in the Blank. J - The concentration is an approximate value.
NA - Not analyzed. nca - No criteria available.

TABLE 15
Soil Analytical Data Summary
Perfection Shoe Machinery Company
Stroudsburg, Pennsylvania

Sample ID	PADEP SHS Residential MSCs for Direct Contact	PADEP SHS Non-Residential MSCs for Direct Contact		PADEP SHS Non-Residential MSCs Soil to GW for Used Aquifers TDS≤2500	PADEP Clean Fill Concentration Limits	PADEP Beneficial Use of Regulated Fill Concentration Limits	PSC-GP01-S001	PSC-GP01-S002	PSC-GP02-S001	PSC-GP02-S002	PSC-GP03-S001	PSC-GP03-S002
	(0 - 15 feet)	(0 - 2 feet)	(2 - 15 feet)				0.0 - 1.0	5.0 - 7.0	0.0 - 2.0	5.5 - 7.5	0.0 - 2.0	5.0 - 7.0
Sample Depth (ft-ft bgs)												
Sampling Date	(0 - 15 feet)	(0 - 2 feet)	(2 - 15 feet)				12/3/2018	12/3/2018	12/3/2018	12/3/2018	12/3/2018	12/3/2018
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Analyte												
Polychlorinated Biphenyls (PCBs)												
No PCBs were detected above the laboratory method detection limits.												
Priority Pollutant List (PPL) Metals												
Arsenic	12	61	190,000	1	12	53	8.6	3.7 J	5.2 J	4.1 J	4.9 J	6.6
Beryllium	440	6,400	190,000	0.4	320	320	0.87	0.72	0.80	0.77	0.61	0.63
Cadmium	110	1,600	190,000	0.5	38	38	0.12 U	0.078 U	0.11 U	0.085 U	0.12 U	0.093 U
Chromium	4	220	20,000	10	94	190	26.4	20.8	24.9	20.8	16.9	20.9
Copper	8,100	120,000	190,000	100	8,200	36,000	28.6	17.9	27.4	16.1	18.1	17.2
Lead	500	1,000	190,000	0.5	450	450	22.7	11.7	19.2	12.4	55.9 Q2Q8	15.7
Nickel	4,400	64,000	190,000	10	650	650	38.0	28.8	34.6	34.5	19.2	27.1
Selenium	1,100	16,000	190,000	5	26	26	5.7 J	3.3 J	4.7 J	3.5 J	3.5 J	4.3 J
Silver	1,100	16,000	190,000	10	84	84	0.61 J	0.31 J	0.45 U	0.34 U	0.47 U	0.37 U
Thallium	2	32	190,000	0.2	14	14	1.4 J	0.70 U	1.5 J	0.76 U	1.1 U	1.2 J
Zinc	66,000	190,000	190,000	200	12,000	12,000	150 B	76.6 B	126 B	69.6	88.5 B	67.8 B
No other PPL Metals were detected above the laboratory method detection limits.												

Notes:
All concentrations are displayed in milligrams per kilogram (mg/kg) unless noted otherwise.
Underlined - Concentration exceed PADEP Residential MSCs for Direct Contact.
Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for Direct Contact.
Orange Text - Concentration exceeds PADEP Non-Residential MSCs for Soil to Groundwater.
Bolded - Concentration exceeds PADEP Clean Fill Concentration Limits.
Italicized - Concentration exceeds PADEP Beneficial Use of Regulated Fill Concentration Limits.
MSC - Medium Specific Concentration.
PADEP - Pennsylvania Department of Environmental Protection.
SHS - Statewide Health Standard.
TDS - Total Dissolved Solids.
U - Analyte was not detected above the laboratory method detection limit.
Q2 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Low.
Q8 - Duplicate (DUP) Relative Percent Difference (RPD).
Q9 - MS/MSD RPD.
B - Detection in the Blank. J - The concentration is an approximate value.
NA - Not analyzed. nca - No criteria available.

TABLE 15
Soil Analytical Data Summary
Perfection Shoe Machinery Company
Stroudsburg, Pennsylvania

Sample ID	PADEP SHS Residential MSCs for Direct Contact		PADEP SHS Non-Residential MSCs for Direct Contact		PADEP SHS Non-Residential MSCs Soil to GW for Used Aquifers TDS≤2500	PADEP Clean Fill Concentration Limits	PADEP Beneficial Use of Regulated Fill Concentration Limits	PSC-GP04-S001		PSC-GP04-S002		PSC-GP05-S001		PSC-GP05-S101		PSC-GP05-S002		PSC-GP06-S001		
	Sample Depth (ft-ft bgs)	(0 - 15 feet)	(0 - 2 feet)	(2 - 15 feet)				0.0 - 2.0	2.0 - 3.0	0.0 - 2.0	0.0 - 2.0	8.0 - 10.0	0.0 - 1.5							
Sampling Date	(0 - 15 feet)		(0 - 2 feet)	(2 - 15 feet)																
Units	mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
Matrix	Soil		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Analyte																				
TCL Volatile Organic Compounds (VOCs)																				
Acetone	10,000	10,000	10,000	10,000	10,000	41	110	0.097		0.075		0.017	J	0.012	J	0.29	U	0.046		
Benzene	57	290	330	0.5	0.13	0.13	0.13	0.0004	U	0.0004	U	0.0005	U	0.0005	U	0.019	U	0.0006	U	
2-Butanone (Methyl Ethyl Ketone)	570	2,400	2,800	400	54	110	110	0.009	J	0.006	J	0.001	J	0.001	U	0.048	U	0.002	U	
Carbon Disulfide	10,000	10,000	10,000	620	160	350	350	0.0004	U	0.001	J	0.001	J	0.002	J	0.019	U	0.0006	U	
Methyl Acetate	10,000	10,000	10,000	10,000	690	1,900	1,900	0.0009	U	0.001	U	0.001	U	0.001	U	0.048	U	0.002	U	
4-Methyl-2-pentanone	10,000	10,000	10,000	930	2.9	6.3	6.3	0.0009	U	0.001	U	0.001	U	0.001	U	0.048	U	0.002	U	
Toluene	10,000	10,000	10,000	100	44	44	44	0.0003	U	0.0003	U	0.0004	U	0.0003	U	0.020	J	0.0005	U	
1,2,4-Trimethylbenzene	130	560	640	6.2	9	20	20	0.0007	J	0.0006	U	0.0008	U	0.0007	U	0.029	U	0.0009	U	
No other TCL VOCs were detected above the laboratory method detection limits.																				
TCL Semivolatile Organic Compounds (SVOCs)																				
Acenaphthene	13,000	190,000	190,000	380	2,700	4,700	4,700	0.004	U	0.004	U	0.009	J	0.004	U	0.004	U	0.049	J	
Acenaphthylene	13,000	190,000	190,000	700	2,500	6,900	6,900	0.012	J	0.01	J	0.15		0.078		0.024		2		
Acetophenone	10,000	10,000	10,000	1,200	200	540	540	0.026	U	0.026	U	0.027	U	0.027	U	0.025	U	0.16	U	
Anthracene	66,000	190,000	190,000	6.6	350	350	350	0.006	J	0.006	J	0.13		0.047		0.016	J	0.77		
Benzo(a)anthracene	6	130	190,000	0.49	25	110	110	0.022		0.02		0.3		0.12		0.004	U	4.6		
Benzo(a)pyrene	0.58	12	190,000	0.02	3	11	11	0.026		0.027		0.35		0.14		0.007	U	4.3		
Benzo(b)fluoranthene	3.5	76	190,000	0.12	25	110	110	0.04		0.048		0.6		0.23		0.004	U	6.2		
Benzo(g,h,i)perylene	13,000	190,000	190,000	0.026	180	180	180	0.022		0.027		0.35		0.14		0.007	U	2.8		
Benzo(k)fluoranthene	4	76	190,000	0.055	250	610	610	0.018	J	0.017	J	0.23		0.096		0.004	U	2.4		
1,1'-Biphenyl	2,300	11,000	190,000	43	790	2,200	2,200	0.019	U	0.019	U	0.019	U	0.019	U	0.032	J	0.11	U	
Carbazole	930	4,600	190,000	17	21	83	83	0.019	U	0.019	U	0.084		0.033	J	0.018	U	0.17	J	
4-Chloroaniline	93	460	190,000	1.7	19	19	19	0.037	U Q9	0.037	U	0.039	U	0.039	U	0.036	U	0.23	U	
Chrysene	35	760	190,000	0.19	230	230	230	0.025		0.032		0.4		0.18		0.004	U	4.5		
Dibenz(a,h)anthracene	1	22	190,000	0.06	3	11	11	0.006	J	0.008	J	0.08		0.035		0.004	U	0.79		
Dibenzofuran	220	3,200	190,000	12	nca	nca	nca	0.019	U	0.019	U	0.037	J	0.019	U	0.022	J	0.11	U	
Fluoranthene	8,800	130,000	190,000	26	3,200	3,200	3,200	0.031		0.029		0.68		0.25		0.004	J	5.6		
Fluorene	8,800	130,000	190,000	190	3,000	3,800	3,800	0.004	U	0.004	U	0.03		0.013	J	0.004	U	0.15		
Indeno(1,2,3-cd)pyrene	3.5	76	190,000	0.28	25	1,200	1,200	0.019		0.022		0.3		0.12		0.007	U	2.7		
2-Methylnaphthalene	880	13,000	190,000	47	2,900	8,000	8,000	0.011	U	0.011	U	0.036	J	0.024	J	0.026	J	0.068	U	
Naphthalene	160	760	190,000	10	25	25	25	0.007	U	0.007	U	0.043		0.022		0.01	J	0.13		
2-Nitroaniline	2,200	32,000	190,000	120	19	0.1	0.1	0.022	U	0.022	U	0.023	U	0.023	U	0.023	J	0.14	U	
Phenanthrene	66,000	190,000	190,000	110	10,000	10,000	10,000	0.017	J	0.013	J	0.64		0.22		0.072		1.3		
Pyrene	6,600	96,000	190,000	13	2,200	2,200	2,200	0.031		0.031		0.63		0.24		0.011	J	6		
2,4,6-Trichlorophenol	220	3,200	190,000	12	3	8.9	8.9	0.022	U	0.022	U	0.023	U	0.023	U	0.022	J	0.14	U	
No other TCL SVOCs were detected above the laboratory method detection limits.																				

Notes:
All concentrations are displayed in milligrams per kilogram (mg/kg) unless noted otherwise.
Underlined - Concentration exceed PADEP Residential MSCs for Direct Contact.
Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for Direct Contact.
Orange Text - Concentration exceeds PADEP Non-Residential MSCs for Soil to Groundwater.
Bolded - Concentration exceeds PADEP Clean Fill Concentration Limits.
Italicized - Concentration exceeds PADEP Beneficial Use of Regulated Fill Concentration Limits.
MSC - Medium Specific Concentration.
PADEP - Pennsylvania Department of Environmental Protection.
SHS - Statewide Health Standard.
TDS - Total Dissolved Solids.
U - Analyte was not detected above the laboratory method detection limit.
Q2 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Low.
Q8 - Duplicate (DUP) Relative Percent Difference (RPD).
Q9 - MS/MSD RPD.
B - Detection in the Blank. J - The concentration is an approximate value.
NA - Not analyzed. nca - No criteria available.

TABLE 15
Soil Analytical Data Summary
Perfection Shoe Machinery Company
Stroudsburg, Pennsylvania

Sample ID	PADEP SHS Residential MSCs for Direct Contact	PADEP SHS Non-Residential MSCs for Direct Contact		PADEP SHS Non-Residential MSCs Soil to GW for Used Aquifers TDS≤2500	PADEP Clean Fill Concentration Limits	PADEP Beneficial Use of Regulated Fill Concentration Limits	PSC-GP04-S001	PSC-GP04-S002	PSC-GP05-S001	PSC-GP05-S101	PSC-GP05-S002	PSC-GP06-S001
	(0 - 15 feet)	(0 - 2 feet)	(2 - 15 feet)				0.0 - 2.0	2.0 - 3.0	0.0 - 2.0	0.0 - 2.0	8.0 - 10.0	0.0 - 1.5
Sample Depth (ft-ft bgs)							0.0 - 2.0	2.0 - 3.0	0.0 - 2.0	0.0 - 2.0	8.0 - 10.0	0.0 - 1.5
Sampling Date	(0 - 15 feet)	(0 - 2 feet)	(2 - 15 feet)				12/3/2018	12/3/2018	12/3/2018	12/3/2018	12/3/2018	12/3/2018
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Analyte												
Polychlorinated Biphenyls (PCBs)												
No PCBs were detected above the laboratory method detection limits.												
Priority Pollutant List (PPL) Metals												
Arsenic	12	61	190,000	1	12	53	4.9	2.9 J	3.6 J	4.7 J	6.5	8.7
Beryllium	440	6,400	190,000	0.4	320	320	0.39 J	0.51	0.68	0.60	0.81	0.53
Cadmium	110	1,600	190,000	0.5	38	38	0.085 U	0.095 U	0.21 J	0.12 J	0.10 U	0.32 J
Chromium	4	220	20,000	10	94	190	11.3	15.3	17.8	19.0	20.1	11.9
Copper	8,100	120,000	190,000	100	8,200	36,000	10.1	11.5	20.7	21.3	24.3	23.7
Lead	500	1,000	190,000	0.5	450	450	18.0	17.6	34.0	53.6	12.1	53.9
Nickel	4,400	64,000	190,000	10	650	650	13.1	17.8	21.9	22.7	33.4	16.3
Selenium	1,100	16,000	190,000	5	26	26	1.3 U	2.3 J	2.5 J	1.9 J	3.7 J	2.5 J
Silver	1,100	16,000	190,000	10	84	84	0.34 U	0.38 U	0.44 U	0.46 U	0.53 J	0.38 U
Thallium	2	32	190,000	0.2	14	14	0.77 U	0.85 U	1.0 U	1.0 J	1.4 J	0.86 U
Zinc	66,000	190,000	190,000	200	12,000	12,000	45.0 B	53.0 B	131 B	97.5 B	86.3 B	96.5 B
No other PPL Metals were detected above the laboratory method detection limits.												

Notes:
All concentrations are displayed in milligrams per kilogram (mg/kg) unless noted otherwise.
Underlined - Concentration exceed PADEP Residential MSCs for Direct Contact.
Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for Direct Contact.
Orange Text - Concentration exceeds PADEP Non-Residential MSCs for Soil to Groundwater.
Bolded - Concentration exceeds PADEP Clean Fill Concentration Limits.
Italicized - Concentration exceeds PADEP Beneficial Use of Regulated Fill Concentration Limits.
MSC - Medium Specific Concentration.
PADEP - Pennsylvania Department of Environmental Protection.
SHS - Statewide Health Standard.
TDS - Total Dissolved Solids.
U - Analyte was not detected above the laboratory method detection limit.
Q2 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Low.
Q8 - Duplicate (DUP) Relative Percent Difference (RPD).
Q9 - MS/MSD RPD.
B - Detection in the Blank. J - The concentration is an approximate value.
NA - Not analyzed. nca - No criteria available.

TABLE 15
Soil Analytical Data Summary
Perfection Shoe Machinery Company
Stroudsburg, Pennsylvania

Sample ID	PADEP SHS Residential MSCs for Direct Contact	PADEP SHS Non-Residential MSCs for Direct Contact		PADEP SHS Non-Residential MSCs Soil to GW for Used Aquifers TDS≤2500	PADEP Clean Fill Concentration Limits	PADEP Beneficial Use of Regulated Fill Concentration Limits	PSC-GP06-S002		PSC-GP06-S201		PSC-GP06-S301	
	(0 - 15 feet)	(0 - 2 feet)	(2 - 15 feet)				5.0 - 7.0	Equipment Blank	Trip Blank			
Sample Depth (ft-ft bgs)							12/3/2018	12/3/2018	12/3/2018			
Sampling Date												
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	µg/L	µg/L	µg/L		
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil		
Analyte												
TCL Volatile Organic Compounds (VOCs)												
Acetone	10,000	10,000	10,000	10,000	41	110	0.009	J	0.0008	U	0.0008	U
Benzene	57	290	330	0.5	0.13	0.13	0.0003	U	0.0002	U	0.0002	U
2-Butanone (Methyl Ethyl Ketone)	570	2,400	2,800	400	54	110	0.0008	U	0.001	U	0.001	U
Carbon Disulfide	10,000	10,000	10,000	620	160	350	0.0003	U	0.0003	U	0.0003	U
Methyl Acetate	10,000	10,000	10,000	10,000	690	1,900	0.0008	U	0.0006	U	0.0006	U
4-Methyl-2-pentanone	10,000	10,000	10,000	930	2.9	6.3	0.0008	U	0.0005	U	0.0005	U
Toluene	10,000	10,000	10,000	100	44	44	0.0003	U	0.0002	U	0.0002	U
1,2,4-Trimethylbenzene	130	560	640	6.2	9	20	0.0005	U	0.0003	U	0.0003	U
No other TCL VOCs were detected above the laboratory method detection limits.												
TCL Semivolatile Organic Compounds (SVOCs)												
Acenaphthene	13,000	190,000	190,000	380	2,700	4,700	0.004	U	0.0001	U	NA	
Acenaphthylene	13,000	190,000	190,000	700	2,500	6,900	0.004	U	0.0001	U	NA	
Acetophenone	10,000	10,000	10,000	1,200	200	540	0.027	U	0.004	U	NA	
Anthracene	66,000	190,000	190,000	6.6	350	350	0.004	U	0.0001	U	NA	
Benzo(a)anthracene	6	130	190,000	0.49	25	110	0.004	U	0.0001	U	NA	
Benzo(a)pyrene	0.58	12	190,000	0.02	3	11	0.008	U	0.0001	U	NA	
Benzo(b)fluoranthene	3.5	76	190,000	0.12	25	110	0.004	U	0.0001	U	NA	
Benzo(g,h,i)perylene	13,000	190,000	190,000	0.026	180	180	0.008	U	0.0001	U	NA	
Benzo(k)fluoranthene	4	76	190,000	0.055	250	610	0.004	U	0.0001	U	NA	
1,1'-Biphenyl	2,300	11,000	190,000	43	790	2,200	0.019	U	0.003	U	NA	
Carbazole	930	4,600	190,000	17	21	83	0.019	U	0.0005	U	NA	
4-Chloroaniline	93	460	190,000	1.7	19	19	0.038	U	0.004	U	NA	
Chrysene	35	760	190,000	0.19	230	230	0.004	U	0.0001	U	NA	
Dibenz(a,h)anthracene	1	22	190,000	0.06	3	11	0.004	U	0.0001	U	NA	
Dibenzofuran	220	3,200	190,000	12	nca	nca	0.019	U	0.0005	U	NA	
Fluoranthene	8,800	130,000	190,000	26	3,200	3,200	0.004	U	0.0001	U	NA	
Fluorene	8,800	130,000	190,000	190	3,000	3,800	0.004	U	0.0001	U	NA	
Indeno(1,2,3-cd)pyrene	3.5	76	190,000	0.28	25	1,200	0.008	U	0.0001	U	NA	
2-Methylnaphthalene	880	13,000	190,000	47	2,900	8,000	0.011	U	0.0001	U	NA	
Naphthalene	160	760	190,000	10	25	25	0.008	U	0.0001	U	NA	
2-Nitroaniline	2,200	32,000	190,000	120	19	0.1	0.023	U	0.002	U	NA	
Phenanthrene	66,000	190,000	190,000	110	10,000	10,000	0.004	U	0.0001	U	NA	
Pyrene	6,600	96,000	190,000	13	2,200	2,200	0.004	U	0.0001	U	NA	
2,4,6-Trichlorophenol	220	3,200	190,000	12	3	8.9	0.023	U	0.0005	U	NA	
No other TCL SVOCs were detected above the laboratory method detection limits.												

Notes:
All concentrations are displayed in milligrams per kilogram (mg/kg) unless noted otherwise.
Underlined - Concentration exceed PADEP Residential MSCs for Direct Contact.
Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for Direct Contact.
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Italicized - Concentration exceeds PADEP Beneficial Use of Regulated Fill Concentration Limits.
MSC - Medium Specific Concentration.
PADEP - Pennsylvania Department of Environmental Protection.
SHS - Statewide Health Standard.
TDS - Total Dissolved Solids.
U - Analyte was not detected above the laboratory method detection limit.
Q2 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Low.
Q8 - Duplicate (DUP) Relative Percent Difference (RPD).
Q9 - MS/MSD RPD.
B - Detection in the Blank. J - The concentration is an approximate value.
NA - Not analyzed. nca - No criteria available.

TABLE 15
Soil Analytical Data Summary
Perfection Shoe Machinery Company
Stroudsburg, Pennsylvania

Sample ID	PADEP SHS Residential MSCs for Direct Contact	PADEP SHS Non-Residential MSCs for Direct Contact		PADEP SHS Non-Residential MSCs Soil to GW for Used Aquifers TDS≤2500	PADEP Clean Fill Concentration Limits	PADEP Beneficial Use of Regulated Fill Concentration Limits	PSC-GP06-S002	PSC-GP06-S201	PSC-GP06-S301		
	(0 - 15 feet)	(0 - 2 feet)	(2 - 15 feet)				5.0 - 7.0	Equipment Blank	Trip Blank		
Sample Depth (ft-ft bgs)							12/3/2018	12/3/2018	12/3/2018		
Sampling Date											
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	µg/L	µg/L		
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil		
Analyte											
Polychlorinated Biphenyls (PCBs)											
No PCBs were detected above the laboratory method detection limits.											
Priority Pollutant List (PPL) Metals											
Arsenic	12	61	190,000	1	12	53	<u>12.1</u>	0.0100	U	NA	
Beryllium	440	6,400	190,000	0.4	320	320	<u>0.64</u>	0.0010	U	NA	
Cadmium	110	1,600	190,000	0.5	38	38	0.079	U	0.0010	U	NA
Chromium	4	220	20,000	10	94	190	<u>16.3</u>		0.0053	U	NA
Copper	8,100	120,000	190,000	100	8,200	36,000	16.3		0.0062	U	NA
Lead	500	1,000	190,000	0.5	450	450	<u>13.4</u>		0.0071	U	NA
Nickel	4,400	64,000	190,000	10	650	650	<u>24.8</u>		0.0031	U	NA
Selenium	1,100	16,000	190,000	5	26	26	3.4	J	0.021	U	NA
Silver	1,100	16,000	190,000	10	84	84	0.32	U	0.0050	U	NA
Thallium	2	32	190,000	0.2	14	14	<u>0.75</u>	J	0.0140	U	NA
Zinc	66,000	190,000	190,000	200	12,000	12,000	59.9	B	0.0030	U	NA
No other PPL Metals were detected above the laboratory method detection limits.											

Notes:

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 Shaded gray - Concentration exceeds PADEP Non-Residential MSCs for Direct Contact.
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 MSC - Medium Specific Concentration.
 PADEP - Pennsylvania Department of Environmental Protection.
 SHS - Statewide Health Standard.
 TDS - Total Dissolved Solids.
 U - Analyte was not detected above the laboratory method detection limit.
 Q2 - Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Low.
 Q8 - Duplicate (DUP) Relative Percent Difference (RPD).
 Q9 - MS/MSD RPD.
 B - Detection in the Blank. J - The concentration is an approximate value.
 NA - Not analyzed. nca - No criteria available.

TABLE 16
Groundwater Analytical Data Summary
Perfection Shoe Machinery Company
Stroudsburg, Pennsylvania

Sample ID	PADEP SHS Non-Residential MSCs for Groundwater	PSC-GP01-W001	PSC-GP02-W001	PSC-GP06-W001	PSC-GP06-W101	PSC-GP06-W201	PSC-GP06-W301
Screen Depth (ft - ft bgs)	Used Aquifer TDS ≤ 2500	5.0 - 10.0	5.0 - 10.0	5.0 - 10.0	5.0 - 10.0	Equipment Blank	Trip Blank
Sample Date		12/3/2018	12/3/2018	12/3/2018	12/3/2018	12/3/2018	12/3/2018
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Matrix	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Analyte							
Volatile Organic Compounds (VOCs)							
Chloroform	80	0.2 U	0.2 U	0.2 U	0.2 U	0.4 J	0.2 U
No other VOCs were detected above the laboratory method detection limits.							
Semivolatile Organic Compounds (SVOCs)							
No SVOCs were detected above the laboratory method detection limits.							
Polychlorinated Biphenyls (PCBs)							
No PCBs were detected above the laboratory method detection limits.							
Priority Pollutant List (PPL) Metals							
Nickel (Dissolved)	100	3.9 J	10.1	3.1 U	3.1 U	3.1 U	NA
Zinc (Dissolved)	2,000	3.0 U	5.4 J	3.0 U	3.0 U	3.0 U	NA
No other PPL Metals were detected above the laboratory method detection limits.							

Notes:

- All concentrations are displayed in micrograms per liter (µg/L).
- MSC - Medium Specific Concentration.
- PADEP - Pennsylvania Department of Environmental Protection.
- SHS - Statewide Health Standard.
- TDS - Total Dissolved Solids.
- J - The concentration is an approximate value.
- NA - Not analyzed.
- U - Analyte was not detected above the laboratory method detection limit.

APPENDICES

Appendix A

Correspondence

Appendix A.1

Memorandum

Memorandum

To: Lisa M. Brozey (AECOM)

From: Ken Hannon (BrightFields, Inc.)

CC: Victoria Bisbing (BrightFields, Inc.)
George H. Keli, CEM (AECOM)

Date: May 1, 2018

Re: **Response to Draft Phase III Environmental Site Assessment Report
Summary of Comments
SR 0080, Sec. 17M, I-80 Reconstruction Project
BrightFields file: 2895.01.51**

BrightFields has reviewed the comments to the Draft Phase III Environmental Site Assessment (ESA) Report for the SR 0080, Sec. 17M, I-80 Reconstruction Project provided by AECOM in the memorandum dated March 8, 2018. In response to these comments, BrightFields' ESA team met and developed the following responses to the comments. We incorporated the substance of these responses in a revised Phase III ESA Report dated May 2018.

General

Universal change – revise “spreading footing” to “spread footings”

BrightFields has revised the text to use the term “spread footings” in place of the term “spreading footing”.

Section 1.2.2

“More recently, Biobuffer Solutions, Inc. operated in the former Pocono Foundry facility.” Comment - Is the company currently at this location?

The Biobuffer Solutions, Inc. company is no longer operating at this location. The facility closed on January 31, 2012.

Section 1.2.8

“The maximum depth of disturbance for interchange reconstruction/reconfiguration, ramp demolition/construction, widening/realignment of W. Main Street, and retaining wall construction is anticipated to be 10 feet bgs for spreading footing and 45 feet bgs for pile foundation.” Comment - Shouldn't the borings be advanced to a depth similar to what would be the bottom of the potential UST and anomaly areas?

BrightFields recommended that the borings be advanced to a depth similar to the proposed construction activities in order to address soil and groundwater management, environmental health, and worker safety during construction activities for all sites. Samples were collected from shallow soil (0-2 feet below ground surface) and from the deepest part of a boring or where contamination is indicated.

Section 2.1/2.2

Revise to add decontamination protocol used during field sampling activities.

Section 2.1 and 2.2 have been revised to add decontamination protocol used during field sampling activities.

Section 3.4

“The soil samples were analyzed for VOCs and SVOCs. The analytical results are discussed in Section 4.4.” Comment - Do we know what types of chemicals were manufactured at the site?

BrightFields provided four Draft Phase I ESA Reports between November 2014 and January 2017, the final Draft Phase I ESA Report in July 2017, and two Draft Field Sampling Plans. These documents included the recommendation to analyze for VOCs and SVOCs at the Former Research Laboratory/Chemical Plant. The type of chemicals manufactured at the site were not identified in the Phase I ESA research.

Section 3.8

“The soil and groundwater samples were analyzed for PADEP short list parameters for leaded and unleaded gasoline, PPL metals, pH, and PCBs, except for the following:” Comment - Based on the former use of the site as a salvage yard, I would have anticipated that VOCs, PAH's and oil/grease at a minimum and possibly glycols would be requested as analytical parameters.

VOC's were included as part of the analysis completed for the Rinehart EM, Inc. site. BrightFields also recommended PHC analysis (PAHs) in the Draft Phase I ESA Report dated April 2015. PennDOT subsequently provided a memorandum dated May 22, 2015 which stated *“PHC” is an obsolete terminology, and does not have any health-based recommendation or clean-up standard associated with it. Consequently, analytical*

results relative to PHC are of no value. We recommend that the Consultant consider utilizing the appropriate PADEP Petroleum Short List based upon the documented Constituents of Concern, and then revise the sentence as appropriate. Following receipt of this request from PennDOT, BrightFields removed PHC analysis from the analytical list for the Rinehart EM, Inc. site.

Section 5.3

“The WMP and HASP should address all known contaminants that were identified during the Phase III ESA investigation.” Comment - Based on the former use of the Rinehart EM, Inc. site as a salvage yard, I would have included VOCs, PAH's and oil/grease at a minimum and possibly glycols as analytical parameters. These parameters can't, therefore, be identified as “known contaminants” (if impacts are shown) do to their exclusion from testing.

Noted.

If you have any questions or comments, please contact me at 302-656-9600.

Appendix A.2

Letter Regarding Potential Pollutants Coordination with PADEP

June 20, 2018

Mike Rebert, PE, District Executive
PennDOT, District 5-0
1002 Hamilton St
Allentown, PA 18101
Attention: Imtiaz Nathaniel, PE, Senior Project Manager

Reference: PennDOT Agreement No. E02656 Monroe County
MPMS 76357 – SR 0080 Section 17M I-80 Reconstruction

Subject: Potential Pollutants Coordination with PADEP

Dear Mr. Rebert:

In the course of our early coordination of the stormwater management design with Monroe County Conservation District (MCCD), they initiated potential site pollutant review of the supporting information which will be part of the future NPDES permit application submission. To continue the ongoing coordination, we respectfully request your concurrence on the following, prior to issuing a response to MCCD.

Drew Wagner of MCCD provided the attached comments on the proposed pollutant sampling plan, January 18, 2018. At the time that these sampling sites were laid out, the number of areas to be sampled conservatively included all areas which had potential for consideration as a basin site. Since the time of that sampling site layout, we have refined the basin conceptual layouts of the latest alternatives 2B and 2D to employ slow-release Basin BMPs to achieve volume credits, instead of relying solely on infiltration. This includes the presumption that slow-release basins with lined bottoms could be utilized on polluted sites without exacerbating the pollutant problems. This allows a significant reduction in overall conceptual basin footprint, which eliminates the need for some sample sites.

In addition to MCCD input, the November 7, 2017 letter from David Condo, PhD, SEMP Section/MTL Division, Bureau of Maintenance & Operations, provided additional input on the sampling plan. Reconciling the inputs received from MCCD and David Condo with the field sampling that has been performed to date, we request your concurrence on these proposed sampling plan updates:

- The addition of the Perfection Shoe Location, near exit 305, which is a historic site that was not previously identified in the Phase I ESA.
- Additional sampling sites to be added at the Pocono Gas Station Location. Additional sampling may be necessary if the property is determined to be a total take. No additional sampling sites are proposed at these locations at this time related to the stormwater basins.
 - Biobuffer Solutions, Inc./Pocono Foundry
 - Klingel Cleaners and West Main Street PCE Sites
 - Main Street Stop & Go

June 20, 2018

Agreement No. E02656 Monroe County

MPMS 76357 – SR 0080 Section 17M I-80 Reconstruction

Mike Rebert, PE, District Executive

Page 2

- Former Gas Station 440 Main St
- Former Research Laboratory/Chemical Plant
- Rinehart EM, Inc.

Prior to providing a response to MCCD, we request your concurrence on the following.

<i>MCCD Comment</i>	<i>AECOM Response</i>
<p><u>APS Recycling Location</u> Based on the information provided, the proposed sampling is acceptable.</p>	<p>Acknowledged.</p>
<p><u>Biobuffer Solutions, Inc./ Pocono Foundry</u> Four (4) soil and two (2) temporary monitoring well sampling locations is insufficient to characterize the area since the report indicates 2.1 acres will be disturbed and the stormwater basin will be constructed in this location. Please add additional locations to characterize the site.</p>	<p>In the current stormwater management conceptual layouts, a basin is no longer proposed at this site. No additional soil or temporary monitoring well locations will be added to the site for the purposes of the stormwater permit.</p>
<p><u>Former Gas Station 440 Main Street</u> Based on the information provided, the proposed sampling is acceptable.</p>	<p>Acknowledged.</p>
<p><u>Former Research Laboratory/Chemical Plant</u> - Based on the information provided, the proposed sampling is acceptable.</p>	<p>Acknowledged.</p>
<p><u>Klingel Cleaners and West Main Street PCE Sites</u> Two (2) soil sampling and monitoring well locations is insufficient to characterize the area. Please add additional locations to characterize at the Klingel Cleaners site and the West Main Street PCE Site. If groundwater and soil samples have elevated levels of contamination, the basin should be relocated.</p>	<p>In the current stormwater management conceptual layouts, a basin is neither proposed here nor is it likely to be a under consideration as a potential basin site to accommodate future design refinement. No soil or temporary monitoring well locations will be added to the site for the purposes of the stormwater permit.</p>
<p><u>Main Street Stop & Go</u> Three (3) soil and monitoring well sampling locations is insufficient to characterize the area. Please add additional locations to characterize the site. If groundwater and soil samples have elevated levels of contamination, the basin should be relocated.</p>	<p>In the current stormwater management conceptual layouts, a basin is no longer proposed at this site. No soil or temporary monitoring well locations will be added to the site for the purposes of the stormwater permit.</p>

June 20, 2018

Agreement No. E02656 Monroe County

MPMS 76357 – SR 0080 Section 17M I-80 Reconstruction

Mike Rebert, PE, District Executive

Page 3

<p><u>Pocono Gas Station</u> Two (2) soil and monitoring well sampling locations is insufficient to characterize the area. Please add additional locations to characterize the site.</p>	<p>Proposed sampling plan will be submitted to the District and Central Office for review prior to proceeding with sampling.</p>
<p><u>Rinehart EM, Inc.</u> Based on the information provided, the proposed sampling is acceptable.</p>	<p>Acknowledged.</p>

If you require additional information or have any questions regarding this matter, please do not hesitate to contact me at 215-789-2109.

Sincerely,

AECOM



Jaclyn Zarrella, PE
Senior Civil Engineer

cc: Jerry Neal, PennDOT District 5-0
John Bohman, PennDOT District 5-0
Steve Bruch, PennDOT District 5-0

From: Drew Wagner
To: [Zarella, Jaclyn](#); ["Nathaniel, Imtiaz"](#); ["Bohman, John D"](#); [Pam Kania](#)
Cc: [Cushman, Thomas](#); [Wright, Christopher](#); lkmccd@ptd.net; asmccd@ptd.net
Subject: I-80 Reconstruction SR 0080 Section 17M Potential Pollutants Preliminary Comments from DEP
Date: Thursday, January 18, 2018 2:07:05 PM

Jackie,

Please find below the preliminary comments on the potential pollutants information informally submitted to DEP for comment. Please consider the following as the design of the project is advanced. When a submission is made for a NPDES Permit, additional coordination will be necessary to satisfy the potential pollutants.

APS Recycling location

Based on the information provided, the proposed sampling is acceptable.

Biobuffer Solutions, Inc./ Pocono Foundry

Four (4) soil and two (2) temporary monitoring well sampling locations is insufficient to characterize the area since the report indicates 2.1 acres will be disturbed and the stormwater basin will be constructed in this location. Please add additional locations to characterize the site.

Former Gas Station 440 Main Street

Based on the information provided, the proposed sampling is acceptable.

Former Research Laboratory/Chemical Plant

Based on the information provided, the proposed sampling is acceptable.

Klingel Cleaners and West Main Street PCE Sites

Two (2) soil sampling and monitoring well locations is insufficient to characterize the area. Please add additional locations to characterize at the Klingel Cleaners site and the West Main Street PCE Site.

If groundwater and soil samples have elevated levels of contamination, the basin should be relocated.

Main Street Stop & Go

Three (3) soil and monitoring well sampling locations is insufficient to characterize the area. Please add additional locations to characterize the site.

If groundwater and soil samples have elevated levels of contamination, the basin should be relocated.

Pocono Gas Station

Two (2) soil and monitoring well sampling locations is insufficient to characterize the area. Please add additional locations to characterize the site.

Rinehart EM, Inc.

Based on the information provided, the proposed sampling is acceptable.

Appendix B

Site Photographs

Appendix B - Site Photographs
I-80 Reconstruction Project ♦ BrightFields File: 2895.01.51

PHOTOGRAPH 1



APS Recycling site: geoprobe rig set up to drill APS-GP09.

PHOTOGRAPH 2



APS Recycling site: temporary well installed at APS-GP09.

Appendix B - Site Photographs
I-80 Reconstruction Project ♦ BrightFields File: 2895.01.51



PHOTOGRAPH 3



APS Recycling site: drums and aboveground storage tanks (AST) observed.

PHOTOGRAPH 4



Biobuffer Solutions, Inc. site: located within Pocono Foundry Site, view to the west.

Appendix B - Site Photographs
I-80 Reconstruction Project ♦ BrightFields File: 2895.01.51

PHOTOGRAPH 5



Former Gas Station site: GPR mark out visible, geoprobe rig being set up.

PHOTOGRAPH 6



Former Research Laboratory site: geoprobe rig being set up.

Appendix B - Site Photographs
I-80 Reconstruction Project ♦ BrightFields File: 2895.01.51



PHOTOGRAPH 7



Klingel Cleaners and West Main Street PCE sites: view to the north.

PHOTOGRAPH 8



Klingel Cleaners and West Main Street PCE sites: Heating oil AST observed adjacent to Klingel Cleaners building, view to the east.

Appendix B - Site Photographs
I-80 Reconstruction Project ♦ BrightFields File: 2895.01.51

PHOTOGRAPH 9



Main Street Stop & Go site: view to the northeast.

PHOTOGRAPH 10



Main Street Stop and Go site: Monitoring well observed onsite, view to the northeast.

Appendix B - Site Photographs
I-80 Reconstruction Project ♦ BrightFields File: 2895.01.51

PHOTOGRAPH 11



Pocono Gas Station site: view to the northeast.

PHOTOGRAPH 12



Pocono Gas Station site: geoprobe rig being set up.

Appendix B - Site Photographs
I-80 Reconstruction Project ♦ BrightFields File: 2895.01.51

PHOTOGRAPH 13



Pocono Gas Station site: view of existing UST field.

PHOTOGRAPH 14



Pocono Gas Station site: Drums and AST observed behind garage building.

Appendix B - Site Photographs
I-80 Reconstruction Project ♦ BrightFields File: 2895.01.51

PHOTOGRAPH 15



Rinehart EM, Inc. site: geoprobe rig being set up.

PHOTOGRAPH 16



Rinehart EM, Inc. site: drums observed on-site.

Appendix B - Site Photographs
I-80 Reconstruction Project ♦ BrightFields File: 2895.01.51

PHOTOGRAPH 17



Perfection Shoe Machinery Company site: View of existing structure.

PHOTOGRAPH 18



Perfection Shoe Machinery Company site: Geoprobe getting set up.

Appendix C

Drilling Logs

Appendix C.1

Drilling Logs

APS Recycling



GEOPROBE® DRILLING LOG

BORING ID: APS-GP01

Project Name: I-80 Phase III ESAs
 Location: APS Recycling
 Weather Conditions: 50° F, Sunny
 Drilling Method: Direct push
 Sample Interval (feet): Continuous
 Driller: Zach Hoppes

Project No.: 2895.01.51
 Drilling Date(s): 11/27/17
 Drilling Contractor: Odyssey Environmental
 Type of Sample/Coring Device: Macrocore
 Depth Groundwater Encountered (feet, bgs): N/A
 Logged By: JCT

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
1120	0	5	3.7	0.0	0.3	0.0	Moist	Silt & Sand	Dark reddish-brown fine to medium sand and silt, some organics (grass/roots).
				0.3	1.1	0.0	Moist	Silt	Dark reddish brown/gray silt, little fine to medium sand, little clay, little fine-coarse gravel, trace debris (wood, glass).
				1.1	3.7	0.0	Moist	M Sand	Light brown fine to medium sand, some silt, some fine to coarse gravel, trace debris (brick).
	5	10	3.1	5.0	6.3	0.0	Moist	M Sand	Light brown fine to medium sand, some silt, some fine to coarse gravel, trace debris (brick).
				6.3	6.5	0.0	Moist	Gravel	Coarse gravel.
				6.5	8.1	0.0	Moist	Sand & Gravel	Brown/dark brown fine to coarse sand and fine to medium gravel, little silt.
10	15	2.8	10.0	12.8	0.0	Moist	Sand & Gravel	Brown/dark brown fine to coarse sand and fine to medium gravel, little silt.	
Boring terminated at 15 feet bgs.									

GPS Coordinates:	X= 2671272.44482049	Y= 306391.249095403
Sampling Data:	APS-GP01-S001 was collected from 0-2 feet bgs at 1150 (MS/MSD). APS-GP01-S002 was collected from 10.8-12.8 feet bgs at 1230.	
Sampled By:	CMC	

Modifiers:
 and: 35% to 50 %
 some: 20% to 35%
 little: 10% to 20%
 trace: <10%



GEOPROBE® DRILLING LOG BORING ID: APS-GP02

Project Name: I-80 Phase III ESAs
Location: APS Recycling
Weather Conditions: 50° F, Sunny
Drilling Method: Direct push
Sample Interval (feet): Continuous
Driller: Zach Hoppes

Project No.: 2895.01.51
Drilling Date(s): 11/27/17
Drilling Contractor: Odyssey Environmental
Type of Sample/Coring Device: Macrocore
Depth Groundwater Encountered (feet, bgs): 7.3
Logged By: JCT

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
1150	0	5	3.4	0.0 - 0.5	0.0	Moist		Dark brown fine to medium sand, some silt, some fine to medium gravel, trace debris (glass), trace organics.	
				0.5 - 2.2	0.0	Moist	M Sand	Reddish-brown fine to medium sand, little silt, trace medium gravel.	
				2.2 - 3.4	0.0	Moist		Reddish-brown fine to medium sand, little fine to medium gravel (rounded/sub-rounded).	
	5	10	2.5	5.0 - 5.5	0.0	Moist	Gravel	Coarse gravel, little gray fine sand.	
				5.5 - 6.5	0.0	Moist	F Sand	Gray/light brown fine sand.	
				6.5 - 7.0	0.0	Moist	Silt & Sand	Gray silt and fine sand, little clay.	
				7.0 - 7.5	0.0	Wet		Gray silt and fine sand, little clay (wet at 7.3 feet).	
	10	15	2.7	10.0 - 11.0	0.0	Wet	F Sand	Gray/reddish-brown fine sand, little clay.	
				11.0 - 12.7	0.0	Wet		Gray/reddish-brown fine sand, little silt.	
				Boring terminated at 15 feet bgs.					

GPS Coordinates:	X= 2671492.18716316	Y= 305912.428530738
Sampling Data:	APS-GP02-S001 was collected from 0-2 feet bgs at 1215. APS-GP02-S002 was collected from 5.3-7.3 feet bgs at 1230. APS-GP02-W001 was collected at 1430 (MS/MSD). APS-GP02-W301 was collected at 1440 (groundwater trip blank).	
Sampled By:	CMC	

Modifiers:
and: 35% to 50 %
some: 20% to 35%
little: 10% to 20%
trace: <10%



GEOPROBE® DRILLING LOG BORING ID: APS-GP03

Project Name: I-80 Phase III ESAs
Location: APS Recycling
Weather Conditions: 50° F, Sunny
Drilling Method: Direct push
Sample Interval (feet): Continuous
Driller: Zach Hoppes

Project No.: 2895.01.51
Drilling Date(s): 11/27/17
Drilling Contractor: Odyssey Environmental
Type of Sample/Coring Device: Macrocore
Depth Groundwater Encountered (feet, bgs): 7.5
Logged By: JCT

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
1230	0	5	2.5	0.0 - 0.5	0.0	Moist	M Sand	Brown fine to medium sand, some fine to medium gravel, some silt. Gray fine sand and gravel (shale). Reddish-brown fine sand. Light gray fine sand and fine to coarse gravel (rounded/subrounded). Dark brown coarse sand and gravel (wet at 7.5 feet). Dark brown coarse sand and gravel. Gray fine sand, little silt, trace clay. Boring terminated at 15 feet bgs. Temporary well point with 5 feet of screen was set at 15 feet bgs. Unable to collect a sample after multiple attempts.	
				0.5 - 2.0	0.0	Moist	Sand & Gravel		
				2.0 - 2.5	0.0	Moist	F Sand		
	5	10	2.7	5.0 - 7.2	0.0	Moist	Sand & Gravel		
				7.2 - 7.7	0.0	Wet			
10	15	1.8	10.0 - 10.4	0.0	Wet	F Sand			
			10.4 - 11.8	0.0	Wet				

GPS Coordinates:	X= 2671645.55759133	Y= 305979.418226153
Sampling Data:	APS-GP03-S001 was collected from 0-2 feet bgs at 1330. APS-GP03-S002 was collected from 5.5-7.5 feet bgs at 1340.	
Sampled By:	CMC	

Modifiers:
and: 35% to 50 %
some: 20% to 35%
little: 10% to 20%
trace: <10%



GEOPROBE® DRILLING LOG

BORING ID: APS-GP04

Project Name: I-80 Phase III ESAs
 Location: APS Recycling
 Weather Conditions: 50° F, Sunny
 Drilling Method: Direct push
 Sample Interval (feet): Continuous
 Driller: Zach Hoppes

Project No.: 2895.01.51
 Drilling Date(s): 11/27/17
 Drilling Contractor: Odyssey Environmental
 Type of Sample/Coring Device: Macrocore
 Depth Groundwater Encountered (feet, bgs): N/A
 Logged By: JCT

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
1545	0	5	2.6	0.0	1.0	0.0	Moist	Silt & Sand	Reddish-brown silt and fine sand, trace fine gravel.
				1.0	2.0	0.0	Moist	F Sand	Gray fine sand, little silt.
				2.0	2.6	0.0	Moist		Brown fine sand, little fine to medium gravel.
	5	10	2.6	5.0	6.2	0.0	Moist	Sand & Gravel	Brown fine sand and fine to coarse gravel, little silt.
				6.2	7.6	0.0	Moist	Brown to light brown fine sand, little silt.	
	10	15	2.0	10.0	11.1	0.0	Moist	F Sand	Light brown fine sand, little silt, little fine to coarse gravel.
11.1				12.0	0.0	Moist	Reddish-brown fine sand, some silt, little medium to coarse gravel, trace clay.		
Boring terminated at 15 feet bgs.									

GPS Coordinates:	X= 2671862.37802383	Y= 305931.30283682
Sampling Data:	APS-GP04-S001 was collected from 0-2 feet bgs at 1615. APS-GP01-S002 was collected from 10-12 feet bgs at 1625.	
Sampled By:	CMC	

Modifiers:
 and: 35% to 50 %
 some: 20% to 35%
 little: 10% to 20%
 trace: <10%



GEOPROBE® DRILLING LOG

BORING ID: APS-GP05

Project Name: I-80 Phase III ESAs
 Location: APS Recycling
 Weather Conditions: 30° F, Sunny
 Drilling Method: Direct push
 Sample Interval (feet): Continuous
 Driller: Zach Hoppes

Project No.: 2895.01.51
 Drilling Date(s): 11/28/17
 Drilling Contractor: Odyssey Environmental
 Type of Sample/Coring Device: Macrocore
 Depth Groundwater Encountered (feet, bgs): 11.5
 Logged By: JCT

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
0745	0	5	3.4	0.0 - 1.5		0.0	Moist	M Sand	Reddish-brown fine to medium sand, some silt, some fine to coarse gravel, trace debris (slag/brick).
				1.5 - 3.4		0.0	Moist	Silt & Sand	Reddish-brown silt and fine to medium sand, some silt, trace medium to coarse gravel, trace debris (slag).
0745	5	10	2.8	5.0 - 6.7		0.0	Moist		Orange-brown fine sand, some silt.
				6.7 - 7.8		0.0	Moist		Orange-brown fine sand, some silt, some fine to coarse gravel.
				10.0 - 10.9		0.0	Moist	F Sand	Orange brown fine sand, some silt, gravel.
0745	10	15	2.9	10.9 - 11.5		0.0	Moist		Gray fine sand, some silt, little fine to medium rounded gravel.
				11.5 - 12.9		0.0	Wet		Gray/reddish-brown fine sand, some silt, trace fine gravel (wet at 11.5 feet).

GPS Coordinates:	X= 2671849.98008275	Y= 306097.182426319
Sampling Data:	APS-GP05-S001 was collected from 0-2 feet bgs at 0815. APS-GP05-S002 was collected from 10-11.5 feet bgs at 0830. APS-GP05-W001 was collected at 1210.	
Sampled By:	CMC	

Modifiers:
 and: 35% to 50 %
 some: 20% to 35%
 little: 10% to 20%
 trace: <10%



GEOPROBE® DRILLING LOG BORING ID: APS-GP06

Project Name: I-80 Phase III ESAs
Location: APS Recycling
Weather Conditions: 40° F, Sunny
Drilling Method: Direct push
Sample Interval (feet): Continuous
Driller: Zach Hoppes

Project No.: 2895.01.51
Drilling Date(s): 11/28/17
Drilling Contractor: Odyssey Environmental
Type of Sample/Coring Device: Macrocore
Depth Groundwater Encountered (feet, bgs): 11.0
Logged By: JCT

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
0820	0	5	3.3	0.0 - 0.6	0.9	Moist	M Sand	Reddish-brown fine to medium sand and debris (concrete), some silt, some fine gravel.	
				0.6 - 1.5	0.0	Moist	Silt & Sand	Brown silt and fine to medium sand, some debris (wood, glass).	
				1.5 - 2.8	0.0	Moist	Silt	Brown silt, some fine to medium sand, little fine to medium gravel, trace debris (metal, brick).	
				2.8 - 3.3	0.0	Moist	M Sand	Dark brown/black fine to medium sand, some debris (coal, ash, slag), little silt.	
	5	10	2.2	5.0 - 5.5	0.0	Moist	F Sand	Orange-brown fine sand, some silt, trace fine gravel.	
				5.5 - 5.8	0.0	Moist	Gravel	Fine to coarse gravel.	
				5.8 - 7.2	0.0	Moist	C Sand	Orange brown fine to coarse sand and fine to coarse rounded gravel, little silt.	
	10	15	2.0	10.0 - 10.7	0.0	Moist	Sand & Gravel	Orange brown fine to coarse sand and fine to coarse rounded gravel, little silt.	
				10.7 - 11.1	0.0	Wet	Gravel	Fine to coarse gravel (wet at 11.0 feet).	
				11.1 - 12.0	0.0	Wet	Silt & Sand	Light brown fine sand and silt, trace coarse gravel.	
Boring terminated at 15 feet bgs.									

GPS Coordinates:	X= 2671902.53608	Y= 306227.275013909
Sampling Data:	APS-GP06-S001 was collected from 0-2 feet bgs at 0845. APS-GP06-S101 was collected from 0-2 feet bgs at 0847 (duplicate sample). APS-GP06-S002 was collected from 2-3.3 feet bgs at 0930. APS-GP06-W001 was collected at 1240.	
Sampled By:	CMC	

Modifiers:
and: 35% to 50 %
some: 20% to 35%
little: 10% to 20%
trace: <10%



GEOPROBE® DRILLING LOG BORING ID: APS-GP07

Project Name: I-80 Phase III ESAs
Location: APS Recycling
Weather Conditions: 40° F, Sunny
Drilling Method: Direct push
Sample Interval (feet): Continuous
Driller: Zach Hoppes

Project No.: 2895.01.51
Drilling Date(s): 11/28/17
Drilling Contractor: Odyssey Environmental
Type of Sample/Coring Device: Macrocore
Depth Groundwater Encountered (feet, bgs): 10.9
Logged By: JCT

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
0915	0	5	3.2	0.0 - 1.9	0.0	Moist	C Sand	Brown fine to coarse sand, some silt, some fine to coarse gravel, little debris (brick, plastic, wood).	
				1.9 - 3.2	0.0	Moist		Silt & Sand	Light brown silt and fine sand, trace clay, trace fine gravel.
	5	10	2.4	5.0 - 5.5	0.0	Moist	M Sand	Light brown silt and fine sand, trace clay, trace fine gravel.	
				5.5 - 7.4	0.0	Moist		Gray/light brown fine to medium sand, some silt, some fine to coarse gravel.	
	10	15	2.5	10.0 - 11.0	0.0	Wet	F Sand	Gray/light brown fine to medium sand, some silt, some fine to coarse gravel (wet at 10.9 feet).	
				11.0 - 12.0	0.0	Wet		Gray/light brown fine sand, some silt.	
			12.0 - 12.5	0.0	Moist		Dark gray fine sand, some clay, little silt, little fine to medium gravel.		
Boring terminated at 15 feet bgs.									

GPS Coordinates:	X= 2671675.54407991	Y= 306260.719828904
Sampling Data:	APS-GP07-S001 was collected from 0-2 feet bgs at 0940. APS-GP07-S002 was collected from 10-11 feet bgs at 0950. APS-GP07-W001 was collected at 1150. APS-GP07-W101 was collected at 1152 (duplicate sample).	
Sampled By:	CMC	

Modifiers:
and: 35% to 50 %
some: 20% to 35%
little: 10% to 20%
trace: <10%



GEOPROBE® DRILLING LOG

BORING ID: APS-GP08

Project Name: I-80 Phase III ESAs
Location: APS Recycling
Weather Conditions: 40° F, Sunny
Drilling Method: Direct push
Sample Interval (feet): Continuous
Driller: Zach Hoppes

Project No.: 2895.01.51
Drilling Date(s): 11/28/17
Drilling Contractor: Odyssey Environmental
Type of Sample/Coring Device: Macrocore
Depth Groundwater Encountered (feet, bgs): NA
Logged By: JCT

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
0945	0	5	2.6	0.0 - 0.5	0.0	Moist	Sand & Gravel	Brown fine to medium sand and fine to coarse gravel, some silt, little debris (concrete).	
				0.5 - 1.3	0.0	Moist	M Sand	Orange-brown fine to medium sand, some silt.	
				1.3 - 2.6	0.0	Moist	Sand & Gravel	Orange-brown/gray fine to coarse sand and fine to coarse gravel, little silt.	
	5	10	1.0	5.0 - 6.0	0.0	Moist	Gravel	Coarse gravel.	
	10	15	2.4	10.0 - 10.5	0.0	Moist	Sand & Gravel	Brown/gray fine sand and fine to coarse gravel.	
				10.5 - 11.3	0.0	Moist	Silt & Sand	Orange brown silt and fine sand, little clay, little fine to medium gravel.	
				11.3 - 12.0	0.0	Moist	Clay	Light brown clay, some fine sand, some silt.	
12.0 - 12.4				0.0	V. Moist	F Sand	Brown fine sand, some silt.		
Boring terminated at 15 feet bgs.									

GPS Coordinates:	X= 2671626.7000175	Y= 306112.277868569
Sampling Data:	APS-GP08-S001 was collected from 0-2 feet bgs at 1000. APS-GP08-S002 was collected from 5.5-7.5 feet bgs at 1015.	
Sampled By:	CMC	

Modifiers:
and: 35% to 50 %
some: 20% to 35%
little: 10% to 20%
trace: <10%



GEOPROBE® DRILLING LOG

BORING ID: APS-GP09

Project Name: I-80 Phase III ESAs
 Location: APS Recycling
 Weather Conditions: 50° F, Sunny
 Drilling Method: Direct push
 Sample Interval (feet): Continuous
 Driller: Zach Hoppes

Project No.: 2895.01.51
 Drilling Date(s): 11/28/17
 Drilling Contractor: Odyssey Environmental
 Type of Sample/Coring Device: Macrocore
 Depth Groundwater Encountered (feet, bgs): N/A
 Logged By: JCT

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
1022	0	5	2.6	0.0 - 0.3	0.0	Moist	Surf Cover	Concrete fragments.	
				0.3 - 1.8	0.0	Moist	M Sand	Dark brown fine to medium sand, some fine to coarse gravel, some silt, little debris (concrete, asphalt, brick).	
				1.8 - 2.6	0.0	Moist	Silt & Sand	Orange brown silt and fine sand, trace fine gravel.	
	5	10	3.1	5.0 - 6.5	0.0	Moist	Sand & Gravel	Reddish-brown/gray fine to coarse sand and fine to coarse gravel, some silt.	
				6.5 - 8.1	0.0	Moist	Silt & Sand	Orange brown/buff silt and fine sand.	
	10	15	3.5	10.0 - 11.8	0.0	Moist	Silt & Sand	Buff silt and fine sand.	
			11.8 - 13.5	0.0	V. Moist	Silt & Clay	Buff/gray silt and clay, little fine sand, trace fine gravel, very moist at the bottom.		
Boring terminated at 15 feet bgs.									

GPS Coordinates:	X= 2671532.06208341	Y= 306285.596747652
Sampling Data:	APS-GP09-S001 was collected from 0-2 feet bgs at 1030. APS-GP09-S002 was collected from 11.5-13.5 feet bgs at 1045.	
Sampled By:	CMC	

Modifiers:
 and: 35% to 50 %
 some: 20% to 35%
 little: 10% to 20%
 trace: <10%



GEOPROBE® DRILLING LOG BORING ID: APS-GP10

Project Name: I-80 Phase III ESAs
Location: APS Recycling
Weather Conditions: 50° F, Sunny
Drilling Method: Direct push
Sample Interval (feet): Continuous
Driller: Zach Hoppes

Project No.: 2895.01.51
Drilling Date(s): 11/28/17
Drilling Contractor: Odyssey Environmental
Type of Sample/Coring Device: Macrocore
Depth Groundwater Encountered (feet, bgs): 11.0
Logged By: JCT

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
1112	0	5	2.7	0.0 - 1.4	0.0	Moist	Sand & Gravel	Dark brown fine to medium sand and fine to coarse gravel, some silt, trace organics (trace roots).	
				1.4 - 2.7	0.0	Moist		Light brown/ brown fine to medium sand and fine to coarse gravel (rounded), some silt.	
	5	10	0.8	5.0 - 5.8	0.0	Moist		Brown fine to medium sand and fine to coarse gravel, little silt.	
				10.0 - 11.2	0.0	Wet		Brown fine to medium sand and fine to coarse gravel, little silt.	
	11.2 - 12.6	0.0	Wet	Silt & Sand	Gray silt and fine sand, trace clay (wet at 11.0 feet).				
Boring terminated at 15 feet bgs.									

GPS Coordinates:	X= 2671349.7911225	Y= 306147.48744382
Sampling Data:	APS-GP10-S001 was collected from 0-2 feet bgs at 1120. APS-GP10-S002 was collected from 10-11 feet bgs at 1140. APS-GP10-W001 was collected at 1315. APS-GP10-S301 was collected at 1335 (soil trip blank). APS-GP10-W301 was collected at 1340 (groundwater trip blank).	
Sampled By:	CMC	

Modifiers:
and: 35% to 50 %
some: 20% to 35%
little: 10% to 20%
trace: <10%

Appendix C.2

Drilling Logs

Biobuffer Solutions, Inc. / Pocono Foundry



GEOPROBE® DRILLING LOG BORING ID: BIO-GP01

Project Name: I-80 Phase III ESAs
 Location: Biobuffer Solutions, Inc./Pocono Foundry
 Weather Conditions: 50° F, Sunny
 Drilling Method: Direct push
 Sample Interval (feet): Continuous
 Driller: Zach Hoppes

Project No.: 2895.01.51
 Drilling Date(s): 11/28/17
 Drilling Contractor: Odyssey Environmental
 Type of Sample/Coring Device: Macrocore
 Depth Groundwater Encountered (feet, bgs): 6.6
 Logged By: JCT

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
1445	0	5	2.5	0.0 - 0.3	0.0	Moist	Silt & Sand	Dark brown silt and fine to medium sand, some fine to coarse gravel, trace organics (roots).	
				0.3 - 1.3	0.0	Moist		Dark brown silt and fine to medium sand, some fine to coarse gravel, little debris (slag, concrete, ash).	
				1.3 - 2.3	0.0	Moist		Dark brown silt and fine to medium sand, some fine to coarse gravel, some gravel.	
	5	10	2.6	2.3 - 2.5	0.0	Moist	F Sand	Reddish-brown fine sand, some silt.	
				5.0 - 5.4	0.0	Moist		Reddish-brown fine sand, some silt.	
				5.4 - 6.8	0.0	Wet		Brown fine to coarse sand and gravel, some silt (wet at 6.6 feet).	
10	15	3.1	6.8 - 7.6	0.0	Wet	Silt & Sand	Buff silt and fine sand, trace clay.		
			10.0 - 13.1	0.0	Wet		Buff/gray silt and fine sand, little clay.		
Boring terminated at 15 feet bgs.									

GPS Coordinates:	X= 2671259.21157924	Y= 306712.356064737
Sampling Data:	BIO-GP01-S001 was collected from 0-2 feet bgs at 1455. BIO-GP01-S101 was collected from 0-2 feet bgs at 1457 (duplicate sample). BIO-GP01-S002 was collected from 5-6.6 feet bgs at 1510. BIO-GP01-W001 was collected at 1540 (MS/MSD).	
Sampled By:	CMC	

Modifiers:
 and: 35% to 50 %
 some: 20% to 35%
 little: 10% to 20%
 trace: <10%



GEOPROBE® DRILLING LOG BORING ID: BIO-GP02

Project Name: I-80 Phase III ESAs
Location: Biobuffer Solutions, Inc./Pocono Foundry
Weather Conditions: 50° F, Sunny
Drilling Method: Direct push
Sample Interval (feet): Continuous
Driller: Zach Hoppes

Project No.: 2895.01.51
Drilling Date(s): 11/28/17
Drilling Contractor: Odyssey Environmental
Type of Sample/Coring Device: Macrocore
Depth Groundwater Encountered (feet, bgs): N/A
Logged By: JCT

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
1530	0	5	3	0.0 - 0.8	0.0	Moist	Silt	Dark brown silt, some fine to medium sand, trace organics, trace coarse gravel.	
				0.8 - 1.0	0.0	Moist	M Sand	Gray fine to medium sand.	
				1.0 - 2.0	0.0	Moist	C Sand	Dark brown/black fine to coarse sand, some gravel, some silt, little debris (slag).	
				2.0 - 3.0	0.0	Moist	Silt & Sand	Reddish-brown silt and fine to medium sand, trace clay.	
	5	10	2.1	5.0 - 5.6	0.0	Moist	Silt & Sand	Reddish-brown silt and fine to medium sand, trace clay.	
				5.6 - 7.1	0.0	Moist	Silt & Sand	Buff fine to coarse sand and gravel, little silt.	
	10	15	2.8	10.0 - 12.0	0.0	Moist	Sand & Gravel	Brown/dark brown fine to coarse sand and fine to medium gravel, little silt.	
				12.0 - 12.8	0.0	Moist	Sand & Gravel	Brown/dark brown fine to coarse sand and fine to coarse gravel, little silt.	
	15	20	1.8	15.0 - 16.3	0.0	Moist	Sand & Gravel	Brown/dark brown fine to coarse sand and fine to medium gravel, little silt, trace mica fragments.	
				16.3 - 16.8	0.0	Moist	Gravel	Fine to coarse gravel.	
Boring terminated at 20 feet bgs.									

GPS Coordinates:	X= 2671443.15051583	Y= 306739.163425826
Sampling Data:	BIO-GP02-S001 was collected from 0-2 feet bgs at 1610. BIO-GP02-S002 was collected from 15-16 feet bgs at 1620.	
Sampled By:	CMC	

Modifiers:
and: 35% to 50 %
some: 20% to 35%
little: 10% to 20%
trace: <10%



GEOPROBE® DRILLING LOG

BORING ID: BIO-GP03

Project Name: I-80 Phase III ESAs
 Location: Biobuffer Solutions, Inc./Pocono Foundry
 Weather Conditions: 50° F, Sunny
 Drilling Method: Direct push
 Sample Interval (feet): Continuous
 Driller: Zach Hoppes

Project No.: 2895.01.51
 Drilling Date(s): 11/28/17
 Drilling Contractor: Odyssey Environmental
 Type of Sample/Coring Device: Macrocore
 Depth Groundwater Encountered (feet, bgs): 6.0
 Logged By: JCT

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
1615	0	5	1.7	0.0	0.2	0.0	Moist	Surf Cover	Asphalt/subbase.
				0.2	0.8	0.0	Moist	Silt & Sand	Dark brown silt and fine to medium sand, some fine gravel.
				0.9	1.7	0.0	Moist	F Sand	Reddish-brown fine sand, some silt, trace fine to coarse gravel.
	5	10	2.5	5.0	7.5	0.0	Wet	C Sand	Reddish-brown fine to coarse sand and fine to coarse gravel, little silt (wet at 6 feet).
	10	15	2	10.0	12.0	0.0	Wet	Gravel	Fine gravel, some reddish brown fine to coarse sand, some silt.
									Boring terminated at 15 feet bgs.

GPS Coordinates:	X= 2671328.93158416	Y= 306944.341821238
Sampling Data:	BIO-GP03-S001 was collected from 0-2 feet bgs at 1630. BIO-GP03-S002 was collected from 5-6 feet bgs at 1640. BIO-GP03-W001 was collected at 1700. BIO-GP03-W101 was collected at 1702 (duplicate sample).	
Sampled By:	CMC	

Modifiers:
 and: 35% to 50 %
 some: 20% to 35%
 little: 10% to 20%
 trace: <10%



GEOPROBE® DRILLING LOG BORING ID: BIO-GP04

Project Name: I-80 Phase III ESAs
 Location: Biobuffer Solutions, Inc./Pocono Foundry
 Weather Conditions: 50° F, waning sunlight
 Drilling Method: Direct push
 Sample Interval (feet): Continuous
 Driller: Zach Hoppes

Project No.: 2895.01.51
 Drilling Date(s): 11/28/17
 Drilling Contractor: Odyssey Environmental
 Type of Sample/Coring Device: Macrocore
 Depth Groundwater Encountered (feet, bgs): 6.0
 Logged By: JCT

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
1650	0	5	2.4	0.0 - 0.5	0.0	Moist	M Sand	Buff fine to medium sand, some silt, some fine to coarse gravel, trace organics.	
				0.5 - 2.4	0.0	Moist		Buff/ dark brown fine to medium sand, little fine to coarse gravel, trace debris (slag/glass).	
	5	10	2	5.0 - 7.0	0.0	Wet	C Sand	Reddish brown fine to coarse sand and fine to coarse gravel, little silt (wet at 6 feet).	
	10	15	2.6	10.0 - 12.6	0.0	Wet	Silt & Sand	Buff/gray silt and fine sand, little clay.	
Boring terminated at 15 feet bgs.									

GPS Coordinates:	X= 2671058.05056424	Y= 306810.844712906
Sampling Data:	BIO-GP04-S001 was collected from 0-2 feet bgs at 1730 (MS/MSD). BIO-GP04-S002 was collected from 5-6 feet bgs at 1745. BIO-GP04-S301 was collected at 1750 (soil trip blank). BIO-GP04-W301 was collected at 1755 (water trip blank).	
Sampled By:	CMC	

Modifiers:
 and: 35% to 50 %
 some: 20% to 35%
 little: 10% to 20%
 trace: <10%

Appendix C.3

Drilling Logs

Former Gas Station



GEOPROBE® DRILLING LOG

BORING ID: FGS-GP01

Project Name: I-80 Phase III ESAs
 Location: 440 Main St (Former Gas Station)
 Weather Conditions: 40° F, partly cloudy
 Drilling Method: Direct push
 Sample Interval (feet): Continuous
 Driller: Zach Hoppes

Project No.: 2895.01.51
 Drilling Date(s): 11/29/17
 Drilling Contractor: Odyssey Environmental
 Type of Sample/Coring Device: Macrocore
 Depth Groundwater Encountered (feet, bgs): N/A
 Logged By: JCT

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
0745	0	5	3.3	0.0	0.5	0.0	Moist	Surf Cover	Asphalt subbase.
				0.5	0.8	0.0	Moist	M Sand	Gray fine to medium sand and fine to medium gravel.
				0.8	2.4	0.0	Moist	Silt	Orange-brown silt, some fine sand, little fine to coarse gravel, trace clay.
				2.4	2.8	0.0	Moist		Orange-brown silt and debris (ash, slag).
				2.8	3.3	0.0	Moist	M Sand	Brown fine to medium sand, some silt, little fine gravel.
									Boring terminated at 5 feet bgs.

GPS Coordinates:	X= 2675024.14991549	Y= 309209.158485822
Sampling Data:	FGS-GP01-S001 was collected from 0.5-2 feet bgs at 0805 (MS/MSD). FGS-GP01-S002 was collected from 2-3.3 feet bgs at 0815. FGS-GP01-S102 was collected from 2-3.3 feet bgs at 0817 (duplicate sample).	
Sampled By:	CMC	

Modifiers:
 and: 35% to 50 %
 some: 20% to 35%
 little: 10% to 20%
 trace: <10%



GEOPROBE® DRILLING LOG BORING ID: FGS-GP02

Project Name: I-80 Phase III ESAs
 Location: 440 Main St (Former Gas Station)
 Weather Conditions: 40° F, partly cloudy
 Drilling Method: Direct push
 Sample Interval (feet): Continuous
 Driller: Zach Hoppes

Project No.: 2895.01.51
 Drilling Date(s): 11/29/17
 Drilling Contractor: Odyssey Environmental
 Type of Sample/Coring Device: Macrocore
 Depth Groundwater Encountered (feet, bgs): N/A
 Logged By: JCT

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
0800	0	5	3.2	0.0	0.6	0.0	Moist	Surf Cover	Asphalt subbase.
				0.6	1.0	0.0	Moist	Sand & Gravel	Gray fine to medium sand and fine to medium gravel, some silt, trace debris (brick).
				1.0	3.2	0.0	Moist	Silt	Orange brown silt, some fine sand, little fine gravel, trace clay, trace debris (brick, ash).
Boring terminated at 5 feet bgs.									

GPS Coordinates:	X= 2675051.72302308	Y= 309223.345793404
Sampling Data:	Sample FGS-GP02-S001 was collected from 0.6-2 feet bgs at 0830. Sample FGS-GP02-S002 was collected from 2-3.2 feet bgs at 0845.	
Sampled By:	CMC	

Modifiers:
 and: 35% to 50 %
 some: 20% to 35%
 little: 10% to 20%
 trace: <10%



GEOPROBE® DRILLING LOG

BORING ID: FGS-GP03

Project Name: I-80 Phase III ESAs
 Location: 440 Main St (Former Gas Station)
 Weather Conditions: 40° F, partly cloudy
 Drilling Method: Direct push
 Sample Interval (feet): Continuous
 Driller: Zach Hoppes

Project No.: 2895.01.51
 Drilling Date(s): 11/29/17
 Drilling Contractor: Odyssey Environmental
 Type of Sample/Coring Device: Macrocore
 Depth Groundwater Encountered (feet, bgs): N/A
 Logged By: JCT

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
0840	0	5	2.9	0.0	0.7	0.0	Moist	Surf Cover	Asphalt subbase.
				0.7	1.0	0.0	Moist	Sand & Gravel	Gray/brown fine to coarse sand and fine to coarse gravel, some silt.
				1.0	1.5	0.0	Moist	Gravel	Fine to coarse gravel, little gray fine to medium sand.
				1.5	2.9	0.0	Moist	Silt	Orange-brown silt, some fine to medium sand, some clay, little fine to coarse gravel.
Boring terminated at 5 feet bgs.									

GPS Coordinates:	X= 2675073.03072324	Y= 309207.129290402
Sampling Data:	Sample FGS-GP03-S001 was collected from 0.7-2 feet bgs at 0850. Sample FGS-GP03-S002 was collected from 2-2.9 feet bgs at 0900.	
Sampled By:	CMC	

Modifiers:
 and: 35% to 50 %
 some: 20% to 35%
 little: 10% to 20%
 trace: <10%



GEOPROBE® DRILLING LOG

BORING ID: FGS-GP04

Project Name: I-80 Phase III ESAs
 Location: 440 Main St (Former Gas Station)
 Weather Conditions: 40° F, partly cloudy
 Drilling Method: Direct push
 Sample Interval (feet): Continuous
 Driller: Zach Hoppes

Project No.: 2895.01.51
 Drilling Date(s): 11/29/17
 Drilling Contractor: Odyssey Environmental
 Type of Sample/Coring Device: Macrocore
 Depth Groundwater Encountered (feet, bgs): N/A
 Logged By: JCT

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
0848	0	5	2.8	0.0	0.6	0.0	Moist	Surf Cover	Asphalt subbase.
				0.6	0.8	0.2	Moist	Sand & Gravel	Gray fine to medium sand and fine to coarse gravel, some silt.
				0.8	2.8	0.0	Moist	Silt & Sand	Orange-brown/buff silt and fine to medium sand, little clay, little fine to coarse gravel.
									Boring terminated at 5 feet bgs.

GPS Coordinates:	X= 2675060.47595833	Y= 309164.035544574
Sampling Data:	Sample FGS-GP04-S001 was collected from 0-2 feet bgs at 0910. Sample FGS-GP04-S002 was collected from 2-2.8 feet bgs at 0915. Sample FGS-GP04-S301 was collected at 0920 (soil trip blank).	
Sampled By:	CMC	

Modifiers:
 and: 35% to 50 %
 some: 20% to 35%
 little: 10% to 20%
 trace: <10%

Appendix C.4

Drilling Logs

Former Research Laboratory / Chemical Plant



GEOPROBE® DRILLING LOG

BORING ID: FRL-GP01

Project Name: I-80 Phase III ESAs
Location: Former Research Lab
Weather Conditions: 50° F, sunny
Drilling Method: Direct push
Sample Interval (feet): Continuous
Driller: Clint Hoffman

Project No.: 2895.01.51
Drilling Date(s): 11/30/17
Drilling Contractor: Odyssey Environmental
Type of Sample/Coring Device: Macrocore
Depth Groundwater Encountered (feet, bgs): N/A
Logged By: JCT

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
1505	0	5	2.8	0.0	0.3	0.4	Moist	Gravel	Fine to coarse gravel, some gray silt.
				0.3	1.2	0.0	Moist	M Sand	Reddish-brown fine to medium sand and fine to coarse gravel, some silt, little debris (concrete).
				1.2	2.8	0.0	Moist		Dark reddish-brown fine to coarse sand and fine to coarse gravel, some silt, trace debris (ash).
	5	10	1.6	5.0	5.5	0.0	Moist	Sand & Gravel	Dark reddish-brown fine to coarse sand and fine to coarse gravel, some silt, trace debris (ash).
				5.5	6.6	0.0	Moist		Gray fine to coarse sand and fine to medium rounded gravel, some silt.
10	15	1.2	10.0	11.2	0.0	Moist		Dark brown fine to coarse sand and fine to coarse gravel, some silt, trace clay, trace debris (brick).	
Boring terminated at 15 feet bgs.									

GPS Coordinates:	X= 2676216.60192691	Y= 309147.84660057
Sampling Data:	FRL-GP01-S001 was collected from 0-2 feet bgs at 1520 (MS/MSD). FRL-GP01-S002 was collected from 10-11.2 feet bgs at 1530.	
Sampled By:	CMC	

Modifiers:
and: 35% to 50 %
some: 20% to 35%
little: 10% to 20%
trace: <10%



GEOPROBE® DRILLING LOG BORING ID: FRL-GP02

Project Name: I-80 Phase III ESAs
Location: Former Research Lab
Weather Conditions: 50° F, sunny
Drilling Method: Direct push
Sample Interval (feet): Continuous
Driller: Clint Hoffman

Project No.: 2895.01.51
Drilling Date(s): 11/30/17
Drilling Contractor: Odyssey Environmental
Type of Sample/Coring Device: Macrocore
Depth Groundwater Encountered (feet, bgs): N/A
Logged By: JCT

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
1540	0	5	2.4	0.0	1.8	0.0	Moist	Sand & Gravel	Reddish-brown fine to medium sand and fine to coarse gravel, some silt, trace debris (electrical wires).
				1.8	2.4				0.0
	5	10	1.6	5.0	6.6	0.0	Moist	M Sand	Dark reddish-brown fine to medium sand, some silt, little fine to medium rounded gravel, trace clay, trace debris (electrical wires, ash, plastic).
									10.0
Boring terminated at 15 feet bgs.									

GPS Coordinates:	X= 2676196.86673016	Y= 309174.802255325
Sampling Data:	FRL-GP02-S001 was collected from 0-2 feet bgs at 1545. FRL-GP02-S002 was collected from 5-6.6 feet bgs at 1555.	
Sampled By:	CMC	

Modifiers:

and: 35% to 50 %
some: 20% to 35%
little: 10% to 20%
trace: <10%



GEOPROBE® DRILLING LOG BORING ID: FRL-GP03

Project Name: I-80 Phase III ESAs
Location: Former Research Lab
Weather Conditions: 50° F, sunny
Drilling Method: Direct push
Sample Interval (feet): Continuous
Driller: Clint Hoffman

Project No.: 2895.01.51
Drilling Date(s): 11/30/17
Drilling Contractor: Odyssey Environmental
Type of Sample/Coring Device: Macrocore
Depth Groundwater Encountered (feet, bgs): N/A
Logged By: JCT

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
1600	0	5	2.4	0.0 - 2.4		0.0	Moist	Sand & Gravel	Reddish-brown/gray fine to medium sand and fine to coarse gravel, some silt.
	5	10	1.6	5.0 - 5.7		0.0	Moist		Reddish-brown/gray fine to medium sand and fine to coarse gravel, some silt.
				5.7 - 6.6		0.0	Moist	M Sand	Reddish-brown fine to medium sand and debris (ash), little silt.
	10	15	1.2	10.0 - 11.2		0.0	Moist		Reddish-brown fine to medium sand, some silt, trace clay, little fine to medium gravel (rounded).
									Boring terminated at 15 feet bgs.

GPS Coordinates:	X= 2676148.94130108	Y= 309186.042390324
Sampling Data:	FRL-GP03-S001 was collected from 0-2 feet bgs at 1610. FRL-GP03-S002 was collected from 5-6.6 feet bgs at 1620. FRL-GP03-S102 was collected from 5-6.6 feet bgs at 1622 (duplicate sample).	
Sampled By:	CMC	

Modifiers:

and: 35% to 50 %
some: 20% to 35%
little: 10% to 20%
trace: <10%



GEOPROBE® DRILLING LOG

BORING ID: FRL-GP04

Project Name: I-80 Phase III ESAs
Location: Former Research Lab
Weather Conditions: 40° F, sunny
Drilling Method: Direct push
Sample Interval (feet): Continuous
Driller: Clint Hoffman

Project No.: 2895.01.51
Drilling Date(s): 11/30/17
Drilling Contractor: Odyssey Environmental
Type of Sample/Coring Device: Macrocore
Depth Groundwater Encountered (feet, bgs): N/A
Logged By: JCT

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
1615	0	5	1.5	0.0	1.5	0.0	Moist	C Sand	Dark reddish brown fine to coarse sand, some fine to coarse gravel, some silt. Macrocore refusal at 4 feet bgs on concrete (concrete in macrocore shoe).

GPS Coordinates:	X= 2676157.07908008	Y= 309086.774872325
Sampling Data:	FRL-GP04-S001 was collected from 0-1.5 feet bgs at 1630. FRL-GP04-S301 was collected at 1640 (soil trip blank).	
Sampled By:	CMC	

Modifiers:

and: 35% to 50 %
some: 20% to 35%
little: 10% to 20%
trace: <10%



GEOPROBE® DRILLING LOG BORING ID: FRL-GP05

Project Name: I-80 Phase III ESAs
Location: Former Research Lab
Weather Conditions: 40° F, losing sunlight
Drilling Method: Direct push
Sample Interval (feet): Continuous
Driller: Clint Hoffman

Project No.: 2895.01.51
Drilling Date(s): 11/30/17
Drilling Contractor: Odyssey Environmental
Type of Sample/Coring Device: Macrocore
Depth Groundwater Encountered (feet, bgs): N/A
Logged By: JCT

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
1640	0	5	2.6	0.0	0.7	0.0	Moist	Silt & Sand	Dark gray fine to coarse sand and silt, some fine to coarse gravel.
				0.7	2.6	0.0	Moist		Reddish-brown fine to medium sand, some silt, some fine to medium rounded gravel, trace debris (ash).
	5	10	1.2	5.0	6.2	0.0	Moist	M Sand	Reddish-brown to dark reddish-brown fine to medium sand, some silt, some fine to coarse gravel, trace clay.
	10	15	1.8	10.0	10.6	0.0	Moist		Reddish-brown to dark reddish brown fine to medium sand, some silt, some fine to coarse gravel, little clay.
				10.6	11.8	0.0	Moist	F Sand	Reddish-brown fine sand, some clay, little silt.
									Boring terminated at 15 feet bgs.

GPS Coordinates:	X= 2676140.98560833	Y= 309125.113378324
Sampling Data:	FRL-GP05-S001 was collected from 0-2 feet bgs at 1645. FRL-GP05-S002 was collected from 10-11.8 feet bgs at 1650.	
Sampled By:	CMC	

Modifiers:

and: 35% to 50 %
some: 20% to 35%
little: 10% to 20%
trace: <10%

Appendix C.5

Drilling Logs

Klingel Cleaners and

West Main Street PCE Sites



GEOPROBE® DRILLING LOG

BORING ID: WMP-GP01

Project Name: I-80 Phase III ESAs
 Location: West Main PCE
 Weather Conditions: 50° F, sunny
 Drilling Method: Direct push
 Sample Interval (feet): Continuous
 Driller: Zach Hoppes

Project No.: 2895.01.51
 Drilling Date(s): 11/29/17
 Drilling Contractor: Odyssey Environmental
 Type of Sample/Coring Device: Macrocore
 Depth Groundwater Encountered (feet, bgs): 5.6
 Logged By: JCT

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
1523	0	5	2.4	0.0 - 0.5	0.0	Moist	Silt & Sand	Brown silt and fine sand, trace organics (grass, roots).	
				0.5 - 1.5	0.0	Moist		Reddish-brown silt and fine sand.	
				1.5 - 2.4	0.0	Moist	Sand & Gravel	Gray fine to coarse sand and fine to coarse gravel, little silt.	
	5	10	2.0	5.0 - 5.8	0.0	Wet		Gray fine to coarse sand and fine to coarse gravel, little silt (wet at 5.6 feet).	
				5.8 - 7.0	0.0	Wet		M Sand	Buff/ brown fine to medium sand, some silt, trace medium gravel.
	10	15	3.5	10.0 - 13.5	0.0	Wet	Brown fine to medium sand, some silt.		
								Boring terminated at 15 feet bgs.	

GPS Coordinates:	X= 2668029.76036099	Y= 307750.818882823
Sampling Data:	WMP-GP01-S001 was collected from 0-2 feet bgs at 1530. WMP-GP01-S002 was collected from 5-5.6 feet bgs at 1540. WMP-GP01-W001 was collected at 1610.	
Sampled By:	CMC	

Modifiers:
 and: 35% to 50 %
 some: 20% to 35%
 little: 10% to 20%
 trace: <10%



GEOPROBE® DRILLING LOG BORING ID: WMP-GP02

Project Name: I-80 Phase III ESAs

Project No.: 2895.01.51

Location: West Main PCE

Drilling Date(s): 11/30/17

Weather Conditions: 30° F, partly cloudy

Drilling Contractor: Odyssey Environmental

Drilling Method: Direct push

Type of Sample/Coring Device: Macrocore

Sample Interval (feet): Continuous

Depth Groundwater Encountered (feet, bgs): 6.8

Driller: Zach Hoppes

Logged By: JCT

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
0800	0	5	3.5	0.0 - 0.4	0.0	Moist	Silt	Dark brown silt, some fine to medium sand, little fine to medium gravel.	
				0.4 - 0.8	0.0	Moist		Dark brown silt, some fine to medium sand, little fine to medium gravel, little debris (ash, coal fragments).	
				0.8 - 1.8	0.0	Moist	Silt & Sand	Reddish-brown silt and fine sand, trace fine gravel.	
				1.8 - 3.5	0.0	Moist	F Sand	Orange-brown fine sand, some silt, trace fine to coarse gravel.	
	5	10	2.5	5.0 - 7.1	0.0	Wet	Sand & Gravel	Reddish-brown fine to coarse sand and fine to coarse gravel, some silt (wet at 6.8 feet).	
				7.1 - 7.5	0.0	Wet	C Sand	Dark reddish-brown fine to coarse sand, some silt.	
	10	15	4.2	10.0 - 10.6	0.0	Wet	F Sand	Dark reddish-brown fine to coarse sand, some silt.	
				10.6 - 14.2	0.0	Wet		Reddish-brown/buff fine sand, some silt, trace clay.	
	Boring terminated at 15 feet bgs.								

GPS Coordinates:	X= 2668132.82281891	Y= 307629.691500403
Sampling Data:	WMP-GP02-S001 was collected from 0-2 feet bgs at 0810 (MS/MSD). WMP-GP02-S002 was collected from 5-6.8 feet bgs at 0820. WMP-GP02-W001 was collected at 0845 (MS/MSD).	
Sampled By:	CMC	

Modifiers:

and: 35% to 50 %
some: 20% to 35%
little: 10% to 20%
trace: <10%



GEOPROBE® DRILLING LOG

BORING ID: WMP-GP03

Project Name: I-80 Phase III ESAs
 Location: West Main PCE
 Weather Conditions: 40° F, partly cloudy
 Drilling Method: Direct push
 Sample Interval (feet): Continuous
 Driller: Zach Hoppes

Project No.: 2895.01.51
 Drilling Date(s): 11/30/17
 Drilling Contractor: Odyssey Environmental
 Type of Sample/Coring Device: Macrocore
 Depth Groundwater Encountered (feet, bgs): 10.0
 Logged By: JCT

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
0920	0	5	1.5	0.0	0.2	0.0	Moist	Silt	Brown silt, some fine to medium sand, little grass/roots.
				0.2	1.5	0.0	Moist	Sand & Gravel	Reddish-brown fine to coarse sand and fine to coarse gravel, some silt.
	5	10	2.3	5.0	6.5	0.0	Moist		Reddish-brown fine to coarse sand and fine to coarse gravel, some silt.
				6.5	7.3	0.0	Moist	Gravel	Coarse gravel.
	10	15	2.9	10.0	12.9	0.0	Wet	F Sand	Buff fine sand, some silt.
									Boring terminated at 15 feet bgs.

GPS Coordinates:	X= 2668003.04847216	Y= 307503.585453406
Sampling Data:	WMP-GP03-S001 was collected from 0-1.5 feet bgs at 0930. WMP-GP03-S002 was collected from 5.3-7.3 feet bgs at 0940. WMP-GP03-W001 was collected at 0950.	
Sampled By:	CMC	

Modifiers:
 and: 35% to 50 %
 some: 20% to 35%
 little: 10% to 20%
 trace: <10%



GEOPROBE® DRILLING LOG BORING ID: WMP-GP04

Project Name: I-80 Phase III ESAs
Location: West Main PCE
Weather Conditions: 40° F, partly cloudy
Drilling Method: Direct push
Sample Interval (feet): Continuous
Driller: Zach Hoppes

Project No.: 2895.01.51
Drilling Date(s): 11/30/17
Drilling Contractor: Odyssey Environmental
Type of Sample/Coring Device: Macrocore
Depth Groundwater Encountered (feet, bgs): 7.2
Logged By: JCT

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
1008	0	5	2.4	0.0 - 0.8	0.0	Moist	Surf Cover	Asphalt/subbase.	
				0.8 - 1.2	0.0	Moist	Silt	Dark brown silt, some fine to medium sand, little fine gravel.	
				1.2 - 2.4	0.0	Moist	Silt & Sand	Reddish-brown silt and fine to medium sand, little fine gravel, little clay.	
	5	10	2.6	5.0 - 6.1	0.0	Moist	Sand & Gravel	Reddish-brown fine to coarse sand and fine to coarse gravel, some silt, trace clay.	
				6.1 - 7.1	0.0	Wet	Gravel	Fine to coarse gravel, little reddish-brown fine sand, little silt.	
				7.1 - 7.6	0.0	Wet	C Sand	Reddish-brown medium to coarse sand, some fine gravel, some silt (wet at 7.2 feet).	
10	15	2.5	10.0 - 12.5	0.0	Wet		Reddish brown medium to coarse sand, some fine gravel, some silt.		
Boring terminated at 15 feet bgs.									

GPS Coordinates:	X= 2667865.5028155	Y= 307496.529037073
Sampling Data:	<p>Sample WMP-GP04-S001 was collected from 0-2 feet bgs at 1018. Sample WMP-GP04-S101 was collected from 0-2 feet bgs at 1020 (duplicate sample). Sample WMP-GP04-S002 was collected from 5.2-7.2 feet bgs at 1030. Sample WMP-GP04-W001 was collected at 1040. Sample WMP-GP04-W101 was collected at 1042 (duplicate sample). Sample WMP-GP04-W301 was collected at 1045 (water trip blank). Sample WMP-GP04-S301 was collected at 1050 (soil trip blank).</p>	
Sampled By:	CMC	

Modifiers:
and: 35% to 50 %
some: 20% to 35%
little: 10% to 20%
trace: <10%

Appendix C.6

Drilling Logs

Main Street Stop & Go



GEOPROBE® DRILLING LOG BORING ID: MSG-GP01

Project Name: I-80 Phase III ESAs
 Location: 1650 Main St (Main St Stop & Go)
 Weather Conditions: 50° F, sunny
 Drilling Method: Direct push
 Sample Interval (feet): Continuous
 Driller: Zach Hoppes

Project No.: 2895.01.51
 Drilling Date(s): 11/29/17
 Drilling Contractor: Odyssey Environmental
 Type of Sample/Coring Device: Macrocore
 Depth Groundwater Encountered (feet, bgs): 10
 Logged By: JCT

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
1045	0	5	2.5	0.0	0.6	0.0	Moist	Surf Cover	Asphalt/subbase.
				0.6	1.5	54.5	Moist	Silt & Sand	Dark brown silt and fine to medium sand, trace fine gravel, little clay, petroleum-like odor.
				1.5	2.5	11.7	Moist	M Sand	Reddish-brown fine to medium sand, some silt, trace clay, slight petroleum-like odor, little fine to coarse gravel.
	5	10	2.0	5.0	7.0	0.0	V. Moist	Sand & Gravel	Gray/brown fine to coarse sand and fine to medium gravel, some silt.
	10	15	1.8	10.0	11.8	0.3	Wet	Silt & Sand	Reddish-brown/gray silt and fine sand, trace clay.
Boring terminated at 15 feet bgs.									

GPS Coordinates:	X= 2668372.28690691	Y= 307493.978189155
Sampling Data:	MSG-GP01-S001 was collected from 0.6-2 feet bgs at 1100. MSG-GP01-S101 was collected from 0.6-2 feet bgs at 1102 (duplicate sample). MSG-GP01-S002 was collected from 5-7 feet bgs at 1110. MSG-GP01-W001 was collected at 1215. MSG-GP01-W101 was collected at 1217 (duplicate sample).	
Sampled By:	CMC	

Modifiers:
 and: 35% to 50 %
 some: 20% to 35%
 little: 10% to 20%
 trace: <10%



GEOPROBE® DRILLING LOG BORING ID: MSG-GP02

Project Name: I-80 Phase III ESAs
 Location: 1650 Main St (Main St Stop & Go)
 Weather Conditions: 50° F, sunny
 Drilling Method: Direct push
 Sample Interval (feet): Continuous
 Driller: Zach Hoppes

Project No.: 2895.01.51
 Drilling Date(s): 11/29/17
 Drilling Contractor: Odyssey Environmental
 Type of Sample/Coring Device: Macrocore
 Depth Groundwater Encountered (feet, bgs): 6.5
 Logged By: JCT

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
1127	0	5	2.5	0.0 - 0.4		0.0	Moist	Surf Cover	Asphalt/subbase.
				0.4 - 2.5		35.7	Moist	Sand & Gravel	Reddish-brown/brown fine to medium sand and fine to coarse gravel/ some silt, trace clay, trace debris (concrete), slight petroleum-like odor.
	5	10	2.0	5.0 - 5.5		0.6	Moist	Debris	Concrete fragments.
				5.5 - 5.8		0.0	Moist	Sand & Gravel	Reddish-brown/brown fine to medium sand and fine to coarse gravel, some silt, trace clay.
				5.8 - 6.3		0.2	Moist	Debris	Concrete fragments.
				6.3 - 7.0		0.0	Wet	Gravel	Fine to medium rounded gravel, little silt, little fine to coarse sand (wet at 6.5 feet).
				10.0 - 11.4		2.7	Wet		Fine to medium rounded gravel, little silt.
				11.4 - 12.1		25.9	Wet	M Sand	Reddish-brown fine to medium sand, some silt, little fine gravel, petroleum-like odor.
	12.1 - 12.7		34.4	Wet	F Sand	Gray fine sand, some silt, little fine gravel, petroleum-like odor.			
	10	15	2.7						Boring terminated at 15 feet bgs.

GPS Coordinates:	X= 2668443.03578116	Y= 307530.265190072
Sampling Data:	MSG-GP02-S001 was collected from 0-2 feet bgs at 1140. MSG-GP02-S002 was collected from 5-6.5 feet bgs at 1145. MSG-GP02-W001 was collected at 1230. MSG-GP02-W301 was collected at 1350 (water trip blank). MSG-GP02-S301 was collected at 1355 (soil trip blank).	
Sampled By:	CMC	

Modifiers:
 and: 35% to 50 %
 some: 20% to 35%
 little: 10% to 20%
 trace: <10%



GEOPROBE® DRILLING LOG BORING ID: MSG-GP03

Project Name: I-80 Phase III ESAs
 Location: 1650 Main St (Main St Stop & Go)
 Weather Conditions: 50° F, sunny
 Drilling Method: Direct push
 Sample Interval (feet): Continuous
 Driller: Zach Hoppes

Project No.: 2895.01.51
 Drilling Date(s): 11/29/17
 Drilling Contractor: Odyssey Environmental
 Type of Sample/Coring Device: Macrocore
 Depth Groundwater Encountered (feet, bgs): 6.3
 Logged By: JCT

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
1400	0	5	2.8	0.0 - 0.5	0.0	Moist	Gravel	Fine to coarse gravel, little fine to medium brown sand, little silt.	
				0.5 - 1.2	0.0	Moist	F Sand	Reddish-brown fine sand, some silt.	
				1.2 - 2.8	0.0	Moist		Gray/buff fine sand, little silt, little fine to coarse gravel.	
	5	10	2.4	5.0 - 6.5	0.0	Wet	Sand & Gravel	Reddish-brown fine to coarse sand and fine to coarse gravel, some silt, trace clay (wet at 6.3 feet).	
				6.5 - 7.4	0.0	Wet	F Sand	Buff fine sand, some silt, trace clay.	
	10	15	3.0	10.0 - 13.0	0.0	Wet		Buff to reddish-brown fine sand, some silt, trace clay.	
Boring terminated at 15 feet bgs.									

GPS Coordinates:	X= 2668257.88260816	Y= 307648.078930825
Sampling Data:	MSG-GP03-S001 was collected from 0-2 feet bgs at 1415 (MS/MSD). MSG-GP03-S002 was collected from 5-6.3 feet bgs at 1430. MSG-GP03-W001 was collected at 1445 (MS/MSD).	
Sampled By:	CMC	

Modifiers:
 and: 35% to 50 %
 some: 20% to 35%
 little: 10% to 20%
 trace: <10%

Appendix C.7

Drilling Logs

Pocono Gas Station



GEOPROBE® DRILLING LOG BORING ID: PGS-GP01

Project Name: I-80 Phase III ESAs
Location: Pocono Gas Station
Weather Conditions: 50° F, sunny
Drilling Method: Direct push
Sample Interval (feet): Continuous
Driller: Zach Hoppes

Project No.: 2895.01.51
Drilling Date(s): 11/30/17
Drilling Contractor: Odyssey Environmental
Type of Sample/Coring Device: Macrocore
Depth Groundwater Encountered (feet, bgs): 6.3
Logged By: JCT

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
1250	0	5	3.2	0.0	0.7	0.0	Moist	Surf Cover	Asphalt/subbase.
				0.7	2.7	0.0	Moist	Silt & Sand	Reddish brown silt and fine to medium sand, trace fine gravel.
				2.7	3.2	0.0	Moist	F Sand	Buff fine sand, some silt, trace clay.
	5	10	1.8	5.0	6.1	0.0	Moist	Sand & Gravel	Buff/gray fine to coarse sand and fine to coarse gravel, some silt.
				6.1	6.8	0.0	Wet		Dark reddish brown fine to coarse sand and fine to coarse gravel, some silt (wet at 6.3 feet).

GPS Coordinates:	X= 2669130.22174275	Y= 307499.286249407
Sampling Data:	Sample PGS-GP01-S001 was collected from 0-2 feet bgs at 1300 (MS/MSD). Sample PGS-GP01-S002 was collected from 5-6.3 feet bgs at 1310. Sample PGS-GP01-W001 was collected at 1320 (MS/MSD).	
Sampled By:	CMC	

Modifiers:

and: 35% to 50 %
some: 20% to 35%
little: 10% to 20%
trace: <10%



GEOPROBE® DRILLING LOG

BORING ID: PGS-GP02

Project Name: I-80 Phase III ESAs
Location: Pocono Gas Station
Weather Conditions: 50° F, sunny
Drilling Method: Direct push
Sample Interval (feet): Continuous
Driller: Zach Hoppes

Project No.: 2895.01.51
Drilling Date(s): 11/30/17
Drilling Contractor: Odyssey Environmental
Type of Sample/Coring Device: Macrocore
Depth Groundwater Encountered (feet, bgs): 7.6
Logged By: JCT

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
1325	0	5	3.1	0.0	0.4	0.0	Moist	Surf Cover	Asphalt/subbase.
				0.4	1.5	0.0	Moist	Silt	Gray silt, some fine to medium sand, some fine to medium gravel.
				1.5	3.1	0.0	Moist	F Sand	Orange-brown fine sand, some silt, little fine to coarse gravel.
	5	10	2.9	5.0	7.9	0.0	Wet	Sand & Gravel	Reddish-brown fine to coarse sand and fine to coarse gravel, some silt. Boring terminated at 10 feet bgs. Temporary well point was pushed to 15 feet bgs to collect a groundwater sample.

GPS Coordinates:	X= 2669033.13925974	Y= 307504.150084823
Sampling Data:	Sample PGS-GP02-S001 was collected from 0-2 feet bgs at 1345. Sample PGS-GP02-S101 was collected from 0-2 feet bgs at 1347 (duplicate sample). Sample PGS-GP02-S002 was collected from 5.6-7.6 feet bgs at 1355. Sample PGS-GP02-W001 was collected at 1400. Sample PGS-GP02-W101 was collected at 1402 (duplicate sample). Sample PGS-GP02-S301 was collected at 1405 (soil trip blank). Sample PGS-GP02-W301 was collected at 1410 (water trip blank).	
Sampled By:	CMC	

Modifiers:
and: 35% to 50 %
some: 20% to 35%
little: 10% to 20%
trace: <10%



801 Industrial St. Wilmington, DE (302) 656-9600

GEOPROBE® DRILLING LOG BORING ID: PGS - GP03

Project Name: I-80 Reconstruction
 Location: Pocono Gas Station
 Weather Conditions: Light snow, 35° F
 Drilling Method: Direct-Push
 Sample Interval: Continuous
 Driller: Z. Hoppes

Project No.: 2895.01.51
 Drilling Date(s): 12/3/18
 Drilling Contractor: Odyssey Environmental
 Type of Sample/Coring Device: Macrocore
 Depth Groundwater Encountered (feet, bgs): 5.5
 Logged By: M. Atterbury

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
14:30	0.0	5.0	3.0	0.0	2.5	0.0	Moist	Sand & Gravel	Medium brown to orange brown medium to coarse sand and angular gravel.
				2.5	3.0	0.0	Moist		Medium brown to orange brown fine to medium sand, some silt, trace clay.
	5.0	10.0	3.0	5.0	5.5	0.0	Moist	M Sand	Medium brown to orange brown fine to medium sand, some silt, trace clay.
				5.5	6.0	0.0	Wet		Medium brown to orange brown fine to medium sand, some silt, trace clay.
15:00				6.0	8.0	0.0	Moist	Sand & Gravel	Gray brown to red brown medium to coarse sand and gravel.
	Boring terminated at 10 feet bgs. Temporary well installed.								

GPS Coordinates:	X= 2669122.54	Y= 307595.78
Sampling Data:	Sample PGS-GP03-S001 was collected from 0.0 - 2.0 feet bgs at 1515.	
	Sample PGS-GP03-S002 was collected from 5.0 - 5.5 feet bgs at 1530.	
	Sample PGS-GP03-W001 was collected at 1545.	
Sampled By:	C. Cumming	

Modifiers:
 and: 35% to 50 %
 some: 20% to 35%
 little: 10% to 20%
 trace: <10%



801 Industrial St. Wilmington, DE (302) 656-9600

GEOPROBE® DRILLING LOG BORING ID: PGS-GP04

Project Name: I-80 Reconstruction
 Location: Pocono Gas Station
 Weather Conditions: Light snow, 35° F
 Drilling Method: Direct-Push
 Sample Interval: Continuous
 Driller: Z. Hoppes

Project No.: 2895.01.51
 Drilling Date(s): 12/4/18
 Drilling Contractor: Odyssey Environmental
 Type of Sample/Coring Device: Macrocore
 Depth Groundwater Encountered (feet, bgs): 5.5
 Logged By: M. Atterbury

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
9:30	0.0	5.0	4.0	0.0 - 0.25	0.0	Moist	Surf Cover	Surface cover asphalt.	
				0.25 - 2.5	0.0	Moist	Silt & Sand	Medium brown fine sand and silt.	
				2.5 - 3.5	0.0	V. Moist		Medium brown fine sand and silt.	
	3.5 - 4.0	0.0	Moist	Gray brown to medium brown fine to medium sand and silt.					
	5.0	10.0	4.5	5.0 - 5.5	0.0	Moist		Medium brown fine sand and silt.	
				5.5 - 7.5	0.0	Wet	C Sand	Gray brown to medium brown medium to coarse sand, some fine sand and silt.	
				7.5 - 9.0	0.0	Moist	Sand & Gravel	Gray brown to medium brown medium to coarse sand and gravel.	
9.0 - 9.5				0.0	Moist	Silt & Sand	Gray brown to orange brown fine sand and silt. Trace clay. Stiff.		
9:50							Boring terminated at 10 feet bgs.		

GPS Coordinates:	X= 2669065.82	Y= 307485.61
Sampling Data:	Sample PGS-GP04-S001 (soil MS/MSD) was collected from 0.0 - 2.0 feet bgs at 0955.	
	Sample PGS-GP04-S002 was collected from 3.0 - 5.0 feet bgs at 1000.	
Sampled By:	C. Cumming	

Modifiers:
 and: 35% to 50 %
 some: 20% to 35%
 little: 10% to 20%
 trace: <10%



801 Industrial St. Wilmington, DE (302) 656-9600

GEOPROBE® DRILLING LOG BORING ID: PGS-GP05

Project Name: I-80 Reconstruction
 Location: Pocono Gas Station
 Weather Conditions: Light snow, 35° F
 Drilling Method: Direct-Push
 Sample Interval: Continuous
 Driller: Z. Hoppes

Project No.: 2895.01.51
 Drilling Date(s): 12/4/18
 Drilling Contractor: Odyssey Environmental
 Type of Sample/Coring Device: Macrocore
 Depth Groundwater Encountered (feet, bgs): 5.0
 Logged By: M. Atterbury

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
9:50	0.0	5.0	4.0	0.0	0.5	0.0	Moist	Surf Cover	Surface cover (asphalt).
				0.5	3.5	0.0	Moist	Sand & Gravel	Gray brown to orange brown medium to coarse sand and gravel, trace wood and brick debris.
				3.5	4.0	0.0	Moist	Silt & Sand	Medium brown to orange brown fine to medium sand and silt.
	5.0	10.0	3.0	5.0	6.0	0.0	Wet		Medium brown to orange brown fine to medium sand and silt, some coarse sand and gravels.
10:00				6.0	8.0	0.0	Moist	Sand & Gravel	Gray brown to orange brown medium to coarse sand and gravel.
	Boring terminated at 10 feet bgs. Temporary well installed.								

GPS Coordinates:	X= 2669061.73	Y= 307531.92
Sampling Data:	Sample PGS-GP05-S001 was collected from 0.5 - 2.0 feet bgs at 1010.	
	Sample PGS-GP05-S002 was collected from 2.0 - 4.0 feet bgs at 1015.	
	Sample PGS-GP05-W001 was collected at 1205.	
Sampled By:	C. Cumming	

Modifiers:
 and: 35% to 50 %
 some: 20% to 35%
 little: 10% to 20%
 trace: <10%



801 Industrial St. Wilmington, DE (302) 656-9600

GEOPROBE® DRILLING LOG BORING ID: PGS-GP06

Project Name: I-80 Reconstruction
 Location: Pocono Gas Station
 Weather Conditions: Light snow, 35° F
 Drilling Method: Direct-Push
 Sample Interval: Continuous
 Driller: Z. Hoppes

Project No.: 2895.01.51
 Drilling Date(s): 12/4/18
 Drilling Contractor: Odyssey Environmental
 Type of Sample/Coring Device:
 Depth Groundwater Encountered (feet, bgs): 5.0
 Logged By: M. Atterbury

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
10:10	0.0	5.0	1.0	0.0 - 0.5	0.0	Moist	Surf Cover	Surface cover (asphalt).	
				0.5 - 1.0	0.0	Moist	Silt & Sand	Medium brown to red brown fine to coarse sand and silt, trace clay, trace gravel (angular and rounded).	
	5.0	10.0	3.0	5.0 - 5.75	0.0	Wet	Sand & Gravel	Medium brown medium to coarse sand and gravel, some fine sand and silt.	
				5.75 - 8.0	0.0	Moist		Gray brown to orange brown medium to coarse sand and gravel.	
Boring terminated at 10 feet bgs. Temporary well installed.									

GPS Coordinates:	X= 2669002.32	Y= 307491.67
Sampling Data:	Sample PGS-GP06-S001 was collected from 0.0 - 1.0 feet bgs at 1030.	
	Sample PGS-GP06-W001 was collected at 1150.	
	Sample PGS-GP06-W101 (water duplicate) was collected at 1151.	
Sampled By:	C. Cumming	

Modifiers:
 and: 35% to 50 %
 some: 20% to 35%
 little: 10% to 20%
 trace: <10%



801 Industrial St. Wilmington, DE (302) 656-9600

GEOPROBE® DRILLING LOG BORING ID: PGS-GP07

Project Name: I-80 Reconstruction
 Location: Pocono Gas Station
 Weather Conditions: Light snow, 35° F
 Drilling Method: Direct-Push
 Sample Interval: Continuous
 Driller: Z. Hoppes

Project No.: 2895.01.51
 Drilling Date(s): 12/4/18
 Drilling Contractor: Odyssey Environmental
 Type of Sample/Coring Device: Macrocore
 Depth Groundwater Encountered (feet, bgs): Not encountered
 Logged By: M. Atterbury

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
10:40	0.0	5.0	1.0	0.0 - 0.25	0.0	Moist	C Sand	Dark brown medium to coarse sand, some fine sand and silt, trace organics (topsoil).	
				0.25 - 1.0	0.0	Moist	Sand & Gravel	Gray brown to red brown medium to coarse sand and gravel (rounded and angular).	
	5.0	10.0	2.5	5.0 - 5.5	0.0	Moist	Gravel	Gray rock fragments (crushed rock), some medium to coarse sand.	
				5.5 - 7.5	0.0	Moist	Sand & Gravel	Gray brown to orange brown medium to coarse sand and gravel (angular and rounded).	
11:00								Boring terminated at 10 feet bgs.	

GPS Coordinates:	X= 2669072.97	Y= 307627.37
Sampling Data:	Sample PGS-GP07-S001 was collected from 0.0 - 1.0 feet bgs at 1050.	
	Sample PGS-GP07-S002 was collected from 5.5 - 7.5 feet bgs at 1100.	
	Sample PGS-GP07-S102 (soil duplicate) was collected from 5.5 - 7.5 feet bgs at 1101.	
Sampled By:	C. Cumming	

Modifiers:
 and: 35% to 50 %
 some: 20% to 35%
 little: 10% to 20%
 trace: <10%



801 Industrial St. Wilmington, DE (302) 656-9600

GEOPROBE® DRILLING LOG BORING ID: PGS-GP08

Project Name: I-80 Reconstruction
 Location: Pocono Gas Station
 Weather Conditions: Light snow, 35° F
 Drilling Method: Direct-Push
 Sample Interval: Continuous
 Driller: Z. Hoppes

Project No.: 2895.01.51
 Drilling Date(s): 12/4/18
 Drilling Contractor: Odyssey Environmental
 Type of Sample/Coring Device: Macrocore
 Depth Groundwater Encountered (feet, bgs): 5
 Logged By: M. Atterbury

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
11:05	0.0	5.0	1.5	0.0 - 0.25	0.0	Moist	C Sand	Dark brown medium to coarse sand, some fine sand and silt, trace organics (topsoil).	
				0.25 - 1.5	0.0	Moist	Sand & Gravel	Medium brown to gray brown medium to coarse sand and gravel.	
	5.0	10.0	3.0	5.0 - 6.0	0.0	Wet		Medium brown medium to coarse sand and small gravel, trace large angular gravel.	
				6.0 - 6.75	0.0	V. Moist	Silt & Sand	Medium brown fine to medium sand and silt, some coarse sand.	
11:15				6.75 - 8.0	0.0	Moist	Sand & Gravel	Gray brown to dark brown medium to coarse sand and gravel, some fine sand and silt.	
									Boring terminated at 10 feet bgs.

GPS Coordinates:	X= 2669008.56	Y= 307606.11
Sampling Data:	Sample PGS-GP08-S001 was collected from 0.0 - 1.5 feet bgs at 1115.	
	Sample PGS-GP08-W001 (water MS/MSD) was collected at 1230.	
	Sample PGS-GP08-S201/W201 (soil and water equipment blanks) were collected at 1320 and 1330, respectively.	
	Sample PGS-GP08-S301/W301 (soil and water trip blanks) were collected at 1325 and 1335, respectively.	
Sampled By:	C. Cumming	

Modifiers:
 and: 35% to 50 %
 some: 20% to 35%
 little: 10% to 20%

Appendix C.8

Drilling Logs

Rinehart EM, Inc.



GEOPROBE® DRILLING LOG BORING ID: REI-GP01

Project Name: I-80 Phase III ESAs
Location: Rinehart EM, Inc. (1870 West Main St)
Weather Conditions: 40° F, sunny
Drilling Method: Direct push
Sample Interval (feet): Continuous
Driller: Clint Hoffman

Project No.: 2895.01.51
Drilling Date(s): 12/1/17
Drilling Contractor: Odyssey Environmental
Type of Sample/Coring Device: Macrocore
Depth Groundwater Encountered (feet, bgs): 5.8
Logged By: JCT

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
0900	0	5	1.4	0.0	1.4	0.0	Moist	Sand & Gravel	Reddish-brown fine to medium sand and fine to coarse gravel, some silt, trace clay, trace debris (concrete).
	5	10	3.7	5.0	6.0	0.0	Wet		Reddish-brown fine to medium sand and fine to coarse gravel, some silt, trace clay, trace concrete fragments (wet at 5.8 feet).
				6.0	8.7	0.0	Wet		F Sand
									Boring terminated at 10 feet bgs.

GPS Coordinates:	X= 2666480.54069041	Y= 307608.472382739
Sampling Data:	REI-GP01-S001 was collected from 0-1.4 feet bgs at 0900 (MS/MSD). REI-GP01-S002 was collected from 5-5.8 feet bgs at 0930. REI-GP01-W001 was collected at 1010 (MS/MSD).	
Sampled By:	CMC	

Modifiers:

and: 35% to 50 %
some: 20% to 35%
little: 10% to 20%
trace: <10%



GEOPROBE® DRILLING LOG

BORING ID: REI-GP02

Project Name: I-80 Phase III ESAs
Location: Rinehart EM, Inc. (1870 West Main St)
Weather Conditions: 40° F, sunny
Drilling Method: Direct push
Sample Interval (feet): Continuous
Driller: Clint Hoffman

Project No.: 2895.01.51
Drilling Date(s): 12/1/17
Drilling Contractor: Odyssey Environmental
Type of Sample/Coring Device: Macrocore
Depth Groundwater Encountered (feet, bgs): 7
Logged By: JCT

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
0930	0	5	3.1	0.0	0.5	0.0	Moist	Sand & Gravel	Dark brown fine to coarse sand and fine to medium gravel, some silt.
				0.5	2.3	10.1	Moist	M Sand	Buff to reddish-brown fine to medium sand, some fine to medium gravel, some silt, slight petroleum odor.
				2.3	3.1	2.0	Moist	Gravel	Fine to coarse gravel, some gray fine sand, little silt.
	5	10	2.5	5.0	7.5	0.0	Wet	Sand & Gravel	Reddish-brown fine to coarse sand and fine to coarse gravel, some silt (wet at 7 feet). Boring terminated at 10 feet bgs. Temporary well point was pushed to 15 feet bgs to collect a groundwater sample.

GPS Coordinates:	X= 2666533.43166075	Y= 307800.573704571
Sampling Data:	REI-GP02-S001 was collected from 0-2 feet bgs at 0955. REI-GP02-S101 was collected from 0-2 feet bgs at 0957 (duplicate sample). REI-GP02-S002 was collected from 5-7 feet bgs at 1015. REI-GP02-W001 was collected at 1115. REI-GP02-W101 was collected at 1117 (duplicate sample).	
Sampled By:	CMC	

Modifiers:
and: 35% to 50 %
some: 20% to 35%
little: 10% to 20%
trace: <10%



GEOPROBE® DRILLING LOG BORING ID: REI-GP03

Project Name: I-80 Phase III ESAs
 Location: Rinehart EM, Inc. (1870 West Main St)
 Weather Conditions: 50° F, sunny
 Drilling Method: Direct push
 Sample Interval (feet): Continuous
 Driller: Clint Hoffman

Project No.: 2895.01.51
 Drilling Date(s): 12/1/17
 Drilling Contractor: Odyssey Environmental
 Type of Sample/Coring Device: Macrocore
 Depth Groundwater Encountered (feet, bgs): 5.8
 Logged By: JCT

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
1000	0	5	2.5	0.0	0.4	0.0	Moist	Sand & Gravel	Dark brown fine to coarse sand and fine to medium gravel, some silt.
				0.4	1.2	0.0	Moist	C Sand	Orange-brown fine to coarse sand, some fine to coarse gravel, some silt.
				1.2	2.5	0.0	Moist	M Sand	Reddish-brown fine to medium sand, some silt, little fine to medium rounded gravel.
	5	10	1.4	5.0	6.4	0.0	Moist	Sand & Gravel	Buff fine to coarse sand and fine to coarse gravel, some silt, trace debris (concrete). Macrocore refusal at 7 feet bgs on concrete.

GPS Coordinates:	X= 2666543.83124625	Y= 307890.105349652
Sampling Data:	REI-GP03-S001 was collected from 0-2 feet bgs at 1020. REI-GP03-S002 was collected from 5-6.4 feet bgs at 1030.	
Sampled By:	CMC	

Modifiers:
 and: 35% to 50 %
 some: 20% to 35%
 little: 10% to 20%
 trace: <10%



GEOPROBE® DRILLING LOG

BORING ID: REI-GP04

Project Name: I-80 Phase III ESAs
Location: Rinehart EM, Inc. (1870 West Main St)
Weather Conditions: 50° F, sunny
Drilling Method: Direct push
Sample Interval (feet): Continuous
Driller: Clint Hoffman

Project No.: 2895.01.51
Drilling Date(s): 12/1/17
Drilling Contractor: Odyssey Environmental
Type of Sample/Coring Device: Macrocore
Depth Groundwater Encountered (feet, bgs): 7.2
Logged By: JCT

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
1015	0	5	2.4	0.0 - 0.7	0.0	Moist	C Sand	Orange-brown fine to coarse sand, some fine to medium gravel, some silt.	
				0.7 - 1.0	0.0	Moist	Gravel	Fine to coarse gravel.	
				1.0 - 2.4	0.0	Moist	Sand & Gravel	Reddish-brown fine to medium sand and fine to coarse gravel, some silt.	
	5	10	2.4	5.0 - 6.0	0.0	Moist	Gravel	Fine to coarse gravel.	
				6.0 - 7.4	0.0	Wet	C Sand	Reddish-brown/buff fine to coarse sand, some fine to coarse gravel, some silt (wet at 7.2 feet).	
Boring terminated at 10 feet bgs. Temporary well point was pushed to 15 feet bgs to collect a groundwater sample.									

GPS Coordinates:	X= 2666585.09920833	Y= 307977.232800074
Sampling Data:	REI-GP04-S001 was collected from 0-2 feet bgs at 1040. REI-GP04-S002 was collected from 5.2-7.2 feet bgs at 1050. REI-GP04-W001 was collected at 1145.	
Sampled By:	CMC	

Modifiers:
and: 35% to 50 %
some: 20% to 35%
little: 10% to 20%
trace: <10%



GEOPROBE® DRILLING LOG BORING ID: REI-GP05

Project Name: I-80 Phase III ESAs
 Location: Rinehart EM, Inc. (1870 West Main St)
 Weather Conditions: 50° F, sunny
 Drilling Method: Direct push
 Sample Interval (feet): Continuous
 Driller: Clint Hoffman

Project No.: 2895.01.51
 Drilling Date(s): 12/1/17
 Drilling Contractor: Odyssey Environmental
 Type of Sample/Coring Device: Macrocore
 Depth Groundwater Encountered (feet, bgs): 6.3
 Logged By: JCT

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
1120	0	5	3.4	0.0	2.3	0.0	Moist	M Sand	Orange-brown fine to medium sand, some fine to coarse gravel, some silt.
				2.3	3.4	0.0	Moist	Gravel	Reddish-brown fine to medium sand, some silt, trace fine gravel.
	5	10	1.5	5.0	6.5	0.0	Wet	M Sand	Gray/buff fine to medium sand, some fine to coarse gravel, some silt.
									Boring terminated at 10 feet bgs.

GPS Coordinates:	X= 2666717.63962566	Y= 308100.899219409
Sampling Data:	Sample REI-GP05-S001 was collected from 0-2 feet bgs at 1205.	
	Sample REI-GP05-S002 was collected from 5-6.3 feet bgs at 1215.	
Sampled By:	CMC	

Modifiers:
 and: 35% to 50 %
 some: 20% to 35%
 little: 10% to 20%
 trace: <10%



GEOPROBE® DRILLING LOG BORING ID: REI-GP06

Project Name: I-80 Phase III ESAs
Location: Rinehart EM, Inc. (1870 West Main St)
Weather Conditions: 50° F, sunny
Drilling Method: Direct push
Sample Interval (feet): Continuous
Driller: Clint Hoffman

Project No.: 2895.01.51
Drilling Date(s): 12/1/17
Drilling Contractor: Odyssey Environmental
Type of Sample/Coring Device: Macrocore
Depth Groundwater Encountered (feet, bgs): 7.6
Logged By: JCT

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
1120	0	5	2.5	0.0 - 0.2	0.0	Moist	Gravel	Coarse gravel.	
				0.2 - 0.8	0.0	Moist	Sand & Gravel	Dark brown/orange-brown fine to coarse sand and fine to medium gravel, some silt.	
				0.8 - 1.5	0.0	Moist		Dark brown/orange-brown/gray fine to coarse sand and fine to medium gravel, some silt.	
				1.5 - 2.5	0.0	Moist	M Sand	Reddish-brown fine to medium sand, some silt, little fine to medium rounded gravel.	
	5	10	2.6	5.0 - 7.6	0.0	Moist	Sand & Gravel	Reddish-brown to gray/buff fine to coarse sand and fine to coarse gravel, some silt, trace brick fragments (wet at bottom).	
	10	15	2.8	10.0 - 12.8	0.0	Wet		Gray/buff fine to coarse sand and fine to coarse gravel, some silt, little clay.	
Boring terminated at 15 feet bgs.									

GPS Coordinates:	X= 2666712.43720825	Y= 307992.296418242
Sampling Data:	REI-GP06-S001 was collected from 0-2 feet bgs at 1220. REI-GP06-S002 was collected from 5.6-7.6 feet bgs at 1225.	
Sampled By:	CMC	

Modifiers:
and: 35% to 50 %
some: 20% to 35%
little: 10% to 20%
trace: <10%



GEOPROBE® DRILLING LOG BORING ID: REI-GP07

Project Name: I-80 Phase III ESAs
Location: Rinehart EM, Inc. (1870 West Main St)
Weather Conditions: 50° F, sunny
Drilling Method: Direct push
Sample Interval (feet): Continuous
Driller: Clint Hoffman

Project No.: 2895.01.51
Drilling Date(s): 12/1/17
Drilling Contractor: Odyssey Environmental
Type of Sample/Coring Device: Macrocore
Depth Groundwater Encountered (feet, bgs): 6.5
Logged By: JCT

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
1210	0	5	2.8	0.0	1.0	0.0	Moist	Sand & Gravel	Dark brown fine to coarse sand and fine to coarse gravel, some silt.
				1.0	2.8	0.0	Moist		Reddish-brown to buff fine to coarse sand and fine to coarse gravel, some silt.
	5	10	1.6	5.0	6.6	0.0	Wet		Orange brown/gray fine to coarse sand and fine to coarse gravel, some silt, trace clay (wet at 6.5 feet).
									Boring terminated at 10 feet bgs.

GPS Coordinates:	X= 2666697.09340691	Y= 307845.418103069
Sampling Data:	REI-GP07-S001 was collected from 0-2 feet bgs at 1235. REI-GP07-S002 was collected from 5-6.5 feet bgs at 1240. REI-GP07-W001 was collected at 1300.	
Sampled By:	CMC	

Modifiers:

and: 35% to 50 %
some: 20% to 35%
little: 10% to 20%
trace: <10%



GEOPROBE® DRILLING LOG BORING ID: REI-GP08

Project Name: I-80 Phase III ESAs
Location: Rinehart EM, Inc. (1870 West Main St)
Weather Conditions: 50° F, sunny
Drilling Method: Direct push
Sample Interval (feet): Continuous
Driller: Clint Hoffman

Project No.: 2895.01.51
Drilling Date(s): 12/1/17
Drilling Contractor: Odyssey Environmental
Type of Sample/Coring Device: Macrocore
Depth Groundwater Encountered (feet, bgs): 6.6
Logged By: JCT

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
1315	0	5	3.4	0.0	1.2	0.0	Moist	Sand & Gravel	Brown/buff fine to coarse sand and fine to coarse gravel, some silt.
				1.2	1.8	0.0	Moist	F Sand	Reddish-brown fine sand, some silt, trace clay.
				1.8	3.0	0.3	Moist	Sand & Gravel	Buff/gray fine to coarse sand and fine to coarse gravel, some silt.
				3.0	3.4	0.0	Moist	Gravel	Fine to coarse gravel.
	5	10	2	5.0	7.0	0.0	Wet	F Sand	Buff to reddish-brown fine sand, some silt (wet at 6.6 feet).
Boring terminated at 10 feet bgs.									

GPS Coordinates:	X= 2666710.92540025	Y= 307767.608547404
Sampling Data:	REI-GP08-S001 was collected from 0-2 feet bgs at 1345. REI-GP08-S002 was collected from 5-6.6 feet bgs at 1350. REI-GP08-S301 was collected at 1400 (soil trip blank). REI-GP08-W301 was collected at 1405 (water trip blank).	
Sampled By:	CMC	

Modifiers:

and: 35% to 50 %
some: 20% to 35%
little: 10% to 20%
trace: <10%

Appendix C.9

Drilling Logs

Perfection Shoe Machinery Company



801 Industrial St. Wilmington, DE (302) 656-9600

GEOPROBE® DRILLING LOG BORING ID: PSC - GP01

Project Name: I-80 Reconstruction
 Location: Perfection Shoe Company
 Weather Conditions: Sunny, breezy, ~40° F
 Drilling Method: Direct-Push
 Sample Interval: Continuous
 Driller: Z. Hoppes

Project No.: 2895.01.51
 Drilling Date(s): 12/3/18
 Drilling Contractor: Odyssey Environmental
 Type of Sample/Coring Device: Macrocore
 Depth Groundwater Encountered (feet, bgs): 7.0
 Logged By: M. Atterbury

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
9:50	0.0	5.0	1.0	0.0 - 1.0		0.0	Moist	Sand & Gravel	Gray to brown coarse to medium sand and gravel. Trace brick debris.
	5.0	10.0	4.0	5.0 - 7.0		0.0	Moist		Gray to brown coarse to medium sand and gravel. Trace brick debris.
				7.0 - 9.0		0.0	Wet	M Sand	Moderate brown to orange brown medium sand, some fine sand and silt.
10:10									Boring terminated at 10 feet bgs. Temporary well installed.

GPS Coordinates:	X= 2669685.91	Y= 307173.01
Sampling Data:	Sample PSC-GP01-S001 was collected from 0.0 - 1.0 feet bgs at 1010.	
	Sample PSC-GP01-S002 was collected from 5.0 -7.0 feet bgs at 1020.	
	Sample PSC-GP01-W001 (water MS/MSD) was collected at 1220.	
Sampled By:	C. Cumming	

Modifiers:
 and: 35% to 50 %
 some: 20% to 35%
 little: 10% to 20%
 trace: <10%
 BrightFields File #:



801 Industrial St. Wilmington, DE (302) 656-9600

GEOPROBE® DRILLING LOG BORING ID: PSC - GP02

Project Name: I-80 Reconstruction
 Location: Perfection Shoe Company
 Weather Conditions: Sunny, breezy, ~40° F
 Drilling Method: Direct-Push
 Sample Interval: Continuous
 Driller: Z. Hoppes

Project No.: 2895.01.51
 Drilling Date(s): 12/3/18
 Drilling Contractor: Odyssey Environmental
 Type of Sample/Coring Device: Macrocore
 Depth Groundwater Encountered (feet, bgs): 7.5
 Logged By: M. Atterbury

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
10:15	0.0	5.0	2.0	0.0 - 2.0		0.0	Moist	Sand & Gravel	Medium brown to gray brown medium to coarse sand and gravel. Trace plastic debris in top two inches.
	5.0	10.0	4.5	5.0 - 7.5		0.0	Moist		Medium brown to gray brown medium to coarse sand and gravel. Trace plastic debris in top two inches.
10:28				7.5 - 9.5		0.0	Wet	M Sand	Medium brown to orange brown fine to medium sand and silt, some clay.

GPS Coordinates:	X= 2669804.06	Y= 307149.12
Sampling Data:	Sample PSC-GP02-S001 was collected from 0.0 - 2.0 feet bgs at 1030.	
	Sample PSC-GP02-S002 was collected from 5.5 - 7.5 feet bgs at 1040.	
	Sample PSC-GP02-W001 was collected at 1300.	
Sampled By:	C. Cumming	

Modifiers:
 and: 35% to 50 %
 some: 20% to 35%
 little: 10% to 20%
 trace: <10%



GEOPROBE® DRILLING LOG
BORING ID: PSC - GP03

Project Name: I-80 Reconstruction
Location: Perfection Shoe Company
Weather Conditions: Sunny, breezy, ~40° F
Drilling Method: Direct-Push
Sample Interval: Continuous
Driller: Z. Hoppes

Project No.: 2895.01.51
Drilling Date(s): 12/3/18
Drilling Contractor: Odyssey Environmental
Type of Sample/Coring Device: Macrocore
Depth Groundwater Encountered (feet, bgs): Not encountered
Logged By: M. Atterbury

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
10:32	0.0	5.0	3.0	0.0	1.0	0.0	Moist	C Sand	Medium brown to orange brown medium to coarse sand, some fine sand and silt. Trace organics in top two inches.
				1.0	3.0	0.0	Moist	Sand & Gravel	Medium brown to gray brown medium to coarse sand and gravel.
	5.0	10.0	3.0	5.0	7.0	0.0	Moist		Medium brown to gray brown medium to coarse sand and gravel.
				7.0	8.0	0.0	V. Moist	Silt & Sand	Medium brown fine to medium sand and silt.
10:50	Boring terminated at 10 feet bgs.								

GPS Coordinates:	X= 2669777.96	Y= 307212.22
Sampling Data:	Sample PSC-GP03-S001 (soil MS/MSD) was collected from 0.0 - 2.0 feet bgs at 1100.	
	Sample PSC-GP03-S002 was collected from 5.0 - 7.0 feet bgs at 1115.	
Sampled By:	C. Cumming	

Modifiers:
and: 35% to 50 %
some: 20% to 35%
little: 10% to 20%
trace: <10%



GEOPROBE® DRILLING LOG
BORING ID: PSC - GP04

Project Name: I-80 Reconstruction
Location: Perfection Shoe Company
Weather Conditions: Sunny, breezy, ~40° F
Drilling Method: Direct-Push
Sample Interval: Continuous
Driller: Z. Hoppes

Project No.: 2895.01.51
Drilling Date(s): 12/3/18
Drilling Contractor: Odyssey Environmental
Type of Sample/Coring Device: Macrocore
Depth Groundwater Encountered (feet, bgs): 5.25
Logged By: M. Atterbury

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
11:05	0.0	5.0	2.5	0.0 - 0.5	0.0	Moist	Sand & Gravel	Black to brown coarse sand and gravel (possible millings).	
				0.5 - 2.0	0.0	Moist	C Sand	Medium brown medium to coarse sand, some fine sand and silt.	
				2.0 - 2.5	0.0	Moist		Medium brown medium to coarse sand and gravel, some fine sand and silt.	
	5.0	10.0	1.0	5.0 - 5.25	0.0	Moist	Sand & Gravel	Medium brown medium to coarse sand and gravel, some fine sand and silt.	
				5.25 - 6.0	0.0	Wet		Medium brown to orange brown coarse sand and gravel, some fine to medium sand.	
11:20							Boring terminated at 10 feet bgs.		

GPS Coordinates:	X= 2669745.31	Y= 307300.28828
Sampling Data:	Sample PSC-GP04-S001 was collected from 0.0 - 2.0 feet bgs at 1130.	
	Sample PSC-GP04-S002 was collected from 2.0 - 3.0 feet bgs at 1140.	
Sampled By:	C. Cumming	

Modifiers:
and: 35% to 50 %
some: 20% to 35%
little: 10% to 20%
trace: <10%



801 Industrial St. Wilmington, DE (302) 656-9600

GEOPROBE® DRILLING LOG BORING ID: PSC - GP05

Project Name: I-80 Reconstruction
 Location: Perfection Shoe Company
 Weather Conditions: Sunny, breezy, ~40° F
 Drilling Method: Direct-Push
 Sample Interval: Continuous
 Driller: Z. Hoppes

Project No.: 2895.01.51
 Drilling Date(s): 12/3/18
 Drilling Contractor: Odyssey Environmental
 Type of Sample/Coring Device: Macrocore
 Depth Groundwater Encountered (feet, bgs): Not encountered
 Logged By: M. Atterbury

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
11:25	0.0	5.0	3.0	0.0	1.0	0.0	Moist	Sand & Gravel	Gray brown to black brown medium to coarse sand and angular gravel.
				1.0	2.0	0.0	Moist	C Sand	Orange brown medium to coarse sand, some fine sand and silt.
				2.0	3.0	0.0	Moist	Sand & Gravel	Medium brown to gray brown medium to coarse sand and gravel.
11:35	5.0	10.0	3.0	5.0	8.0	0.0	Moist	Sand & Gravel	Medium brown to gray brown medium to coarse sand and gravel.
				Boring terminated at 10 feet bgs.					

GPS Coordinates:	X= 2669696.07	Y= 307233.67
Sampling Data:	Sample PSC-GP05-S001 was collected from 0.0 - 2.0 feet bgs at 1150.	
	Sample PSC-GP05-S101 (soil duplicate) was collected from 0.0 - 2.0 feet bgs at 1151.	
	Sample PSC-GP05-S002 was collected from 8.0 - 10.0 feet bgs at 1200.	
Sampled By:	C. Cumming	

Modifiers:
 and: 35% to 50 %
 some: 20% to 35%
 little: 10% to 20%
 trace: <10%

GEOPROBE® DRILLING LOG

BORING ID: PSC - GP06

Project Name: I-80 Reconstruction
 Location: Perfection Shoe Company
 Weather Conditions: Sunny, breezy, ~40° F
 Drilling Method: Direct-Push
 Sample Interval: Continuous
 Driller: Z. Hoppes

Project No.: 2895.01.51
 Drilling Date(s): 12/3/18
 Drilling Contractor: Odyssey Environmental
 Type of Sample/Coring Device: Macrocore
 Depth Groundwater Encountered (feet, bgs): Not encountered
 Logged By: M. Atterbury

Time	Plastic Sample Tube Depth		Core Recovery (feet)	Depth (feet)		PID Reading (ppm)	Moisture	Soil Class	Soil Description
	From	To		From	To				
11:40	0.0	5.0	2.0	0.0 - 0.75		0.0	Moist	Sand & Gravel	Gray brown to black brown (some white to tan gray) medium to coarse sand and gravel.
				0.75 - 1.75		0.0	V. Moist	C Sand	Medium brown medium to coarse sand, some fine sand and silt.
				1.75 - 2.0		0.0	Moist	Sand & Gravel	Med brown to gray brown medium to coarse sand and small gravel.
	5.0	10.0	3.0	5.0 - 6.5		0.0	Moist	Sand & Gravel	Med brown to gray brown medium to coarse sand and small gravel.
				6.5 - 8.0		0.0	V. Moist	F Sand	Gray brown to medium brown and orange brown fine sand and silt, trace clay.
11:50	Boring terminated at 10 feet bgs. Temporary well installed.								

GPS Coordinates:	X= 2669681.66	Y= 307282.21
Sampling Data:	Sample PSC-GP06-S001 was collected from 0.0 - 1.5 feet bgs at 1205.	
	Sample PSC-GP06-S002 was collected from 5.0 - 7.0 feet bgs at 1210.	
	Sample PSC-GP06-S201/W201 (soil and water equipment blanks) were collected at 1400 and 1350, respectively.	
	Sample PSC-GP06-S301/W301 (soil and water trip blanks) were collected at 1356 and 1355, respectively.	
	Sample PSC-GP06-W001 was collected at 1345.	
	Sample PSC-GP06-W101 (water duplicate) was collected at 1346.	
Sampled By:	C. Cumming	

Modifiers:
 and: 35% to 50 %
 some: 20% to 35%
 little: 10% to 20%
 trace: <10%

Appendix D

Geophysical Survey Reports



Subsurface Environmental Technologies, LLC.
19 Brookside Avenue
Pennington, New Jersey 08534
Phone: (609) 730-0005
Fax: (609) 730-1222

January 30, 2018

Ref No: 17-353G

Ms. Victoria Bisbing
Brightfields, Inc.
801 Industrial Street
Wilmington, DE 19801

Subject: Geophysical Investigation Results
440 Main Street
Stroudsburg, PA 18360

Dear Ms. Victoria Bisbing:

Subsurface Environmental Technologies, LLC (SET) is pleased to present this final letter report to Brightfields, Inc. describing the methods and results of a geophysical investigation conducted at the above referenced site in Stroudsburg, Pennsylvania. The survey area for this investigation was limited to portions of the parking lot associated with the 440 Main Street building which currently houses a KFC Restaurant (see shaded polygon on Figure 1 for the survey boundaries). The survey area was primarily asphalt-covered, but also contained sporadic sections of concrete and some gravels near the site boundary along N. 5th. The field activities for this project were completed by SET personnel on November 27, 2017.

Objectives

The primary objective of this geophysical investigation was to survey all reasonably accessible portions of the survey area defined on Figure 1 below to identify underground storage tanks (USTs), or evidence of prior UST removal such as excavations, or discrete areas containing disturbed soils. The secondary objective of this investigation was to perform a geophysical survey directly over, and surrounding four (4) proposed drilling locations to identify potential underground hazards such as utility pipelines, storage tanks (UST's), or anomalous features that may adversely affect planned drilling events on site. To meet this objective, SET used a GSSI SIR 3000 System (GPR) with a 400 megahertz (MHz) ground-penetrating radar antenna, a Fisher TW-6 M-Scope, and an RD7000 radio frequency (RF) device by Radiodetection, Inc.

Instrumentation

Ground Penetrating Radar (GPR)

Ground Penetrating Radar (GPR) is a near surface geophysical method based on the transmission of repetitive, high-frequency electromagnetic (EM) pulses emitted from a transmitting antenna to probe the earth. The EM pulses emitted from the transmitting antenna propagate through the subsurface at a velocity that is directly related to the electrical

Mr. Victoria Bisbing
Brightfields, Inc.
SET: 17-353G

properties of the subsurface. When an EM wave contacts an interface of differing electrical properties (e.g. dielectric constant), part of that energy is returned to surface in the form of a reflected signal. The reflected signal is detected by a receiving transducer, displayed on the control unit screen, and recorded on an internal hard drive.

The control unit records a continuous cross-section of the subsurface by plotting the two-way travel time of the EM pulse, relative to the distance traveled by the GPR antenna along to ground surface. To determine depth, two-way travel time values are converted using known soil velocity functions. GPR field procedures include: system calibration, test run completion, and profile collection and interpretation. GPR Data collected in the field can be analyzed both in the field and in the office, should further analysis be required.

Fisher TW-6 M-Scope

The M-Scope is an electromagnetic (EM) instrument used to detect the presence of buried metallic objects such as buried drums, metallic conduits, or miscellaneous metallic debris buried within the upper 3 to 5 feet of the subsurface. The Fisher M-Scope uses the principals of electromagnetic induction. A primary coil broadcasts a radio signal from a transmitting antenna, and induces secondary electrical currents along buried metallic objects.

This secondary electrical current in turn produces a secondary magnetic field, which is then detected by a receiving antenna. Peak responses are observed when the instrument is moved directly over a metallic object. Peak responses are observed by the operator in real time using the analog meter and audible output signals.

Radio-Frequency Method (RF)

This instrument consists of a receiver/tracer and a remote transmitter, which operates at frequencies between 8 kilohertz (kHz) and 200 kHz. The unit provides audio and visual feedback to the operator when a utility that is coupled with the transmitted signal is crossed. The transmitter produces a radio-frequency signal in the utility to be traced by either induction coupling or direct hookup. The receiver output provides measured field strength of the received signal and varies an audible pitch that is dependent upon the distance to the utility. By carefully adjusting the gain of the receiver, it is possible to determine the location of the utility and to separate it from possible adjacent utilities. In addition, the receiver can be used in 60 kHz passive mode to identify active electrical lines or lines that possess an induced current.

Results and Discussion

Suspected Underground Storage Tank and Area of Peak Metal Responses

SET detected one suspected UST within the survey area. This suspected UST is located approximately 28 feet due south of the southernmost corner of the 440 Main Street building in

Mr. Victoria Bisbing
Brightfields, Inc.
SET: 17-353G

the parking lot (see Figure 1). SET has an interpreted tank length of approximately 14 feet long, 6 feet wide, and is buried at an approximate depth of 3.0 feet bgs. The measurements for this suspected UST were estimated from geophysical responses and should be considered approximate.

The suspected UST displayed characteristic GPR responses such as the strong, hyperbolic signatures over the interpreted short axis, and a strong, flat GPR reflection along the anticipated length of the UST (see “GPR: 253” on Figure 1). Additionally, peak M-Scope responses were observed when the instrument moved within close proximity to the GPR anomaly, further indicating the presence of significant buried metals within the same proximity. This combination of GPR signatures and peak M-Scope responses can often be associated with the presence of UST’s.

SET also observed an area of peak metal responses with both the Geonics EM61 and Fisher M-Scope (see shaded cyan polygon on Figure 1). SET did not observed GPR signatures that would suggest the presence of a UST; however GPR penetration was limited to the upper 1.0 feet of the subsurface over this anomaly. SET observed shallow, repeating, and closely spaced hyperbolic signatures that are commonly seen with the presence of buried reinforced slabs.

Peak metal responses may be due to the presence of buried reinforced concrete in the area indicated on Figure 1; however, it is possible that a UST (or UST’s) are present below the possible reinforced slab and may not have been indicated in GPR responses. No other metal anomalies were identified within the survey area.

Proposed Soil Boring Investigation

SET performed a geophysical survey direction over and surrounding a total of four proposed drilling locations: SB-01, SB-02, SB-03 and SB-04. All locations selected as a final drilling point displayed geophysical characteristics which were not indicative of buried utility pipelines, UST’s, or anomalous zones that may adversely affect drilling operations. SET determined these points to as safe when both the RF and M-Scope instrument responses were constant, and when GPR responses were did not indicate the presence of buried objects.

All locations deemed free of subsurface obstructions were marked on site with white spray paint. The approximate positions of these features can be seen below in Table 1 below. Note that these positions are of sub-meter accuracy and were not obtained by a licensed land surveyor. These positions are intended for general reference purposes only.

Table 1. *Soil Boring Location Table.* The data below is referenced to NAD83 (conus). The Pennsylvania State Plane coordinate system was used (units = U.S. Survey Feet).

Soil Boring Designation	Northing (U.S. Survey Feet)	Easting (U.S. Survey Feet)
SB-01	309166	2675055

Table 1. Soil Boring Location Table (cont.)

Soil Boring Designation	Northing (U.S. Survey Feet)	Easting (U.S. Survey Feet)
SB-02	309206	2675021
SB-03	309223	2675050
SB-04	309206	2675071

Buried Utilities

SET detected numerous utility pipelines throughout the survey area. Identified utility lines include: gas, water, electric, and unknown (see Figure 1 for these features). All identified utilities were annotated on Figure 1 and marked in the field following the American Public Works Association (APWA) uniform color code standards for utility mark-outs.

Table 1. APWA Uniform Color Code Standards for Utility Mark-out's

COLOR	DESIGNATION
Red	Electric lines, cables, conduit, and lighting lines
Orange	Telecommunication, alarm, or signal lines
Green	Drains and Sanitary or Storm Sewer Lines
Yellow	Gas, oil, steam, petroleum, or gaseous materials
Blue	Potable Water Lines
White	Proposed intrusive work (excavation/drilling)
Pink	Temporary Survey Marking/Geophysical Anomaly
Purple	Reclaimed Water, Irrigation, and Slurry Lines

Data Quality

The GPR, RF, and M-Scope data quality for this project was poor-to-moderate. Because of the nature of the subsurface in the designated survey area the GPR signals penetrated to an approximate depth of 1.5 feet to 3.5 feet below ground surface (bgs). The interpretations in this report are based on observed geophysical responses and visual observations made in the field.

Closing

The geophysical data collection and interpretation methods used in this investigation are consistent with standard practices applied to similar geophysical investigations. The correlation

Mr. Victoria Bisbing
Brightfields, Inc.
SET: 17-353G

of geophysical responses is based on the past results of similar surveys, although it is possible that some variation could exist at this site. Due to the nature of geophysical data, no guarantees have been made or inferred regarding the presence or absence of additional objects or targets beyond those identified or beyond the detection limits of the instrumentation used in this investigation.

It was a pleasure working with you on this project, and we look forward to conducting geophysical investigations for you in the future.

Sincerely,

Subsurface Environmental Technologies, LLC.
Geophysics Group



Corey Miller,
Project Geophysicist

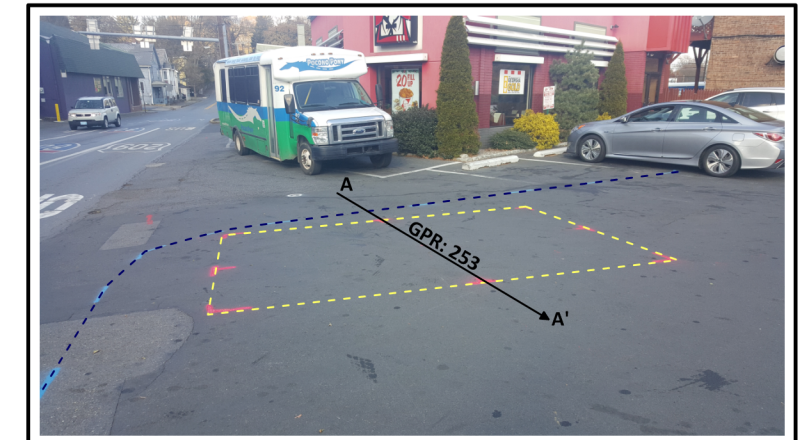
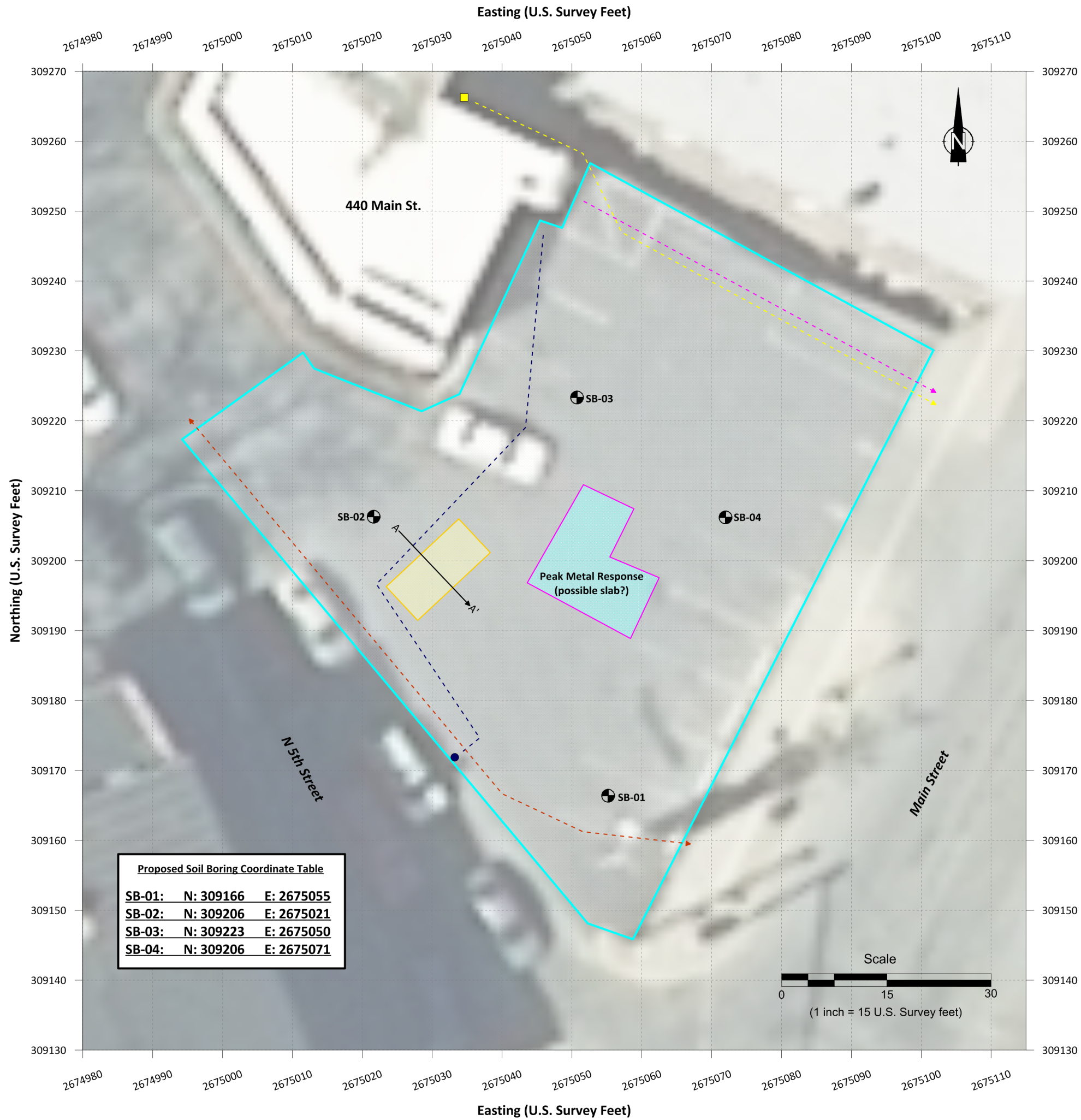


Peter Miller, PhD., P.G.
Principal Geophysicist

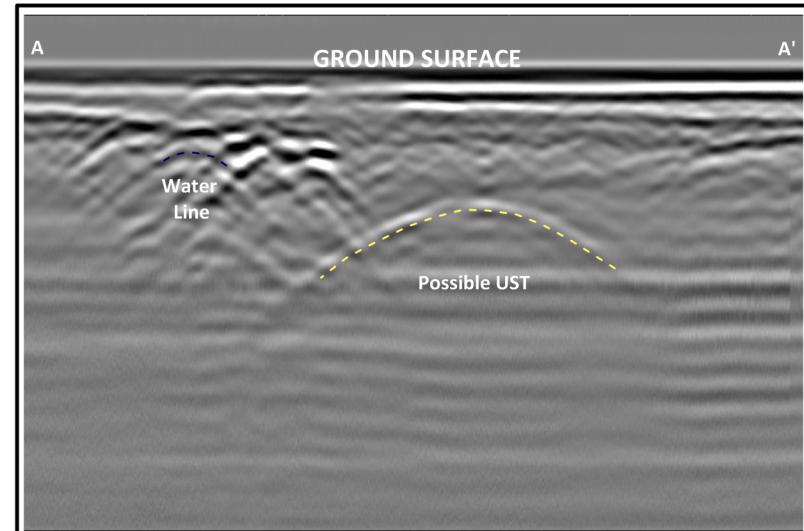
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Figure 1

“Annotated High Resolution Georeferenced Orthophoto Showing Possible UST, Metallic Anomaly, and Detected Utility Pipelines”



Northwest-looking site photo showing suspected UST, detected water line and GPR transect "GPR:253."



GPR profile "GPR: 253" showing subtle, yet characteristic hyperbolic signature of possible UST and nearby water line.

Depth: ~3.0 ft bgs Width: ~6.0ft Length: ~14ft

Notes:

- (1) The primary objective of this geophysical investigation was to survey all reasonably accessible portions of the survey area defined on Figure 1 (shaded cyan polygon) below to identify UST's, or evidence of prior UST removal such as excavations, or discrete areas containing disturbed soils. The secondary objective of this investigation was to perform a geophysical survey directly over, and surrounding four (4) proposed drilling locations to identify potential underground hazards such as utility pipelines, storage tanks (UST's), or anomalous features that may adversely affect planned drilling events on site. To meet this objective, SET used a GSSI SIR 3000 System (GPR) with a 400 megahertz (MHz) ground-penetrating radar antenna, a Fisher TW-6 M-Scope, and an RD7000 radio frequency (RF) device by Radiodetection, Inc.
- (2) The positions on this map should be considered approximate. This map is a scaled representation of the floor plan. Refer to field markings for actual positions of buried targets.
- (3) The items on this figure may not be all inclusive. SET does not warrant the fact that additional buried features may be present at this site.

Legend:

- Electric Line
- Unknown Utility
- Water Line
- Gas Line
- Water Valve
- Possible UST
- Metal Anomaly
- ⊕ Proposed Soil Boring
- GPR Transect

SET
GEOPHYSICS & DRILLING SERVICES
SUBSURFACE ENVIRONMENTAL TECH., LLC.
19 BROOKSIDE AVENUE
PENNINGTON, NJ 08534

HIGH RESOLUTION GEOREFERENCED ORTHOPHOTO SHOWING POSSIBLE UST, METALLIC ANOMALY, AND DETECTED UTILITY PIPELINES

PROJECT:	17-353G	SUBSURFACE ENVIRONMENTAL TECHNOLOGIES, LLC.	FIGURE 1
FIGURE DATE:	JANUARY 30, 2017	DRAWN BY: C. MILLER, PROJECT GEOPHYSICIST	



Subsurface Environmental Technologies, LLC.
19 Brookside Avenue
Pennington, New Jersey 08534
Phone: (609) 730-0005
Fax: (609) 730-1222

January 28, 2018

Ref No: 18-324G

Ms. Victoria Bisbing
Brightfields, Inc.
801 Industrial Street
Wilmington, DE 19801

Subject: Geophysical Investigation Results
1209 & 1230 W. Main Street
Stroudsburg, PA 18360

Dear Ms. Bisbing

Subsurface Environmental Technologies, LLC (SET) presents this letter report to Brightfields, Inc. detailing the methods and results of a geophysical investigation conducted at 1209 and 1230 W. Main Street in Stroudsburg, Pennsylvania. The Site located at 1209 West Main Street is was occupied by KCL Electric at the time of this survey. The survey areas for this Site were limited to six, roughly 20-foot by 20-foot areas surrounding the proposed Geoprobe (GP) locations shown on Figure 1 below. The Site located at 1230 was occupied by an active Gulf Service Station ("Pocono Gas") at the time of this survey. Similarly, the survey areas at this Site were limited to six, roughly 20-foot by 20-foot areas surrounding GP locations on Figure 1. The field activities for this project were completed by SET personnel on November 28, 2018.

Objective

The objective of this investigation was to perform a geophysical survey directly over and surrounding twelve (12) proposed Geoprobe (GP) locations to identify potential underground hazards such as utility pipelines, storage tanks (UST's), or anomalous features that may adversely affect planned drilling events on site. To meet this objective, SET used a GSSI SIR 3000 System (GPR) with a 400-megahertz (MHz) ground-penetrating radar antenna, a Fisher TW-6 M-Scope, and an RD7000 radio frequency (RF) device by Radiodetection, Inc.

Instrumentation

Ground Penetrating Radar (GPR)

Ground Penetrating Radar (GPR) is a near surface geophysical method based on the transmission of repetitive, high-frequency electromagnetic (EM) pulses emitted from a transmitting antenna to probe the Earth. The EM pulses emitted from the transmitting antenna propagate through the subsurface at a velocity that is directly related to the electrical properties of the subsurface. When an EM wave contacts an interface of differing electrical properties (e.g. dielectric constant), part of that energy is returned to surface in the form of a reflected signal. The reflected signal is detected by a receiving transducer, displayed on the

Ms. Victoria Bisbing
Brightfields, Inc.
SET: 18-324G

control unit screen, and recorded on an internal hard drive. The control unit records a continuous cross-section of the subsurface by plotting the two-way travel time of the EM pulse, relative to the distance traveled by the GPR antenna along to ground surface. To determine depth, two-way travel time values are converted using known soil velocity functions. GPR field procedures include: system calibration, test run completion, and profile collection and interpretation. GPR Data collected in the field can be analyzed both in the field and in the office, should further analysis be required.

Fisher TW-6 M-Scope

The M-Scope is an electromagnetic (EM) instrument used to detect the presence of buried metallic objects such as buried drums, metallic conduits, or miscellaneous metallic debris buried within the upper 3 to 5 feet of the subsurface. The Fisher M-Scope uses the principals of electromagnetic induction. A primary coil broadcasts a radio signal from a transmitting antenna, and induces secondary electrical currents along buried metallic objects. This secondary electrical current in turn produces a secondary magnetic field, which is then detected by a receiving antenna. Peak responses are observed when the instrument is moved directly over a metallic object. Peak responses are observed by the operator in real time using the analog meter and audible output signals.

Radio-Frequency Method (RF)

The Radio Detection RD4000 multi-frequency utility locating system was used directly over and around each proposed SB location. This instrument consists of a receiver/tracer and a remote transmitter, which operates at frequencies between 8 kilohertz (kHz) and 200 kHz. The unit provides audio and visual feedback to the operator when a utility that is coupled with the transmitted signal is crossed. The transmitter produces a radio-frequency signal in the utility to be traced by either induction coupling or direct hookup. The receiver output provides measured field strength of the received signal and varies an audible pitch that is dependent upon the distance to the utility. By carefully adjusting the gain of the receiver, it is possible to determine the location of the utility and to separate it from possible adjacent utilities. In addition, the receiver can be used in 60 kHz passive mode to identify active electrical lines or lines that possess an induced current.

Results and Discussion

Proposed Soil Boring Investigation

SET surveyed a total of twelve (12) proposed Geoprobe locations: GP-01, GP-02, GP-03, GP-04, GP-05, GP-06, GP-07, GP-08, GP-09, GP10, GP11, and GP-12, respectively. All locations selected as a final drilling point displayed geophysical characteristics which were not indicative of buried utility pipelines, UST's, or anomalous zones that may adversely affect drilling operations. SET

determined these points as final when both the RF and M-Scope instrument responses were constant, and when GPR responses were did not indicate the presence of buried objects.

All locations deemed free of subsurface obstructions were marked on site with white spray paint (shown as a cross-hair symbol) and/or a pink pin flag (as allowed by ground conditions). The approximate positions of these features can be seen below in Table 1 below. Note that these positions are of sub-meter accuracy and were not obtained by a licensed land surveyor. These positions are intended for general reference purposes only.

Table 1. Soil Boring Location Table. The data below is referenced to NAD83 (conus). The Pennsylvania (north) State Plane coordinate system was used (units = U.S. Survey Feet).

Soil Boring Designation	Northing (U.S. Survey Feet)	Easting (U.S. Survey Feet)
GP-01	307147.4	2669800.9
GP-02	307209.1	2669773.8
GP-03	307170.4	2669682.2
GP-04	307297.1	2669742.1
GP-05	307280.0	2669681.0
GP-06	307230.1	2669693.3
GP-07	307601.0	2669114.6
GP-08	307591.4	2669077.4
GP-09	307589.1	2669004.6
GP-10	307492.6	2669006.7
GP-11	307480.6	2669072.0
GP-12	307538.5	2669063.9

Buried Utilities

SET detected a single propane line within the survey area. This line was identified with GPR and was traced from the AST, north, to where it terminates where a valve is present at the ground surface. The detected utility line was marked in the field and annotated on Figure 1 following the American Public Works Association (APWA) uniform color code standards for utility mark-outs. See Table 2 below for APWA color code standards.

Table 2. APWA Uniform Color Code Standards for Utility Mark-out's

COLOR	DESIGNATION
Red	Electric lines, cables, conduit, and lighting lines
Orange	Telecommunication, alarm, or signal lines
Green	Drains and Sanitary or Storm Sewer Lines

Table 2 (continued). APWA Uniform Color Code Standards for Utility Mark-out's

Ms. Victoria Bisbing
Brightfields, Inc.
SET: 18-324G

COLOR	DESIGNATION
Yellow	Gas, oil, steam, petroleum, or gaseous materials
Blue	Potable Water Lines
White	Proposed intrusive work (excavation/drilling)
Pink	Temporary Survey Marking/Geophysical Anomaly
Purple	Reclaimed Water, Irrigation, and Slurry Lines

Data Quality

The GPR, RF, and M-Scope data quality for this project was good. Because of the nature of the subsurface in the designated survey area the GPR signals penetrated to an approximate depth of 3.0 feet to 5.0 feet below ground surface (bgs). The interpretations in this report are based on observed geophysical responses and visual observations made in the field.

Closing

The geophysical data collection and interpretation methods used in this investigation are consistent with standard practices applied to similar geophysical investigations. The correlation of geophysical responses is based on the past results of similar surveys, although it is possible that some variation could exist at this site. Due to the nature of geophysical data, no guarantees have been made or inferred regarding the presence or absence of additional objects or targets beyond those identified or beyond the detection limits of the instrumentation used in this investigation.

It was a pleasure working with you on this project, and we look forward to conducting geophysical investigations for you in the future.

Sincerely,

Subsurface Environmental Technologies, LLC.
Geophysics Group



Peter Miller, PhD., P.G.
Principal Geophysicist



Corey Miller
Project Geophysicist

Encl.:

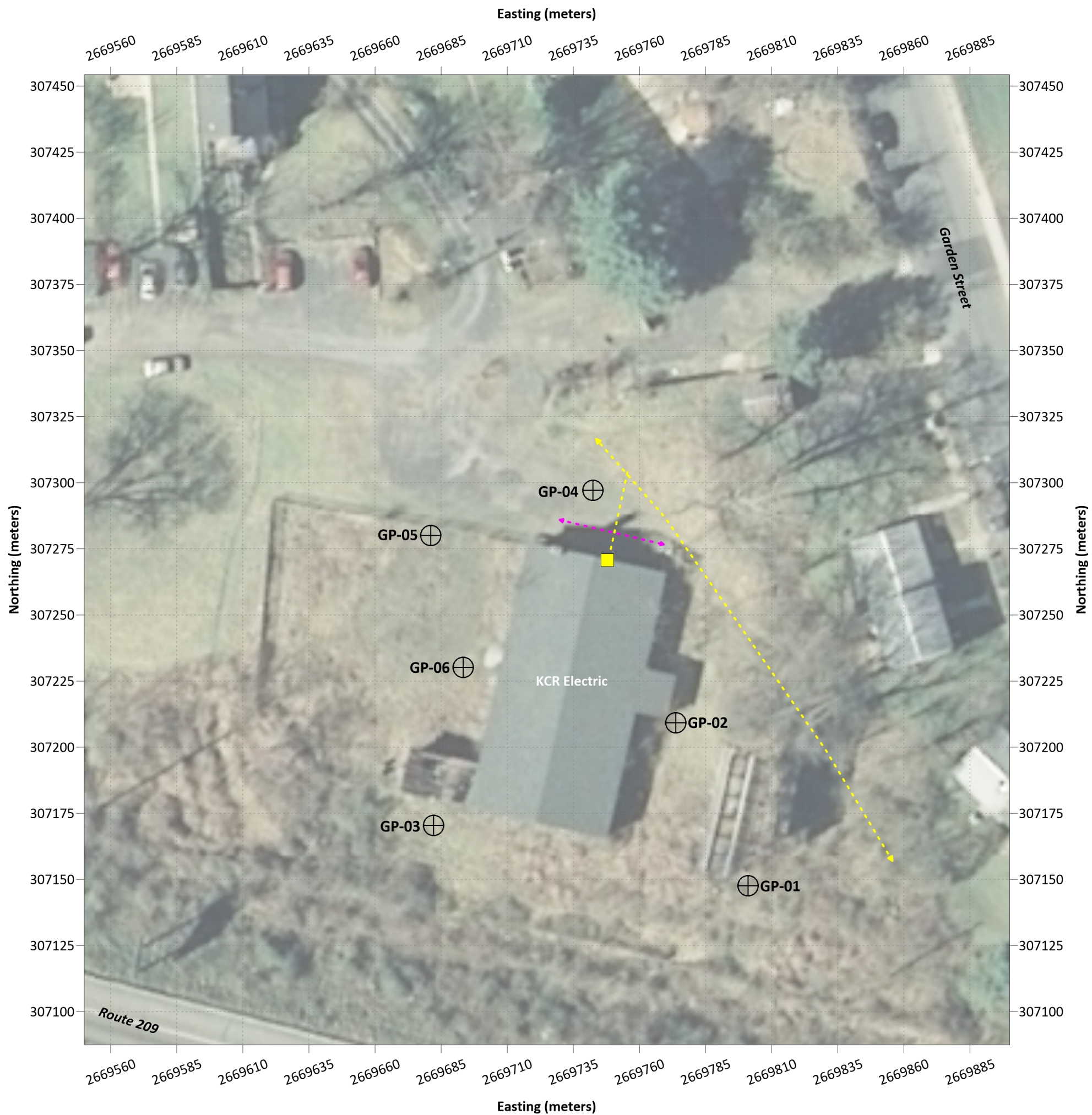
Ms. Victoria Bisbing
Brightfields, Inc.
SET: 18-324G

Figure 1

ANNOTATED HIGH RESOLUTION GEOREFERENCED ORTHOPHOTO SHOWING DETECTED UTILITY LINES AND PROPOSED SOIL BORING LOCATIONS

Figure 2

ANNOTATED HIGH RESOLUTION GEOREFERENCED ORTHOPHOTO SHOWING DETECTED UTILITY LINES AND PROPOSED SOIL BORING LOCATIONS



Soil Boring Location Data

Datum: NAD83 (conus)
 Coordinate System: PA State Plane
 Units: U.S. Survey Feet

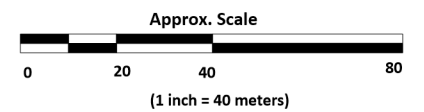
- GP-01: E 2669800.9, N 307147.4
- GP-02: E 2669773.8, N 307209.1
- GP-03: E 2669682.2, N 307170.4
- GP-04: E 2669742.1, N 307297.1
- GP-05: E 2669681.0, N 307280.0
- GP-06: E 2669693.3, N 307230.1

Legend:

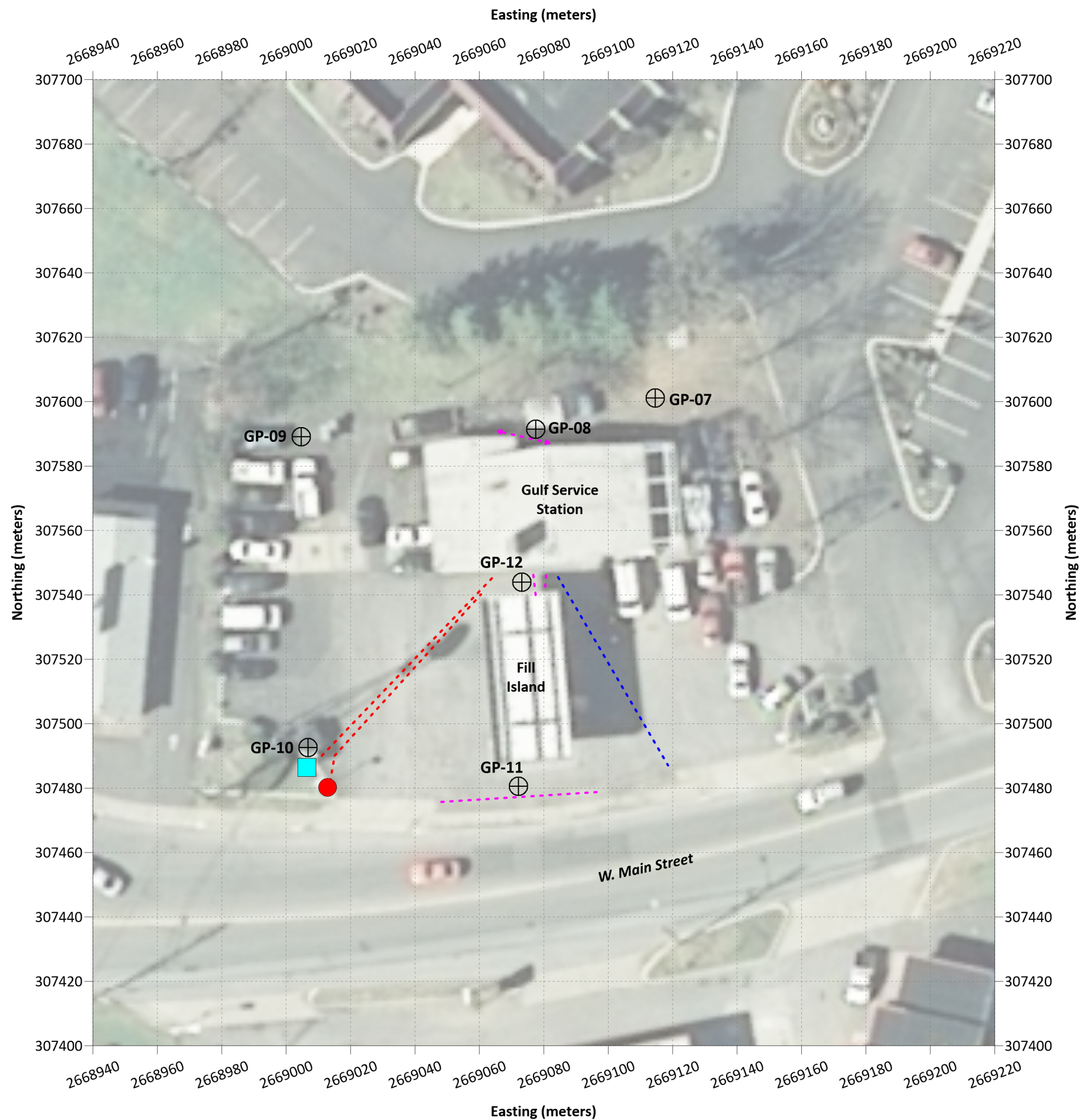
- - - Gas Line
- - - Unknown Line
- Gas Meter
- + Proposed Soil Boring

Notes:

- (1) The objective of this geophysical investigation was to perform a geophysical survey directly over and surrounding twelve proposed Geoprobe (GP) locations to identify potential underground hazards or anomalous features that may adversely affect planned drilling events. To meet these objectives, SET used a GSSI SIR 3000 System (GPR) with a 400 megahertz (MHz) ground-penetrating radar antenna, a Fisher TW-6 M-Scope, and an RD-7000 radio frequency (RF) device by Radiodetection, Inc.
- (2) The positions on this map should be considered approximate. The coordinates for the mapped features were not taken by a licensed land surveyor and are meant for general reference use only.
- (3) The items on this figure may not be all inclusive. SET does not warrant the fact that additional buried features may be present at this site.



	ANNOTATED HIGH RESOLUTION GEOREFERENCED ORTHOPHOTO SHOWING DETECTED UTILITY LINES AND PROPOSED SOIL BORING LOCATIONS	
	ADDRESS: 1209 W. MAIN STREET STROUDSBURG, PA 18360	
SUBSURFACE ENVIRONMENTAL TECH., LLC. 19 BROOKSIDE AVENUE PENNINGTON, NJ 08534	CLIENT: MS. VICTORIA BISBING, BRIGHTFIELDS, INC.	
PROJECT: 18-324G	SUBSURFACE ENVIRONMENTAL TECHNOLOGIES, LLC.	FIGURE 1
FIGURE DATE: JANUARY 28, 2019	DRAWN BY: C. MILLER, PROJECT GEOPHYSICIST	



Soil Boring Location Data

Datum: NAD83 (conus)
 Coordinate System: PA State Plane
 Units: U.S. Survey Feet

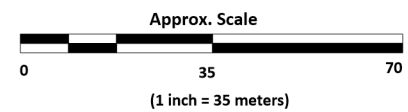
- GP-07: E 2669114.6, N 307601.0
- GP-08: E 2669077.4, N 307591.4
- GP-09: E 2669004.6, N 307589.1
- GP-10: E 2669006.7, N 307492.6
- GP-11: E 2669072.0, N 307480.6
- GP-12: E 2669063.9, N 307538.5

Legend:

- Water Line
- Electric Line
- Unknown Line
- Compressed Air
- ⊕ Proposed Soil Boring
- Lamp Post

Notes:

- (1) The objective of this geophysical investigation was to perform a geophysical survey directly over and surrounding twelve proposed Geoprobe (GP) locations to identify potential underground hazards or anomalous features that may adversely affect planned drilling events. To meet these objectives, SET used a GSSI SIR 3000 System (GPR) with a 400 megahertz (MHz) ground-penetrating radar antenna, a Fisher TW-6 M-Scope, and an RD-7000 radio frequency (RF) device by Radiodetection, Inc.
- (2) The positions on this map should be considered approximate. The coordinates for the mapped features were not taken by a licensed land surveyor and are meant for general reference use only.
- (3) The items on this figure may not be all inclusive. SET does not warrant the fact that additional buried features may be present at this site.



<p>SET GEOPHYSICS & DRILLING SERVICES SUBSURFACE ENVIRONMENTAL TECH., LLC. 19 BROOKSIDE AVENUE PENNINGTON, NJ 08534</p>	ANNOTATED HIGH RESOLUTION GEOREFERENCED ORTHOPHOTO SHOWING DETECTED UTILITY LINES AND PROPOSED SOIL BORING LOCATIONS	
	ADDRESS: 1230 W. MAIN STREET STROUDSBURG, PA 18360 CLIENT: MS. VICTORIA BISBING, BRIGHTFIELDS, INC.	
PROJECT: 18-324G	SUBSURFACE ENVIRONMENTAL TECHNOLOGIES, LLC.	FIGURE 2
FIGURE DATE: JANUARY 28, 2019	DRAWN BY: C. MILLER, PROJECT GEOPHYSICIST	

Appendix E

Eurofins Analytical Data Packages (Electronic Only)

Appendix E.1

Eurofins Analytical Data Packages

APS Recycling



ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Brightfields, Inc.
801 Industrial St.
Suite 1
Wilmington DE 19801

Report Date: December 22, 2017 15:55

Project: APS Recycling

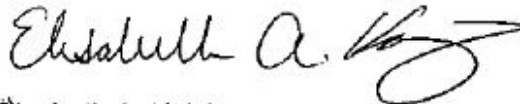
Account #: 04549
Group Number: 1879988
PO Number: 14726
State of Sample Origin: PA

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/>. To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To Brightfields, Inc.
Electronic Copy To Brightfields, Inc.

Attn: James Thompson
Attn: Victoria Bisbing

Respectfully Submitted,



Elisabeth A. Knisley
Project Manager

(717) 556-7262



SAMPLE INFORMATION

<u>Client Sample Description</u>	<u>Sample Collection Date/Time</u>	<u>ELLE#</u>
APS-GP01-S001 Grab Soil	11/27/2017 11:50	9337632
APS-GP01-S001 MS Grab Soil	11/27/2017 11:50	9337633
APS-GP01-S001 MSD Grab Soil	11/27/2017 11:50	9337634
APS-GP01-S001 DUP Grab Soil	11/27/2017 11:50	9337635
APS-GP01-S002 Grab Soil	11/27/2017 12:30	9337636
APS-GP02-S001 Grab Soil	11/27/2017 12:45	9337637
APS-GP02-S002 Grab Soil	11/27/2017 13:00	9337638
APS-GP02-W001 Grab Groundwater	11/27/2017 14:30	9337639
APS-GP02-W001 MS Grab Groundwater	11/27/2017 14:30	9337640
APS-GP02-W001 MSD Grab Groundwater	11/27/2017 14:30	9337641
APS-GP02-W001 DUP Grab Groundwater	11/27/2017 14:30	9337642
APS-GP02-W301 Water	11/27/2017 14:40	9337643
APS-GP03-S001 Grab Soil	11/27/2017 13:30	9337644
APS-GP03-S002 Grab Soil	11/27/2017 13:40	9337645

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Sample Description: APS-GP01-S001 Grab Soil
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: SW 9337632
ELLE Group #: 1879988
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 11:50

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D.	0.0006	0.006	0.99
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.006	0.99
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.006	0.99
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.006	0.99
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.006	0.99
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D. Q2	0.0006	0.006	0.99
10237	Naphthalene	91-20-3	N.D. Q2	0.001	0.006	0.99
10237	Toluene	108-88-3	N.D.	0.001	0.006	0.99
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.006	0.99
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.006	0.99
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.006	0.99
GC/MS Semivolatiles			SW-846 8270C	ug/kg	ug/kg	
10724	Acenaphthene	83-32-9	N.D.	4	20	1
10724	Acenaphthylene	208-96-8	28	4	20	1
10724	Anthracene	120-12-7	33	4	20	1
10724	Benzo(a)anthracene	56-55-3	140	4	20	1
10724	Benzo(a)pyrene	50-32-8	110 Q2	4	20	1
10724	Benzo(b)fluoranthene	205-99-2	170	4	20	1
10724	Benzo(g,h,i)perylene	191-24-2	92	4	20	1
10724	Benzo(k)fluoranthene	207-08-9	60	4	20	1
10724	Chrysene	218-01-9	150	4	20	1
10724	Dibenz(a,h)anthracene	53-70-3	30	4	20	1
10724	Fluoranthene	206-44-0	290	4	20	1
10724	Fluorene	86-73-7	7 J	4	20	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	81	4	20	1
10724	Naphthalene	91-20-3	42	4	20	1
10724	Phenanthrene	85-01-8	73	4	20	1
10724	Pyrene	129-00-0	290	4	20	1
PCBs			SW-846 8082	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D. D2	4.1	19	1
10736	PCB-1221	11104-28-2	N.D. D2	5.3	19	1
10736	PCB-1232	11141-16-5	N.D. D2	9.2	19	1
10736	PCB-1242	53469-21-9	N.D. D2	3.8	19	1
10736	PCB-1248	12672-29-6	17 JD2	3.8	19	1
10736	PCB-1254	11097-69-1	26 ZD1	3.8	19	1
10736	PCB-1260	11096-82-5	N.D. ZD1	5.6	19	1

Z=The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported.

Pesticides **SW-846 8081A** **ug/kg** **ug/kg** **ug/kg**

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP01-S001 Grab Soil
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: SW 9337632
ELLE Group #: 1879988
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 11:50

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Pesticides			SW-846 8081A	ug/kg	ug/kg	
10738	Aldrin	309-00-2	N.D. D2	0.19	0.95	1
10738	Alpha BHC	319-84-6	N.D. D1	0.19	0.95	1
10738	Beta BHC	319-85-7	N.D. D2	0.34	1.1	1
10738	Gamma BHC - Lindane	58-89-9	N.D. D1	0.19	0.95	1
10738	Alpha Chlordane	5103-71-9	0.32 JPD2	0.19	0.95	1
10738	Gamma Chlordane	5103-74-2	N.D. VD1	0.41	0.95	1
10738	p,p-DDD	72-54-8	N.D. D1	0.38	1.9	1
10738	p,p-DDE	72-55-9	0.50 JD1	0.38	1.9	1
10738	p,p-DDT	50-29-3	N.D. D1	0.41	1.9	1
10738	Delta BHC	319-86-8	N.D. D2	0.52	1.0	1
10738	Dieldrin	60-57-1	N.D. D2	0.38	1.9	1
10738	Endosulfan I	959-98-8	N.D. D1	0.25	0.95	1
10738	Endosulfan II	33213-65-9	N.D. D1	0.38	1.9	1
10738	Endosulfan Sulfate	1031-07-8	N.D. D2	0.38	1.9	1
10738	Endrin	72-20-8	N.D. D2	0.39	1.9	1
10738	Endrin Aldehyde	7421-93-4	N.D. ZD1	0.38	1.9	1
10738	Endrin Ketone	53494-70-5	N.D. D2	0.69	2.1	1
10738	Heptachlor	76-44-8	N.D. D2	0.19	0.95	1
10738	Heptachlor Epoxide	1024-57-3	N.D. D1	0.19	0.95	1
10738	Methoxychlor	72-43-5	N.D. D2	1.9	7.7	1
10738	Toxaphene	8001-35-2	N.D. D1	16	38	1

Z=The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported.

Reporting limits were raised due to interference from the sample matrix.

Metals			SW-846 6010B	mg/kg	mg/kg	mg/kg
06944	Antimony	7440-36-0	2.60 Q8	0.822	1.89	1
06935	Arsenic	7440-38-2	8.29	0.908	1.89	1
06947	Beryllium	7440-41-7	0.729	0.0747	0.473	1
06949	Cadmium	7440-43-9	0.898 Q8	0.0510	0.473	1
06951	Chromium	7440-47-3	29.9	0.161	1.42	1
06953	Copper	7440-50-8	54.8 BQ2	0.227	0.945	1
06955	Lead	7439-92-1	54.0 Q2Q8	0.567	1.42	1
06961	Nickel	7440-02-0	37.2	0.142	0.945	1
06936	Selenium	7782-49-2	N.D.	0.879	1.89	1
06966	Silver	7440-22-4	1.18	0.227	0.473	1
06925	Thallium	7440-28-0	N.D.	1.30	2.84	1
06972	Zinc	7440-66-6	163 Q2Q8	0.227	1.89	1
			SW-846 7471A	mg/kg	mg/kg	mg/kg
00159	Mercury	7439-97-6	0.0572 J Q2	0.0111	0.111	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP01-S001 Grab Soil
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: SW 9337632
ELLE Group #: 1879988
Matrix: Soil

Project Name: APS Recycling

Submittal Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 11:50

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry						
00394	pH	n.a.	8.03	0.0100	0.0100	1
The pH was measured in water at 19.4 C.						
Wet Chemistry						
00111	Moisture	n.a.	14.0 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	X173381AA	12/04/2017 15:49	Jennifer K Howe	0.99
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733348112	11/27/2017 11:50	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733348112	11/27/2017 11:50	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733348112	11/27/2017 11:50	Client Supplied	1
10724	PAH 8270 (microwave)	SW-846 8270C	1	17334SLA026	12/05/2017 19:06	Anthony P Bauer	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	17334SLA026	11/30/2017 18:00	Sally L Appleyard	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173330020A	12/04/2017 10:21	Kirby B Turner	1
10738	Pesticides in Soil (microwave)	SW-846 8081A	1	173330019A	12/11/2017 22:13	Heather E Williams	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173330020A	11/30/2017 07:00	Michelle A Newswanger	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	173330019A	11/30/2017 07:00	Michelle A Newswanger	1
06944	Antimony	SW-846 6010B	1	173330570802	12/01/2017 05:24	Jonathan J Allen	1
06935	Arsenic	SW-846 6010B	1	173330570802	12/01/2017 05:24	Jonathan J Allen	1
06947	Beryllium	SW-846 6010B	1	173330570802	12/01/2017 05:24	Jonathan J Allen	1
06949	Cadmium	SW-846 6010B	1	173330570802	12/01/2017 05:24	Jonathan J Allen	1
06951	Chromium	SW-846 6010B	1	173330570802	12/01/2017 05:24	Jonathan J Allen	1
06953	Copper	SW-846 6010B	1	173330570802	12/01/2017 05:24	Jonathan J Allen	1
06955	Lead	SW-846 6010B	1	173330570802	12/01/2017 05:24	Jonathan J Allen	1
06961	Nickel	SW-846 6010B	1	173330570802	12/01/2017 05:24	Jonathan J Allen	1
06936	Selenium	SW-846 6010B	1	173330570802	12/05/2017 19:05	Cindy M Gehman	1
06966	Silver	SW-846 6010B	1	173330570802	12/01/2017 05:24	Jonathan J Allen	1
06925	Thallium	SW-846 6010B	1	173330570802	12/05/2017 19:05	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173330570802	12/01/2017 05:24	Jonathan J Allen	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP01-S001 Grab Soil
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: SW 9337632
ELLE Group #: 1879988
Matrix: Soil

Project Name: APS Recycling

Submittal Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 11:50

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00159	Mercury	SW-846 7471A	1	173340571101	12/01/2017 07:10	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173330570802	11/30/2017 16:10	JoElla L Rice	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173340571101	12/01/2017 03:55	Denise L Trimby	1
00394	pH	SW-846 9045C modified	1	17338039401B	12/04/2017 18:30	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17335820005B	12/01/2017 12:56	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP01-S001 MS Grab Soil
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: SW 9337633
ELLE Group #: 1879988
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 11:50

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	mg/kg	mg/kg	mg/kg	
10237	Benzene	71-43-2	0.020	0.0005	0.005	0.91
10237	1,2-Dibromoethane	106-93-4	0.019	0.001	0.005	0.91
10237	1,2-Dichloroethane	107-06-2	0.019	0.001	0.005	0.91
10237	Ethylbenzene	100-41-4	0.019	0.001	0.005	0.91
10237	Isopropylbenzene	98-82-8	0.018	0.001	0.005	0.91
10237	Methyl Tertiary Butyl Ether	1634-04-4	0.014 Q2	0.0005	0.005	0.91
10237	Naphthalene	91-20-3	0.004 J Q2	0.001	0.005	0.91
10237	Toluene	108-88-3	0.024	0.001	0.005	0.91
10237	1,2,4-Trimethylbenzene	95-63-6	0.022	0.001	0.005	0.91
10237	1,3,5-Trimethylbenzene	108-67-8	0.023	0.001	0.005	0.91
10237	Xylene (Total)	1330-20-7	0.055	0.001	0.005	0.91
GC/MS Semivolatiles		SW-846 8270C	ug/kg	ug/kg	ug/kg	
10724	Acenaphthene	83-32-9	1,700	4	20	1
10724	Acenaphthylene	208-96-8	2,000	4	20	1
10724	Anthracene	120-12-7	1,900	4	20	1
10724	Benzo(a)anthracene	56-55-3	1,800	4	20	1
10724	Benzo(a)pyrene	50-32-8	1,600 Q2	4	20	1
10724	Benzo(b)fluoranthene	205-99-2	1,700	4	20	1
10724	Benzo(g,h,i)perylene	191-24-2	1,700	4	20	1
10724	Benzo(k)fluoranthene	207-08-9	1,500	4	20	1
10724	Chrysene	218-01-9	1,900	4	20	1
10724	Dibenz(a,h)anthracene	53-70-3	1,700	4	20	1
10724	Fluoranthene	206-44-0	1,700	4	20	1
10724	Fluorene	86-73-7	1,600	4	20	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	1,700	4	20	1
10724	Naphthalene	91-20-3	1,800	4	20	1
10724	Phenanthrene	85-01-8	1,900	4	20	1
10724	Pyrene	129-00-0	1,900	4	20	1
PCBs		SW-846 8082	ug/kg	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	180 D2	4.1	19	1
10736	PCB-1221	11104-28-2	N.D. D2	5.3	19	1
10736	PCB-1232	11141-16-5	N.D. D2	9.2	19	1
10736	PCB-1242	53469-21-9	N.D. D2	3.8	19	1
10736	PCB-1248	12672-29-6	180 D2	3.8	19	1
10736	PCB-1254	11097-69-1	74 ZD1	3.8	19	1
10736	PCB-1260	11096-82-5	210 ZD1	5.6	19	1
Pesticides		SW-846 8081A	ug/kg	ug/kg	ug/kg	

Z=The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported.

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP01-S001 MS Grab Soil
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: SW 9337633
ELLE Group #: 1879988
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 11:50

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Pesticides			SW-846 8081A	ug/kg	ug/kg	
10738	Aldrin	309-00-2	3.1 D1	0.20	0.96	1
10738	Alpha BHC	319-84-6	3.2 D1	0.20	0.96	1
10738	Beta BHC	319-85-7	3.2 D1	0.35	1.2	1
10738	Gamma BHC - Lindane	58-89-9	3.3 D1	0.20	0.96	1
10738	Alpha Chlordane	5103-71-9	3.9 D1	0.20	0.96	1
10738	Gamma Chlordane	5103-74-2	3.7 PD1	0.29	0.96	1
10738	p,p-DDD	72-54-8	7.9 D1	0.38	2.0	1
10738	p,p-DDE	72-55-9	7.6 D1	0.38	2.0	1
10738	p,p-DDT	50-29-3	8.0 D1	0.41	2.0	1
10738	Delta BHC	319-86-8	3.8 D1	0.52	1.0	1
10738	Dieldrin	60-57-1	6.9 D1	0.38	2.0	1
10738	Endosulfan I	959-98-8	3.0 D1	0.25	0.96	1
10738	Endosulfan II	33213-65-9	6.6 D2	0.38	2.0	1
10738	Endosulfan Sulfate	1031-07-8	6.9 D1	0.38	2.0	1
10738	Endrin	72-20-8	6.9 D1	0.39	2.0	1
10738	Endrin Aldehyde	7421-93-4	5.7 ZD1	0.38	2.0	1
10738	Endrin Ketone	53494-70-5	7.1 D1	0.69	2.1	1
10738	Heptachlor	76-44-8	3.9 D1	0.20	0.96	1
10738	Heptachlor Epoxide	1024-57-3	4.2 D2	0.20	0.96	1
10738	Methoxychlor	72-43-5	36 D1	2.0	7.7	1
10738	Toxaphene	8001-35-2	N.D. D1	16	38	1

Z=The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported.

Metals			SW-846 6010B	mg/kg	mg/kg	mg/kg
06944	Antimony	7440-36-0	38.6 Q8	0.803	1.85	1
06935	Arsenic	7440-38-2	23.5	0.886	1.85	1
06947	Beryllium	7440-41-7	5.25	0.0729	0.461	1
06949	Cadmium	7440-43-9	4.88 Q8	0.0498	0.461	1
06951	Chromium	7440-47-3	46.6	0.157	1.38	1
06953	Copper	7440-50-8	59.7 BQ2	0.221	0.923	1
06955	Lead	7439-92-1	44.8 Q2Q8	0.554	1.38	1
06961	Nickel	7440-02-0	78.5	0.138	0.923	1
06936	Selenium	7782-49-2	14.1	0.858	1.85	1
06966	Silver	7440-22-4	5.40	0.221	0.461	1
06925	Thallium	7440-28-0	13.0	1.26	2.77	1
06972	Zinc	7440-66-6	163 Q2Q8	0.221	1.85	1
			SW-846 7471A	mg/kg	mg/kg	mg/kg
00159	Mercury	7439-97-6	0.226 Q2	0.0116	0.116	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP01-S001 MS Grab Soil
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: SW 9337633
ELLE Group #: 1879988
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 11:50

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
	Wet Chemistry	SM 2540 G-1997				
		%Moisture Calc				
00118	Moisture	n.a.	14.0 Q8	0.50	0.50	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	X173381AA	12/04/2017 16:12	Jennifer K Howe	0.91
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733348112	11/27/2017 11:50	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733348112	11/27/2017 11:50	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733348112	11/27/2017 11:50	Client Supplied	1
10724	PAH 8270 (microwave)	SW-846 8270C	1	17334SLA026	12/05/2017 19:30	Anthony P Bauer	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	17334SLA026	11/30/2017 18:00	Sally L Appleyard	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173330020A	12/04/2017 10:32	Kirby B Turner	1
10738	Pesticides in Soil (microwave)	SW-846 8081A	1	173330019A	12/11/2017 22:27	Heather E Williams	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173330020A	11/30/2017 07:00	Michelle A Newswanger	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	173330019A	11/30/2017 07:00	Michelle A Newswanger	1
06944	Antimony	SW-846 6010B	1	173330570802	12/01/2017 05:35	Jonathan J Allen	1
06935	Arsenic	SW-846 6010B	1	173330570802	12/01/2017 05:35	Jonathan J Allen	1
06947	Beryllium	SW-846 6010B	1	173330570802	12/01/2017 05:35	Jonathan J Allen	1
06949	Cadmium	SW-846 6010B	1	173330570802	12/01/2017 05:35	Jonathan J Allen	1
06951	Chromium	SW-846 6010B	1	173330570802	12/01/2017 05:35	Jonathan J Allen	1
06953	Copper	SW-846 6010B	1	173330570802	12/01/2017 05:35	Jonathan J Allen	1
06955	Lead	SW-846 6010B	1	173330570802	12/01/2017 05:35	Jonathan J Allen	1
06961	Nickel	SW-846 6010B	1	173330570802	12/01/2017 05:35	Jonathan J Allen	1
06936	Selenium	SW-846 6010B	1	173330570802	12/05/2017 19:15	Cindy M Gehman	1
06966	Silver	SW-846 6010B	1	173330570802	12/01/2017 05:35	Jonathan J Allen	1
06925	Thallium	SW-846 6010B	1	173330570802	12/05/2017 19:15	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173330570802	12/01/2017 05:35	Jonathan J Allen	1
00159	Mercury	SW-846 7471A	1	173340571101	12/01/2017 07:16	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173330570802	11/30/2017 16:10	JoElla L Rice	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173340571101	12/01/2017 03:55	Denise L Trimby	1
00118	Moisture	SM 2540 G-1997 %Moisture Calc	1	17335820005B	12/01/2017 12:56	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP01-S001 MSD Grab Soil
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: SW 9337634
ELLE Group #: 1879988
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 11:50

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	mg/kg	mg/kg	mg/kg	
10237	Benzene	71-43-2	0.023	0.0006	0.006	1.02
10237	1,2-Dibromoethane	106-93-4	0.022	0.001	0.006	1.02
10237	1,2-Dichloroethane	107-06-2	0.023	0.001	0.006	1.02
10237	Ethylbenzene	100-41-4	0.022	0.001	0.006	1.02
10237	Isopropylbenzene	98-82-8	0.019	0.001	0.006	1.02
10237	Methyl Tertiary Butyl Ether	1634-04-4	0.016 Q2	0.0006	0.006	1.02
10237	Naphthalene	91-20-3	0.005 J Q2	0.001	0.006	1.02
10237	Toluene	108-88-3	0.024	0.001	0.006	1.02
10237	1,2,4-Trimethylbenzene	95-63-6	0.023	0.001	0.006	1.02
10237	1,3,5-Trimethylbenzene	108-67-8	0.024	0.001	0.006	1.02
10237	Xylene (Total)	1330-20-7	0.063	0.001	0.006	1.02
GC/MS Semivolatiles		SW-846 8270C	ug/kg	ug/kg	ug/kg	
10724	Acenaphthene	83-32-9	1,800	4	20	1
10724	Acenaphthylene	208-96-8	2,100	4	20	1
10724	Anthracene	120-12-7	1,800	4	20	1
10724	Benzo(a)anthracene	56-55-3	1,800	4	20	1
10724	Benzo(a)pyrene	50-32-8	1,600 Q2	4	20	1
10724	Benzo(b)fluoranthene	205-99-2	1,700	4	20	1
10724	Benzo(g,h,i)perylene	191-24-2	1,700	4	20	1
10724	Benzo(k)fluoranthene	207-08-9	1,600	4	20	1
10724	Chrysene	218-01-9	1,900	4	20	1
10724	Dibenz(a,h)anthracene	53-70-3	1,800	4	20	1
10724	Fluoranthene	206-44-0	1,700	4	20	1
10724	Fluorene	86-73-7	1,700	4	20	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	1,800	4	20	1
10724	Naphthalene	91-20-3	1,800	4	20	1
10724	Phenanthrene	85-01-8	1,800	4	20	1
10724	Pyrene	129-00-0	2,000	4	20	1
PCBs		SW-846 8082	ug/kg	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	160 D2	4.1	20	1
10736	PCB-1221	11104-28-2	N.D. D2	5.3	20	1
10736	PCB-1232	11141-16-5	N.D. D2	9.2	20	1
10736	PCB-1242	53469-21-9	N.D. D2	3.8	20	1
10736	PCB-1248	12672-29-6	150 D2	3.8	20	1
10736	PCB-1254	11097-69-1	74 ZD1	3.8	20	1
10736	PCB-1260	11096-82-5	200 ZD1	5.6	20	1

Z=The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported.

Pesticides **SW-846 8081A** **ug/kg** **ug/kg** **ug/kg**

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP01-S001 MSD Grab Soil
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: SW 9337634
ELLE Group #: 1879988
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 11:50

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Pesticides			SW-846 8081A	ug/kg	ug/kg	
10738	Aldrin	309-00-2	3.1 D1	0.20	0.96	1
10738	Alpha BHC	319-84-6	3.2 D1	0.20	0.96	1
10738	Beta BHC	319-85-7	3.3 D1	0.35	1.2	1
10738	Gamma BHC - Lindane	58-89-9	3.2 D1	0.20	0.96	1
10738	Alpha Chlordane	5103-71-9	3.5 D1	0.20	0.96	1
10738	Gamma Chlordane	5103-74-2	3.4 PD1	0.29	0.96	1
10738	p,p-DDD	72-54-8	7.5 D1	0.38	2.0	1
10738	p,p-DDE	72-55-9	7.2 D1	0.38	2.0	1
10738	p,p-DDT	50-29-3	7.6 D1	0.42	2.0	1
10738	Delta BHC	319-86-8	3.4 D1	0.52	1.0	1
10738	Dieldrin	60-57-1	6.7 D1	0.38	2.0	1
10738	Endosulfan I	959-98-8	3.0 D1	0.25	0.96	1
10738	Endosulfan II	33213-65-9	6.5 D1	0.38	2.0	1
10738	Endosulfan Sulfate	1031-07-8	6.8 D1	0.38	2.0	1
10738	Endrin	72-20-8	7.0 D1	0.39	2.0	1
10738	Endrin Aldehyde	7421-93-4	4.8 ZD1	0.38	2.0	1
10738	Endrin Ketone	53494-70-5	6.7 D1	0.70	2.1	1
10738	Heptachlor	76-44-8	3.3 D1	0.20	0.96	1
10738	Heptachlor Epoxide	1024-57-3	3.7 D2	0.20	0.96	1
10738	Methoxychlor	72-43-5	36 D1	2.0	7.8	1
10738	Toxaphene	8001-35-2	N.D. D1	16	38	1

Z=The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported.

Metals		SW-846 6010B	mg/kg	mg/kg	mg/kg	
06944	Antimony	7440-36-0	37.5 Q8	0.803	1.85	1
06935	Arsenic	7440-38-2	19.7	0.886	1.85	1
06947	Beryllium	7440-41-7	5.26	0.0729	0.461	1
06949	Cadmium	7440-43-9	5.02 Q8	0.0498	0.461	1
06951	Chromium	7440-47-3	48.4	0.157	1.38	1
06953	Copper	7440-50-8	68.1 BQ2	0.221	0.923	1
06955	Lead	7439-92-1	52.5 Q2Q8	0.554	1.38	1
06961	Nickel	7440-02-0	79.1	0.138	0.923	1
06936	Selenium	7782-49-2	13.4	0.858	1.85	1
06966	Silver	7440-22-4	5.36	0.221	0.461	1
06925	Thallium	7440-28-0	12.9	1.26	2.77	1
06972	Zinc	7440-66-6	181 Q2Q8	0.221	1.85	1
		SW-846 7471A	mg/kg	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.199 Q2	0.0107	0.107	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP01-S001 MSD Grab Soil
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: SW 9337634
ELLE Group #: 1879988
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 11:50

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
	Wet Chemistry	SM 2540 G-1997				
		%Moisture Calc				
00118	Moisture	n.a.	14.0 Q8	0.50	0.50	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	X173381AA	12/04/2017 16:35	Jennifer K Howe	1.02
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733348112	11/27/2017 11:50	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733348112	11/27/2017 11:50	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733348112	11/27/2017 11:50	Client Supplied	1
10724	PAH 8270 (microwave)	SW-846 8270C	1	17334SLA026	12/05/2017 19:54	Anthony P Bauer	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	17334SLA026	11/30/2017 18:00	Sally L Appleyard	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173330020A	12/04/2017 10:44	Kirby B Turner	1
10738	Pesticides in Soil (microwave)	SW-846 8081A	1	173330019A	12/11/2017 22:40	Heather E Williams	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173330020A	11/30/2017 07:00	Michelle A Newswanger	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	173330019A	11/30/2017 07:00	Michelle A Newswanger	1
06944	Antimony	SW-846 6010B	1	173330570802	12/01/2017 05:38	Jonathan J Allen	1
06935	Arsenic	SW-846 6010B	1	173330570802	12/01/2017 05:38	Jonathan J Allen	1
06947	Beryllium	SW-846 6010B	1	173330570802	12/01/2017 05:38	Jonathan J Allen	1
06949	Cadmium	SW-846 6010B	1	173330570802	12/01/2017 05:38	Jonathan J Allen	1
06951	Chromium	SW-846 6010B	1	173330570802	12/01/2017 05:38	Jonathan J Allen	1
06953	Copper	SW-846 6010B	1	173330570802	12/01/2017 05:38	Jonathan J Allen	1
06955	Lead	SW-846 6010B	1	173330570802	12/01/2017 05:38	Jonathan J Allen	1
06961	Nickel	SW-846 6010B	1	173330570802	12/01/2017 05:38	Jonathan J Allen	1
06936	Selenium	SW-846 6010B	1	173330570802	12/05/2017 19:19	Cindy M Gehman	1
06966	Silver	SW-846 6010B	1	173330570802	12/01/2017 05:38	Jonathan J Allen	1
06925	Thallium	SW-846 6010B	1	173330570802	12/05/2017 19:19	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173330570802	12/01/2017 05:38	Jonathan J Allen	1
00159	Mercury	SW-846 7471A	1	173340571101	12/01/2017 07:18	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173330570802	11/30/2017 16:10	JoElla L Rice	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173340571101	12/01/2017 03:55	Denise L Trimby	1
00118	Moisture	SM 2540 G-1997 %Moisture Calc	1	17335820005B	12/01/2017 12:56	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP01-S001 DUP Grab Soil
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: SW 9337635
ELLE Group #: 1879988
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 11:50

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Metals			SW-846 6010B	mg/kg	mg/kg	
06944	Antimony	7440-36-0	4.15 Q8	1.00	2.30	1
06935	Arsenic	7440-38-2	7.37	1.11	2.30	1
06947	Beryllium	7440-41-7	0.640	0.0910	0.576	1
06949	Cadmium	7440-43-9	1.17 Q8	0.0622	0.576	1
06951	Chromium	7440-47-3	27.5	0.196	1.73	1
06953	Copper	7440-50-8	65.1 BQ2	0.276	1.15	1
06955	Lead	7439-92-1	80.7 Q2Q8	0.691	1.73	1
06961	Nickel	7440-02-0	36.1	0.173	1.15	1
06936	Selenium	7782-49-2	N.D.	1.07	2.30	1
06966	Silver	7440-22-4	0.999	0.276	0.576	1
06925	Thallium	7440-28-0	N.D.	1.58	3.45	1
06972	Zinc	7440-66-6	238 Q2Q8	0.276	2.30	1
			SW-846 7471A	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.0684 J Q2	0.0116	0.116	1
Wet Chemistry			SW-846 9045C modified	Std. Units	Std. Units	
00394	pH	n.a.	7.96	0.0100	0.0100	1
The pH was measured in water at 19.6 C.						
Wet Chemistry			SM 2540 G-1997	%	%	
			%Moisture Calc			
00118	Moisture	n.a.	14.0 Q8	0.50	0.50	1
00121	Moisture Duplicate	n.a.	15.8 Q8	0.50	0.50	1
The duplicate moisture value is provided to assess the precision of the moisture test. For comparability purposes, the initial moisture determination is the value used to perform dry weight calculations.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06944	Antimony	SW-846 6010B	1	173330570802	12/01/2017 05:31	Jonathan J Allen	1
06935	Arsenic	SW-846 6010B	1	173330570802	12/01/2017 05:31	Jonathan J Allen	1
06947	Beryllium	SW-846 6010B	1	173330570802	12/01/2017 05:31	Jonathan J Allen	1
06949	Cadmium	SW-846 6010B	1	173330570802	12/01/2017 05:31	Jonathan J Allen	1
06951	Chromium	SW-846 6010B	1	173330570802	12/01/2017 05:31	Jonathan J Allen	1
06953	Copper	SW-846 6010B	1	173330570802	12/01/2017 05:31	Jonathan J Allen	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP01-S001 DUP Grab Soil
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: SW 9337635
ELLE Group #: 1879988
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 11:50

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06955	Lead	SW-846 6010B	1	173330570802	12/01/2017 05:31	Jonathan J Allen	1
06961	Nickel	SW-846 6010B	1	173330570802	12/01/2017 05:31	Jonathan J Allen	1
06936	Selenium	SW-846 6010B	1	173330570802	12/01/2017 05:31	Jonathan J Allen	1
06966	Silver	SW-846 6010B	1	173330570802	12/01/2017 05:31	Jonathan J Allen	1
06925	Thallium	SW-846 6010B	1	173330570802	12/05/2017 19:12	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173330570802	12/01/2017 05:31	Jonathan J Allen	1
00159	Mercury	SW-846 7471A	1	173340571101	12/01/2017 07:14	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173330570802	11/30/2017 16:10	JoElla L Rice	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173340571101	12/01/2017 03:55	Denise L Trimby	1
00394	pH	SW-846 9045C modified	1	17338039401B	12/04/2017 18:30	Jeremy L Bolf	1
00118	Moisture	SM 2540 G-1997 %Moisture Calc	1	17335820005B	12/01/2017 12:56	Larry E Bevins	1
00121	Moisture Duplicate	SM 2540 G-1997 %Moisture Calc	1	17335820005B	12/01/2017 12:56	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP01-S002 Grab Soil
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: SW 9337636
ELLE Group #: 1879988
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 12:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D.	0.0005	0.005	0.97
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	0.97
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	0.97
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	0.97
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.005	0.97
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D. Q2	0.0005	0.005	0.97
10237	Naphthalene	91-20-3	N.D. Q2	0.001	0.005	0.97
10237	Toluene	108-88-3	N.D.	0.001	0.005	0.97
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.005	0.97
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.005	0.97
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	0.97
GC/MS Semivolatiles			SW-846 8270C	ug/kg	ug/kg	
10724	Acenaphthene	83-32-9	N.D.	3	17	1
10724	Acenaphthylene	208-96-8	N.D.	3	17	1
10724	Anthracene	120-12-7	N.D.	3	17	1
10724	Benzo(a)anthracene	56-55-3	N.D.	3	17	1
10724	Benzo(a)pyrene	50-32-8	N.D. Q2	3	17	1
10724	Benzo(b)fluoranthene	205-99-2	N.D.	3	17	1
10724	Benzo(g,h,i)perylene	191-24-2	N.D.	3	17	1
10724	Benzo(k)fluoranthene	207-08-9	N.D.	3	17	1
10724	Chrysene	218-01-9	N.D.	3	17	1
10724	Dibenz(a,h)anthracene	53-70-3	N.D.	3	17	1
10724	Fluoranthene	206-44-0	3 J	3	17	1
10724	Fluorene	86-73-7	N.D.	3	17	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	3	17	1
10724	Naphthalene	91-20-3	11 J	3	17	1
10724	Phenanthrene	85-01-8	N.D.	3	17	1
10724	Pyrene	129-00-0	4 J	3	17	1
PCBs			SW-846 8082	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D. D2	3.7	17	1
10736	PCB-1221	11104-28-2	N.D. D2	4.7	17	1
10736	PCB-1232	11141-16-5	N.D. D2	8.1	17	1
10736	PCB-1242	53469-21-9	N.D. D2	3.4	17	1
10736	PCB-1248	12672-29-6	N.D. D2	3.4	17	1
10736	PCB-1254	11097-69-1	N.D. ZD1	3.4	17	1
10736	PCB-1260	11096-82-5	N.D. ZD1	5.0	17	1

Z=The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported.

Pesticides **SW-846 8081A** **ug/kg** **ug/kg** **ug/kg**

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP01-S002 Grab Soil
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: SW 9337636
ELLE Group #: 1879988
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 12:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Pesticides		SW-846 8081A	ug/kg	ug/kg	ug/kg	
10738	Aldrin	309-00-2	N.D. D1	0.17	0.84	1
10738	Alpha BHC	319-84-6	N.D. D1	0.17	0.84	1
10738	Beta BHC	319-85-7	N.D. D2	0.31	1.0	1
10738	Gamma BHC - Lindane	58-89-9	N.D. D1	0.17	0.84	1
10738	Alpha Chlordane	5103-71-9	N.D. D2	0.17	0.84	1
10738	Gamma Chlordane	5103-74-2	N.D. D1	0.25	0.84	1
10738	p,p-DDD	72-54-8	N.D. D1	0.34	1.7	1
10738	p,p-DDE	72-55-9	N.D. D1	0.34	1.7	1
10738	p,p-DDT	50-29-3	N.D. D1	0.37	1.7	1
10738	Delta BHC	319-86-8	N.D. D1	0.46	0.92	1
10738	Dieldrin	60-57-1	N.D. D1	0.34	1.7	1
10738	Endosulfan I	959-98-8	N.D. D1	0.22	0.84	1
10738	Endosulfan II	33213-65-9	N.D. D1	0.34	1.7	1
10738	Endosulfan Sulfate	1031-07-8	N.D. D2	0.34	1.7	1
10738	Endrin	72-20-8	N.D. D1	0.35	1.7	1
10738	Endrin Aldehyde	7421-93-4	N.D. ZD1	0.34	1.7	1
10738	Endrin Ketone	53494-70-5	N.D. D1	0.61	1.8	1
10738	Heptachlor	76-44-8	N.D. D1	0.17	0.84	1
10738	Heptachlor Epoxide	1024-57-3	N.D. D1	0.17	0.84	1
10738	Methoxychlor	72-43-5	N.D. D1	1.7	6.8	1
10738	Toxaphene	8001-35-2	N.D. D1	14	34	1

Z=The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported.

Metals		SW-846 6010B	mg/kg	mg/kg	mg/kg	
06944	Antimony	7440-36-0	1.74 J Q8	0.805	1.85	1
06935	Arsenic	7440-38-2	10.3	0.888	1.85	1
06947	Beryllium	7440-41-7	0.725	0.0731	0.462	1
06949	Cadmium	7440-43-9	0.607 Q8	0.0499	0.462	1
06951	Chromium	7440-47-3	20.7	0.157	1.39	1
06953	Copper	7440-50-8	29.9 BQ2	0.222	0.925	1
06955	Lead	7439-92-1	24.9 Q2Q8	0.555	1.39	1
06961	Nickel	7440-02-0	39.4	0.139	0.925	1
06936	Selenium	7782-49-2	1.77 J	0.860	1.85	1
06966	Silver	7440-22-4	1.01	0.222	0.462	1
06925	Thallium	7440-28-0	N.D.	1.27	2.77	1
06972	Zinc	7440-66-6	89.2 Q2Q8	0.222	1.85	1

Metals		SW-846 7471A	mg/kg	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.0138 J Q2	0.0103	0.103	1

Wet Chemistry **SW-846 9045C modified** **Std. Units** **Std. Units** **Std. Units**

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP01-S002 Grab Soil
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: SW 9337636
ELLE Group #: 1879988
Matrix: Soil

Project Name: APS Recycling

Submittal Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 12:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry						
00394	pH	n.a.	6.65	0.0100	0.0100	1
The pH was measured in water at 19.7 C.						
Wet Chemistry						
00111	Moisture	n.a.	2.6 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	X173381AA	12/04/2017 16:59	Jennifer K Howe	0.97
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733348112	11/27/2017 12:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733348112	11/27/2017 12:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733348112	11/27/2017 12:30	Client Supplied	1
10724	PAH 8270 (microwave)	SW-846 8270C	1	17334SLA026	12/06/2017 04:19	Anthony P Bauer	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	17334SLA026	11/30/2017 18:00	Sally L Appleyard	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173330020A	12/04/2017 10:55	Kirby B Turner	1
10738	Pesticides in Soil (microwave)	SW-846 8081A	1	173330019A	12/11/2017 22:53	Heather E Williams	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173330020A	11/30/2017 07:00	Michelle A Newswanger	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	173330019A	11/30/2017 07:00	Michelle A Newswanger	1
06944	Antimony	SW-846 6010B	1	173330570802	12/01/2017 06:16	Jonathan J Allen	1
06935	Arsenic	SW-846 6010B	1	173330570802	12/01/2017 06:16	Jonathan J Allen	1
06947	Beryllium	SW-846 6010B	1	173330570802	12/01/2017 06:16	Jonathan J Allen	1
06949	Cadmium	SW-846 6010B	1	173330570802	12/01/2017 06:16	Jonathan J Allen	1
06951	Chromium	SW-846 6010B	1	173330570802	12/01/2017 06:16	Jonathan J Allen	1
06953	Copper	SW-846 6010B	1	173330570802	12/01/2017 06:16	Jonathan J Allen	1
06955	Lead	SW-846 6010B	1	173330570802	12/01/2017 06:16	Jonathan J Allen	1
06961	Nickel	SW-846 6010B	1	173330570802	12/01/2017 06:16	Jonathan J Allen	1
06936	Selenium	SW-846 6010B	1	173330570802	12/05/2017 19:26	Cindy M Gehman	1
06966	Silver	SW-846 6010B	1	173330570802	12/01/2017 06:16	Jonathan J Allen	1
06925	Thallium	SW-846 6010B	1	173330570802	12/05/2017 19:26	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173330570802	12/01/2017 06:16	Jonathan J Allen	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP01-S002 Grab Soil
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: SW 9337636
ELLE Group #: 1879988
Matrix: Soil

Project Name: APS Recycling

Submittal Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 12:30

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00159	Mercury	SW-846 7471A	1	173340571101	12/01/2017 07:20	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173330570802	11/30/2017 16:10	JoElla L Rice	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173340571101	12/01/2017 03:55	Denise L Trimby	1
00394	pH	SW-846 9045C modified	1	17338039401B	12/04/2017 18:30	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17335820005B	12/01/2017 12:56	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP02-S001 Grab Soil
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: SW 9337637
ELLE Group #: 1879988
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 12:45

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	Benzene	71-43-2	0.001 J	0.0006	0.006	1.01
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.006	1.01
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.006	1.01
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.006	1.01
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.006	1.01
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0006	0.006	1.01
10237	Naphthalene	91-20-3	N.D.	0.001	0.006	1.01
10237	Toluene	108-88-3	0.01	0.001	0.006	1.01
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.006	1.01
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.006	1.01
10237	Xylene (Total)	1330-20-7	0.004 J	0.001	0.006	1.01
GC/MS Semivolatiles			SW-846 8270C	ug/kg	ug/kg	
10724	Acenaphthene	83-32-9	4 J	4	19	1
10724	Acenaphthylene	208-96-8	14 J	4	19	1
10724	Anthracene	120-12-7	13 J	4	19	1
10724	Benzo(a)anthracene	56-55-3	32	4	19	1
10724	Benzo(a)pyrene	50-32-8	29 Q2	4	19	1
10724	Benzo(b)fluoranthene	205-99-2	69	4	19	1
10724	Benzo(g,h,i)perylene	191-24-2	66	4	19	1
10724	Benzo(k)fluoranthene	207-08-9	25	4	19	1
10724	Chrysene	218-01-9	51	4	19	1
10724	Dibenz(a,h)anthracene	53-70-3	11 J	4	19	1
10724	Fluoranthene	206-44-0	35	4	19	1
10724	Fluorene	86-73-7	N.D.	4	19	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	34	4	19	1
10724	Naphthalene	91-20-3	72	4	19	1
10724	Phenanthrene	85-01-8	39	4	19	1
10724	Pyrene	129-00-0	57	4	19	1
PCBs			SW-846 8082	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D. D2	4.1	19	1
10736	PCB-1221	11104-28-2	N.D. D2	5.2	19	1
10736	PCB-1232	11141-16-5	N.D. D2	9.0	19	1
10736	PCB-1242	53469-21-9	N.D. D2	3.7	19	1
10736	PCB-1248	12672-29-6	25 D2	3.7	19	1
10736	PCB-1254	11097-69-1	43 ZD1	3.7	19	1
10736	PCB-1260	11096-82-5	41 ZD1	5.5	19	1

Z=The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported.

Pesticides **SW-846 8081A** **ug/kg** **ug/kg** **ug/kg**

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP02-S001 Grab Soil
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: SW 9337637
ELLE Group #: 1879988
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 12:45

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Pesticides			SW-846 8081A	ug/kg	ug/kg	
10738	Aldrin	309-00-2	N.D. D2	0.19	0.94	1
10738	Alpha BHC	319-84-6	N.D. D2	0.19	0.94	1
10738	Beta BHC	319-85-7	N.D. D2	0.34	1.1	1
10738	Gamma BHC - Lindane	58-89-9	N.D. D1	0.19	0.94	1
10738	Alpha Chlordane	5103-71-9	0.90 JPD2	0.19	0.94	1
10738	Gamma Chlordane	5103-74-2	N.D. VD1	1.3	1.3	1
10738	p,p-DDD	72-54-8	N.D. D2	0.37	1.9	1
10738	p,p-DDE	72-55-9	0.52 JPD2	0.37	1.9	1
10738	p,p-DDT	50-29-3	N.D. D1	0.41	1.9	1
10738	Delta BHC	319-86-8	N.D. D2	0.51	1.0	1
10738	Dieldrin	60-57-1	0.41 JPD2	0.37	1.9	1
10738	Endosulfan I	959-98-8	N.D. D1	0.25	0.94	1
10738	Endosulfan II	33213-65-9	N.D. D1	0.37	1.9	1
10738	Endosulfan Sulfate	1031-07-8	N.D. D2	0.37	1.9	1
10738	Endrin	72-20-8	N.D. VD2	0.54	1.9	1
10738	Endrin Aldehyde	7421-93-4	N.D. ZVD1	1.0	1.9	1
10738	Endrin Ketone	53494-70-5	N.D. D1	0.68	2.0	1
10738	Heptachlor	76-44-8	N.D. D2	0.19	0.94	1
10738	Heptachlor Epoxide	1024-57-3	N.D. VD1	0.24	0.94	1
10738	Methoxychlor	72-43-5	N.D. D1	1.9	7.6	1
10738	Toxaphene	8001-35-2	N.D. D1	16	37	1

Z=The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported.

Metals			SW-846 6010B	mg/kg	mg/kg	mg/kg
06944	Antimony	7440-36-0	6.78 Q8	0.974	2.24	1
06935	Arsenic	7440-38-2	12.1	1.08	2.24	1
06947	Beryllium	7440-41-7	0.531 J	0.0885	0.560	1
06949	Cadmium	7440-43-9	3.20 Q8	0.0605	0.560	1
06951	Chromium	7440-47-3	22.0	0.190	1.68	1
06953	Copper	7440-50-8	86.0 BQ2	0.269	1.12	1
06955	Lead	7439-92-1	317 Q2Q8	0.672	1.68	1
06961	Nickel	7440-02-0	31.8	0.168	1.12	1
06936	Selenium	7782-49-2	N.D.	1.04	2.24	1
06966	Silver	7440-22-4	1.10	0.269	0.560	1
06925	Thallium	7440-28-0	N.D.	1.53	3.36	1
06972	Zinc	7440-66-6	2,380 Q2Q8	1.34	11.2	5

Metals			SW-846 7471A	mg/kg	mg/kg	mg/kg
00159	Mercury	7439-97-6	0.318 Q2	0.0108	0.108	1

Wet Chemistry **SW-846 9045C modified** **Std. Units** **Std. Units** **Std. Units**

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP02-S001 Grab Soil
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: SW 9337637
ELLE Group #: 1879988
Matrix: Soil

Project Name: APS Recycling

Submittal Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 12:45

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry						
00394	pH	n.a.	7.64	0.0100	0.0100	1
The pH was measured in water at 19.8 C.						
Wet Chemistry						
00111	Moisture	n.a.	11.6 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A173392AA	12/05/2017 22:02	Patrick T Herres	1.01
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733348112	11/27/2017 12:45	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733348112	11/27/2017 12:45	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733348112	11/27/2017 12:45	Client Supplied	1
10724	PAH 8270 (microwave)	SW-846 8270C	1	17334SLA026	12/06/2017 04:44	Anthony P Bauer	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	17334SLA026	11/30/2017 18:00	Sally L Appleyard	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173330020A	12/04/2017 11:07	Kirby B Turner	1
10738	Pesticides in Soil (microwave)	SW-846 8081A	1	173330019A	12/11/2017 23:07	Heather E Williams	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173330020A	11/30/2017 07:00	Michelle A Newswanger	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	173330019A	11/30/2017 07:00	Michelle A Newswanger	1
06944	Antimony	SW-846 6010B	1	173330570802	12/01/2017 06:20	Jonathan J Allen	1
06935	Arsenic	SW-846 6010B	1	173330570802	12/01/2017 06:20	Jonathan J Allen	1
06947	Beryllium	SW-846 6010B	1	173330570802	12/01/2017 06:20	Jonathan J Allen	1
06949	Cadmium	SW-846 6010B	1	173330570802	12/01/2017 06:20	Jonathan J Allen	1
06951	Chromium	SW-846 6010B	1	173330570802	12/01/2017 06:20	Jonathan J Allen	1
06953	Copper	SW-846 6010B	1	173330570802	12/01/2017 06:20	Jonathan J Allen	1
06955	Lead	SW-846 6010B	1	173330570802	12/01/2017 06:20	Jonathan J Allen	1
06961	Nickel	SW-846 6010B	1	173330570802	12/01/2017 06:20	Jonathan J Allen	1
06936	Selenium	SW-846 6010B	1	173330570802	12/05/2017 19:29	Cindy M Gehman	1
06966	Silver	SW-846 6010B	1	173330570802	12/01/2017 06:20	Jonathan J Allen	1
06925	Thallium	SW-846 6010B	1	173330570802	12/05/2017 19:29	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173330570802	12/01/2017 07:03	Jonathan J Allen	5

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP02-S001 Grab Soil
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: SW 9337637
ELLE Group #: 1879988
Matrix: Soil

Project Name: APS Recycling

Submittal Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 12:45

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00159	Mercury	SW-846 7471A	1	173340571101	12/01/2017 07:22	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173330570802	11/30/2017 16:10	JoElla L Rice	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173340571101	12/01/2017 03:55	Denise L Trimby	1
00394	pH	SW-846 9045C modified	1	17338039401B	12/04/2017 18:30	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17335820005B	12/01/2017 12:56	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP02-S002 Grab Soil
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: SW 9337638
ELLE Group #: 1879988
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 13:00

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D.	0.0005	0.005	0.94
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	0.94
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	0.94
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	0.94
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.005	0.94
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D. Q2	0.0005	0.005	0.94
10237	Naphthalene	91-20-3	N.D. Q2	0.001	0.005	0.94
10237	Toluene	108-88-3	N.D.	0.001	0.005	0.94
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.005	0.94
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.005	0.94
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	0.94
GC/MS Semivolatiles			SW-846 8270C	ug/kg	ug/kg	
10724	Acenaphthene	83-32-9	N.D.	4	19	1
10724	Acenaphthylene	208-96-8	N.D.	4	19	1
10724	Anthracene	120-12-7	N.D.	4	19	1
10724	Benzo(a)anthracene	56-55-3	N.D.	4	19	1
10724	Benzo(a)pyrene	50-32-8	N.D. Q2	4	19	1
10724	Benzo(b)fluoranthene	205-99-2	N.D.	4	19	1
10724	Benzo(g,h,i)perylene	191-24-2	N.D.	4	19	1
10724	Benzo(k)fluoranthene	207-08-9	N.D.	4	19	1
10724	Chrysene	218-01-9	N.D.	4	19	1
10724	Dibenz(a,h)anthracene	53-70-3	N.D.	4	19	1
10724	Fluoranthene	206-44-0	N.D.	4	19	1
10724	Fluorene	86-73-7	N.D.	4	19	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	4	19	1
10724	Naphthalene	91-20-3	N.D.	4	19	1
10724	Phenanthrene	85-01-8	N.D.	4	19	1
10724	Pyrene	129-00-0	N.D.	4	19	1
PCBs			SW-846 8082	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D. D2	3.9	19	1
10736	PCB-1221	11104-28-2	N.D. D2	5.0	19	1
10736	PCB-1232	11141-16-5	N.D. D2	8.8	19	1
10736	PCB-1242	53469-21-9	N.D. D2	3.6	19	1
10736	PCB-1248	12672-29-6	N.D. D2	3.6	19	1
10736	PCB-1254	11097-69-1	N.D. ZD1	3.6	19	1
10736	PCB-1260	11096-82-5	N.D. ZD1	5.4	19	1

Z=The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported.

Pesticides **SW-846 8081A** **ug/kg** **ug/kg** **ug/kg**

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP02-S002 Grab Soil
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: SW 9337638
ELLE Group #: 1879988
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 13:00

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Pesticides			SW-846 8081A	ug/kg	ug/kg	
10738	Aldrin	309-00-2	N.D. D2	0.19	0.91	1
10738	Alpha BHC	319-84-6	N.D. D1	0.19	0.91	1
10738	Beta BHC	319-85-7	N.D. D2	0.33	1.1	1
10738	Gamma BHC - Lindane	58-89-9	N.D. D1	0.19	0.91	1
10738	Alpha Chlordane	5103-71-9	N.D. D2	0.19	0.91	1
10738	Gamma Chlordane	5103-74-2	N.D. VD1	0.38	0.91	1
10738	p,p-DDD	72-54-8	N.D. D1	0.36	1.9	1
10738	p,p-DDE	72-55-9	N.D. D1	0.36	1.9	1
10738	p,p-DDT	50-29-3	N.D. D1	0.39	1.9	1
10738	Delta BHC	319-86-8	N.D. D1	0.49	0.99	1
10738	Dieldrin	60-57-1	N.D. D1	0.36	1.9	1
10738	Endosulfan I	959-98-8	N.D. D2	0.24	0.91	1
10738	Endosulfan II	33213-65-9	N.D. D1	0.36	1.9	1
10738	Endosulfan Sulfate	1031-07-8	N.D. D2	0.36	1.9	1
10738	Endrin	72-20-8	N.D. D1	0.37	1.9	1
10738	Endrin Aldehyde	7421-93-4	N.D. ZD2	0.36	1.9	1
10738	Endrin Ketone	53494-70-5	N.D. D2	0.66	2.0	1
10738	Heptachlor	76-44-8	N.D. D1	0.19	0.91	1
10738	Heptachlor Epoxide	1024-57-3	N.D. D1	0.19	0.91	1
10738	Methoxychlor	72-43-5	N.D. D2	1.9	7.3	1
10738	Toxaphene	8001-35-2	N.D. D1	15	36	1

Z=The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported.

Metals			SW-846 6010B	mg/kg	mg/kg	mg/kg
06944	Antimony	7440-36-0	1.27 J Q8	0.788	1.81	1
06935	Arsenic	7440-38-2	5.61	0.869	1.81	1
06947	Beryllium	7440-41-7	0.548	0.0716	0.453	1
06949	Cadmium	7440-43-9	0.293 J Q8	0.0489	0.453	1
06951	Chromium	7440-47-3	18.3	0.154	1.36	1
06953	Copper	7440-50-8	15.3 BQ2	0.217	0.906	1
06955	Lead	7439-92-1	9.52 Q2Q8	0.543	1.36	1
06961	Nickel	7440-02-0	26.9	0.136	0.906	1
06936	Selenium	7782-49-2	N.D.	0.842	1.81	1
06966	Silver	7440-22-4	0.755	0.217	0.453	1
06925	Thallium	7440-28-0	N.D.	1.24	2.72	1
06972	Zinc	7440-66-6	69.5 Q2Q8	0.217	1.81	1

Metals			SW-846 7471A	mg/kg	mg/kg	mg/kg
00159	Mercury	7439-97-6	N.D. Q2	0.0104	0.104	1

Wet Chemistry **SW-846 9045C modified** **Std. Units** **Std. Units** **Std. Units**

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP02-S002 Grab Soil
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: SW 9337638
ELLE Group #: 1879988
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 13:00

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry						
00394	pH	n.a.	7.78	0.0100	0.0100	1
The pH was measured in water at 19.3 C.						
Wet Chemistry						
00111	Moisture	n.a.	9.5 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	X173381AA	12/04/2017 17:45	Jennifer K Howe	0.94
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733348112	11/27/2017 13:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733348112	11/27/2017 13:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733348112	11/27/2017 13:00	Client Supplied	1
10724	PAH 8270 (microwave)	SW-846 8270C	1	17334SLA026	12/06/2017 14:57	Linda M Hartenstine	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	17334SLA026	11/30/2017 18:00	Sally L Appleyard	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173330020A	12/04/2017 11:18	Kirby B Turner	1
10738	Pesticides in Soil (microwave)	SW-846 8081A	1	173330019A	12/11/2017 23:34	Heather E Williams	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173330020A	11/30/2017 07:00	Michelle A Newswanger	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	173330019A	11/30/2017 07:00	Michelle A Newswanger	1
06944	Antimony	SW-846 6010B	1	173330570802	12/01/2017 06:23	Jonathan J Allen	1
06935	Arsenic	SW-846 6010B	1	173330570802	12/05/2017 19:39	Cindy M Gehman	1
06947	Beryllium	SW-846 6010B	1	173330570802	12/01/2017 06:23	Jonathan J Allen	1
06949	Cadmium	SW-846 6010B	1	173330570802	12/01/2017 06:23	Jonathan J Allen	1
06951	Chromium	SW-846 6010B	1	173330570802	12/01/2017 06:23	Jonathan J Allen	1
06953	Copper	SW-846 6010B	1	173330570802	12/01/2017 06:23	Jonathan J Allen	1
06955	Lead	SW-846 6010B	1	173330570802	12/01/2017 06:23	Jonathan J Allen	1
06961	Nickel	SW-846 6010B	1	173330570802	12/01/2017 06:23	Jonathan J Allen	1
06936	Selenium	SW-846 6010B	1	173330570802	12/05/2017 19:39	Cindy M Gehman	1
06966	Silver	SW-846 6010B	1	173330570802	12/01/2017 06:23	Jonathan J Allen	1
06925	Thallium	SW-846 6010B	1	173330570802	12/05/2017 19:39	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173330570802	12/01/2017 06:23	Jonathan J Allen	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP02-S002 Grab Soil
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: SW 9337638
ELLE Group #: 1879988
Matrix: Soil

Project Name: APS Recycling

Submittal Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 13:00

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00159	Mercury	SW-846 7471A	1	173340571101	12/01/2017 07:24	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173330570802	11/30/2017 16:10	JoElla L Rice	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173340571101	12/01/2017 03:55	Denise L Trimby	1
00394	pH	SW-846 9045C modified	1	17338039401B	12/04/2017 18:30	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17335820005B	12/01/2017 12:56	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP02-W001 Grab Groundwater
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: WW 9337639
ELLE Group #: 1879988
Matrix: Groundwater

Project Name: APS Recycling

Submission Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 14:30

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10945	Naphthalene	91-20-3	N.D.	1	4	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	2	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
GC/MS Semivolatiles		SW-846 8270C	ug/l	ug/l	ug/l	
14249	Acenaphthene	83-32-9	N.D.	0.1	0.5	1
14249	Acenaphthylene	208-96-8	N.D.	0.1	0.5	1
14249	Anthracene	120-12-7	N.D.	0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	N.D.	0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	N.D.	0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	0.5	1
14249	Benzo(k)fluoranthene	207-08-9	N.D.	0.1	0.5	1
14249	Chrysene	218-01-9	N.D.	0.1	0.5	1
14249	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	0.5	1
14249	Fluoranthene	206-44-0	N.D.	0.1	0.5	1
14249	Fluorene	86-73-7	N.D.	0.1	0.5	1
14249	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	0.5	1
14249	Naphthalene	91-20-3	N.D.	0.1	0.5	1
14249	Phenanthrene	85-01-8	N.D.	0.1	0.5	1
14249	Pyrene	129-00-0	N.D.	0.1	0.5	1
PCBs		SW-846 8082	ug/l	ug/l	ug/l	
10227	PCB-1016	12674-11-2	N.D. D1 Q2Q9	0.090	0.45	1
10227	PCB-1221	11104-28-2	N.D. D1	0.090	0.45	1
10227	PCB-1232	11141-16-5	N.D. D1	0.18	0.45	1
10227	PCB-1242	53469-21-9	N.D. D1	0.090	0.45	1
10227	PCB-1248	12672-29-6	N.D. D2	0.090	0.45	1
10227	PCB-1254	11097-69-1	N.D. D1	0.090	0.45	1
10227	PCB-1260	11096-82-5	N.D. D1 Q9	0.13	0.45	1
Pesticides		SW-846 8081A	ug/l	ug/l	ug/l	
00177	Aldrin	309-00-2	N.D. D2	0.0018	0.0090	1
00177	Alpha BHC	319-84-6	N.D. D2	0.0027	0.0090	1
00177	Beta BHC	319-85-7	N.D. VD2	0.019	0.019	1
00177	Gamma BHC - Lindane	58-89-9	N.D. D2	0.0018	0.0090	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP02-W001 Grab Groundwater
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: WW 9337639
ELLE Group #: 1879988
Matrix: Groundwater

Project Name: APS Recycling

Submission Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 14:30

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
Pesticides		SW-846 8081A	ug/l	ug/l	ug/l	
00177	Alpha Chlordane	5103-71-9	N.D. D2	0.0027	0.0090	1
00177	Gamma Chlordane	5103-74-2	N.D. VD2	0.061	0.061	1
00177	p,p-DDD	72-54-8	N.D. D2	0.0045	0.018	1
00177	p,p-DDE	72-55-9	N.D. D2	0.0045	0.018	1
00177	p,p-DDT	50-29-3	N.D. D2 Q3	0.0047	0.018	1
00177	Delta BHC	319-86-8	N.D. D2	0.0030	0.0090	1
00177	Dieldrin	60-57-1	N.D. D2	0.0048	0.018	1
00177	Endosulfan I	959-98-8	N.D. D2	0.0039	0.0090	1
00177	Endosulfan II	33213-65-9	N.D. D2	0.013	0.027	1
00177	Endosulfan Sulfate	1031-07-8	N.D. D2	0.0052	0.018	1
00177	Endrin	72-20-8	N.D. D2	0.0073	0.018	1
00177	Endrin Aldehyde	7421-93-4	N.D. D2	0.018	0.090	1
00177	Endrin Ketone	53494-70-5	N.D. D2	0.0045	0.018	1
00177	Heptachlor	76-44-8	N.D. D2	0.0018	0.0090	1
00177	Heptachlor Epoxide	1024-57-3	N.D. D2	0.0021	0.0090	1
00177	Methoxychlor	72-43-5	N.D. D2	0.027	0.090	1
00177	Toxaphene	8001-35-2	N.D. D2	0.27	0.90	1

The % difference for the calibration verification standard is outside the +/- 15% criteria for the analyte(s) listed below associated with the blank, laboratory control spike and the sample surrogate. Since the average of the % difference values meets the criteria, the results are reported. This applies to the following analyte(s): Endrin and Methoxychlor, Decachlorobiphenyl.

Reporting limits were raised due to interference from the sample matrix.

Volatiles by Extraction		SW-846 8011	ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	N.D. D1	0.0095	0.029	1

Metals		SW-846 6010B	mg/l	mg/l	mg/l	
07044	Antimony	7440-36-0	N.D.	0.0087	0.0200	1
07035	Arsenic	7440-38-2	N.D.	0.0096	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.0020	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.0018	0.0050	1
07051	Chromium	7440-47-3	N.D.	0.0033	0.0150	1
07053	Copper	7440-50-8	0.0052 J Q8	0.0040	0.0100	1
07061	Nickel	7440-02-0	0.0179	0.0040	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0093	0.0200	1
07066	Silver	7440-22-4	N.D.	0.0024	0.0050	1
07022	Thallium	7440-28-0	N.D.	0.0137	0.0300	1
07072	Zinc	7440-66-6	0.0404	0.0065	0.0200	1
		SW-846 6020	mg/l	mg/l	mg/l	

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP02-W001 Grab Groundwater
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: WW 9337639
ELLE Group #: 1879988
Matrix: Groundwater

Project Name: APS Recycling

Submission Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 14:30

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
Metals						
SW-846 6020			mg/l	mg/l	mg/l	
06035	Lead	7439-92-1	N.D.	0.00011	0.0010	1
Metals						
SW-846 7470A			mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	N.D. B	0.000050	0.00020	1
Wet Chemistry						
EPA 170.1			Degrees C	Degrees C	Degrees C	
12151	Temperature of pH	n.a.	22.1	0.010	0.010	1
SM 4500-H+ B-2000			Std. Units	Std. Units	Std. Units	
12152	pH	n.a.	6.5	0.010	0.010	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was field filtered for dissolved metals, PAHs, PCBs, and Pesticides.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z173391AA	12/05/2017 13:47	Anthony H Downey	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z173391AA	12/05/2017 13:47	Anthony H Downey	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17334WAL026	12/05/2017 23:26	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	17334WAL026	12/01/2017 08:00	Kayla A Yuditsky	1
10227	PCBs in Water	SW-846 8082	1	173340008A	12/03/2017 17:45	Kirby B Turner	1
00177	OC Pesticides in Water	SW-846 8081A	1	173340007A	12/14/2017 19:01	Heather E Williams	1
10398	8011 Master Master	SW-846 8011	1	173340001A	12/01/2017 15:34	Sarah Estes	1
11117	PCB Waters Extraction	SW-846 3510C	1	173340008A	11/30/2017 22:10	Karen L Beyer	1
11118	Pesticide Screen Waters Ext	SW-846 3510C	1	173340007A	11/30/2017 22:00	Karen L Beyer	1
07786	EDB Extraction (8011)	SW-846 8011	1	173340001A	11/30/2017 20:00	Edwin Ortiz	1
07044	Antimony	SW-846 6010B	1	173380184801	12/07/2017 04:21	Jonathan J Allen	1
07035	Arsenic	SW-846 6010B	1	173380184801	12/07/2017 04:21	Jonathan J Allen	1
07047	Beryllium	SW-846 6010B	1	173380184801	12/07/2017 04:21	Jonathan J Allen	1
07049	Cadmium	SW-846 6010B	1	173380184801	12/07/2017 04:21	Jonathan J Allen	1
07051	Chromium	SW-846 6010B	1	173380184801	12/07/2017 04:21	Jonathan J Allen	1
07053	Copper	SW-846 6010B	1	173380184801	12/07/2017 04:21	Jonathan J Allen	1
07061	Nickel	SW-846 6010B	1	173380184801	12/07/2017 04:21	Jonathan J Allen	1
07036	Selenium	SW-846 6010B	1	173380184801	12/07/2017 04:21	Jonathan J Allen	1
07066	Silver	SW-846 6010B	1	173380184801	12/07/2017 04:21	Jonathan J Allen	1
07022	Thallium	SW-846 6010B	1	173380184801	12/07/2017 04:21	Jonathan J Allen	1
07072	Zinc	SW-846 6010B	1	173380184801	12/07/2017 04:21	Jonathan J Allen	1
06035	Lead	SW-846 6020	1	173340605002A	12/04/2017 04:23	Sarah L Burt	1
00259	Mercury	SW-846 7470A	1	173340571302	12/04/2017 06:46	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	173380184801	12/04/2017 22:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP02-W001 Grab Groundwater
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: WW 9337639
ELLE Group #: 1879988
Matrix: Groundwater

Project Name: APS Recycling

Submittal Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 14:30

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	173340605002	12/01/2017 16:45	Barbara A Kane	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	173340571302	12/01/2017 18:15	Barbara A Kane	1
12151	Temperature of pH	EPA 170.1	1	17340002101A	12/06/2017 21:19	Nathan T Morgan	1
12152	pH	SM 4500-H+ B-2000	1	17340002101A	12/06/2017 21:19	Nathan T Morgan	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP02-W001 MS Grab Groundwater
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: WW 9337640
ELLE Group #: 1879988
Matrix: Groundwater

Project Name: APS Recycling

Submission Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 14:30

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	21	0.5	1	1
10945	1,2-Dichloroethane	107-06-2	20	0.5	1	1
10945	Ethylbenzene	100-41-4	22	0.5	1	1
10945	Isopropylbenzene	98-82-8	22	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	19	0.5	1	1
10945	Naphthalene	91-20-3	15	1	4	1
10945	Toluene	108-88-3	22	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	22	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	21	0.5	2	1
10945	Xylene (Total)	1330-20-7	67	0.5	1	1
GC/MS Semivolatiles		SW-846 8270C	ug/l	ug/l	ug/l	
14249	Acenaphthene	83-32-9	48	0.1	0.6	1
14249	Acenaphthylene	208-96-8	56	0.1	0.6	1
14249	Anthracene	120-12-7	53	0.1	0.6	1
14249	Benzo(a)anthracene	56-55-3	53	0.1	0.6	1
14249	Benzo(a)pyrene	50-32-8	52	0.1	0.6	1
14249	Benzo(b)fluoranthene	205-99-2	51	0.1	0.6	1
14249	Benzo(g,h,i)perylene	191-24-2	53	0.1	0.6	1
14249	Benzo(k)fluoranthene	207-08-9	53	0.1	0.6	1
14249	Chrysene	218-01-9	55	0.1	0.6	1
14249	Dibenz(a,h)anthracene	53-70-3	54	0.1	0.6	1
14249	Fluoranthene	206-44-0	53	0.1	0.6	1
14249	Fluorene	86-73-7	49	0.1	0.6	1
14249	Indeno(1,2,3-cd)pyrene	193-39-5	51	0.1	0.6	1
14249	Naphthalene	91-20-3	44	0.1	0.6	1
14249	Phenanthrene	85-01-8	52	0.1	0.6	1
14249	Pyrene	129-00-0	53	0.1	0.6	1
PCBs		SW-846 8082	ug/l	ug/l	ug/l	
10227	PCB-1016	12674-11-2	4.2 D2 Q2Q9	0.083	0.41	1
10227	PCB-1221	11104-28-2	N.D. D1	0.083	0.41	1
10227	PCB-1232	11141-16-5	N.D. D1	0.17	0.41	1
10227	PCB-1242	53469-21-9	N.D. D1	0.083	0.41	1
10227	PCB-1248	12672-29-6	N.D. D1	0.083	0.41	1
10227	PCB-1254	11097-69-1	N.D. D1	0.083	0.41	1
10227	PCB-1260	11096-82-5	4.9 D2 Q9	0.12	0.41	1
Pesticides		SW-846 8081A	ug/l	ug/l	ug/l	
00177	Aldrin	309-00-2	0.10 D1	0.0017	0.0084	1
00177	Alpha BHC	319-84-6	0.11 D1	0.0025	0.0084	1
00177	Beta BHC	319-85-7	0.097 PD2	0.0028	0.0084	1
00177	Gamma BHC - Lindane	58-89-9	0.11 D1	0.0017	0.0084	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP02-W001 MS Grab Groundwater
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: WW 9337640
ELLE Group #: 1879988
Matrix: Groundwater

Project Name: APS Recycling

Submission Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 14:30

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
Pesticides		SW-846 8081A	ug/l	ug/l	ug/l	
00177	Alpha Chlordane	5103-71-9	0.10 D1	0.0025	0.0084	1
00177	Gamma Chlordane	5103-74-2	0.12 PD1	0.0059	0.017	1
00177	p,p-DDD	72-54-8	0.22 D1	0.0042	0.017	1
00177	p,p-DDE	72-55-9	0.22 D1	0.0042	0.017	1
00177	p,p-DDT	50-29-3	0.25 D1Z Q3	0.0044	0.017	1
00177	Delta BHC	319-86-8	0.11 D1	0.0028	0.0084	1
00177	Dieldrin	60-57-1	0.22 D1	0.0044	0.017	1
00177	Endosulfan I	959-98-8	0.10 D1	0.0036	0.0084	1
00177	Endosulfan II	33213-65-9	0.22 D1	0.013	0.025	1
00177	Endosulfan Sulfate	1031-07-8	0.23 D2	0.0049	0.017	1
00177	Endrin	72-20-8	0.22 D2	0.0068	0.017	1
00177	Endrin Aldehyde	7421-93-4	0.20 D1	0.017	0.084	1
00177	Endrin Ketone	53494-70-5	0.23 D2	0.0042	0.017	1
00177	Heptachlor	76-44-8	0.11 D1	0.0017	0.0084	1
00177	Heptachlor Epoxide	1024-57-3	0.11 D2	0.0019	0.0084	1
00177	Methoxychlor	72-43-5	1.3 D1Z	0.025	0.084	1
00177	Toxaphene	8001-35-2	N.D. D1	0.25	0.84	1

The % difference for the calibration verification standard is outside the +/- 15% criteria for the analyte(s) listed below associated with the blank, laboratory control spike. Since the average of the % difference values meets the criteria, the results are reported. This applies to the following analyte(s): Endrin and Methoxychlor.

Z= The % difference for the calibration verification standard is outside the +/- 15% criteria for the analyte(s) listed below. Since the average of the % difference values meets the criteria, the results are reported. This applies to the following analyte(s): Methoxychlor and DDT.

Volatiles by Extraction		SW-846 8011	ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	0.11 D1	0.0094	0.028	1

Metals		SW-846 6010B	mg/l	mg/l	mg/l	
07044	Antimony	7440-36-0	0.523	0.0087	0.0200	1
07035	Arsenic	7440-38-2	0.140	0.0096	0.0200	1
07047	Beryllium	7440-41-7	0.0476	0.0020	0.0050	1
07049	Cadmium	7440-43-9	0.0490	0.0018	0.0050	1
07051	Chromium	7440-47-3	0.193	0.0033	0.0150	1
07053	Copper	7440-50-8	0.261 Q8	0.0040	0.0100	1
07061	Nickel	7440-02-0	0.504	0.0040	0.0100	1
07036	Selenium	7782-49-2	0.139	0.0093	0.0200	1
07066	Silver	7440-22-4	0.0462	0.0024	0.0050	1
07022	Thallium	7440-28-0	0.147	0.0137	0.0300	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP02-W001 MS Grab Groundwater
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: WW 9337640
ELLE Group #: 1879988
Matrix: Groundwater

Project Name: APS Recycling

Submittal Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 14:30

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
Metals						
07072	Zinc	7440-66-6	0.517	0.0065	0.0200	1
Metals						
06035	Lead	7439-92-1	0.0155	0.00011	0.0010	1
Metals						
00259	Mercury	7439-97-6	0.00091 B	0.000050	0.00020	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was field filtered for dissolved metals, PAHs, PCBs, and Pesticides.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z173391AA	12/05/2017 14:11	Anthony H Downey	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z173391AA	12/05/2017 14:11	Anthony H Downey	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17334WAL026	12/05/2017 23:55	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	17334WAL026	12/01/2017 08:00	Kayla A Yuditsky	1
10227	PCBs in Water	SW-846 8082	1	173340008A	12/03/2017 17:57	Kirby B Turner	1
00177	OC Pesticides in Water	SW-846 8081A	1	173340007A	12/19/2017 17:05	Heather E Williams	1
10398	8011 Master Master	SW-846 8011	1	173340001A	12/01/2017 15:50	Sarah Estes	1
11117	PCB Waters Extraction	SW-846 3510C	1	173340008A	11/30/2017 22:10	Karen L Beyer	1
11118	Pesticide Screen Waters Ext	SW-846 3510C	1	173340007A	11/30/2017 22:00	Karen L Beyer	1
07786	EDB Extraction (8011)	SW-846 8011	1	173340001A	11/30/2017 20:00	Edwin Ortiz	1
07044	Antimony	SW-846 6010B	1	173380184801	12/07/2017 04:31	Jonathan J Allen	1
07035	Arsenic	SW-846 6010B	1	173380184801	12/07/2017 04:31	Jonathan J Allen	1
07047	Beryllium	SW-846 6010B	1	173380184801	12/07/2017 04:31	Jonathan J Allen	1
07049	Cadmium	SW-846 6010B	1	173380184801	12/07/2017 04:31	Jonathan J Allen	1
07051	Chromium	SW-846 6010B	1	173380184801	12/07/2017 04:31	Jonathan J Allen	1
07053	Copper	SW-846 6010B	1	173380184801	12/07/2017 04:31	Jonathan J Allen	1
07061	Nickel	SW-846 6010B	1	173380184801	12/07/2017 04:31	Jonathan J Allen	1
07036	Selenium	SW-846 6010B	1	173380184801	12/07/2017 04:31	Jonathan J Allen	1
07066	Silver	SW-846 6010B	1	173380184801	12/07/2017 04:31	Jonathan J Allen	1
07022	Thallium	SW-846 6010B	1	173380184801	12/07/2017 04:31	Jonathan J Allen	1
07072	Zinc	SW-846 6010B	1	173380184801	12/07/2017 04:31	Jonathan J Allen	1
06035	Lead	SW-846 6020	1	173340605002A	12/04/2017 04:28	Sarah L Burt	1
00259	Mercury	SW-846 7470A	1	173340571302	12/04/2017 06:50	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	173380184801	12/04/2017 22:00	Annamaria Kuhns	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	173340605002	12/01/2017 16:45	Barbara A Kane	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	173340571302	12/01/2017 18:15	Barbara A Kane	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP02-W001 MSD Grab Groundwater
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: WW 9337641
ELLE Group #: 1879988
Matrix: Groundwater

Project Name: APS Recycling

Submission Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 14:30

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	21	0.5	1	1
10945	1,2-Dichloroethane	107-06-2	21	0.5	1	1
10945	Ethylbenzene	100-41-4	22	0.5	1	1
10945	Isopropylbenzene	98-82-8	22	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	20	0.5	1	1
10945	Naphthalene	91-20-3	16	1	4	1
10945	Toluene	108-88-3	22	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	22	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	21	0.5	2	1
10945	Xylene (Total)	1330-20-7	68	0.5	1	1
GC/MS Semivolatiles		SW-846 8270C	ug/l	ug/l	ug/l	
14249	Acenaphthene	83-32-9	53	0.1	0.6	1
14249	Acenaphthylene	208-96-8	61	0.1	0.6	1
14249	Anthracene	120-12-7	57	0.1	0.6	1
14249	Benzo(a)anthracene	56-55-3	54	0.1	0.6	1
14249	Benzo(a)pyrene	50-32-8	56	0.1	0.6	1
14249	Benzo(b)fluoranthene	205-99-2	54	0.1	0.6	1
14249	Benzo(g,h,i)perylene	191-24-2	56	0.1	0.6	1
14249	Benzo(k)fluoranthene	207-08-9	55	0.1	0.6	1
14249	Chrysene	218-01-9	57	0.1	0.6	1
14249	Dibenz(a,h)anthracene	53-70-3	56	0.1	0.6	1
14249	Fluoranthene	206-44-0	56	0.1	0.6	1
14249	Fluorene	86-73-7	53	0.1	0.6	1
14249	Indeno(1,2,3-cd)pyrene	193-39-5	54	0.1	0.6	1
14249	Naphthalene	91-20-3	46	0.1	0.6	1
14249	Phenanthrene	85-01-8	54	0.1	0.6	1
14249	Pyrene	129-00-0	55	0.1	0.6	1
PCBs		SW-846 8082	ug/l	ug/l	ug/l	
10227	PCB-1016	12674-11-2	2.7 D2 Q2Q9	0.086	0.43	1
10227	PCB-1221	11104-28-2	N.D. D1	0.086	0.43	1
10227	PCB-1232	11141-16-5	N.D. D1	0.17	0.43	1
10227	PCB-1242	53469-21-9	N.D. D1	0.086	0.43	1
10227	PCB-1248	12672-29-6	N.D. D1	0.086	0.43	1
10227	PCB-1254	11097-69-1	N.D. D1	0.086	0.43	1
10227	PCB-1260	11096-82-5	3.1 D2 Q9	0.13	0.43	1
Pesticides		SW-846 8081A	ug/l	ug/l	ug/l	
00177	Aldrin	309-00-2	0.084 D1	0.0018	0.0089	1
00177	Alpha BHC	319-84-6	0.090 D1	0.0027	0.0089	1
00177	Beta BHC	319-85-7	0.12 D1	0.0030	0.0089	1
00177	Gamma BHC - Lindane	58-89-9	0.092 D1	0.0018	0.0089	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP02-W001 MSD Grab Groundwater
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: WW 9337641
ELLE Group #: 1879988
Matrix: Groundwater

Project Name: APS Recycling

Submission Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 14:30

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
Pesticides		SW-846 8081A	ug/l	ug/l	ug/l	
00177	Alpha Chlordane	5103-71-9	0.092 D1	0.0027	0.0089	1
00177	Gamma Chlordane	5103-74-2	0.098 PD1	0.0062	0.018	1
00177	p,p-DDD	72-54-8	0.19 D1	0.0044	0.018	1
00177	p,p-DDE	72-55-9	0.19 D1	0.0044	0.018	1
00177	p,p-DDT	50-29-3	0.22 D1 Q3	0.0046	0.018	1
00177	Delta BHC	319-86-8	0.092 D1	0.0030	0.0089	1
00177	Dieldrin	60-57-1	0.19 D1	0.0047	0.018	1
00177	Endosulfan I	959-98-8	0.088 D1	0.0038	0.0089	1
00177	Endosulfan II	33213-65-9	0.19 D1	0.013	0.027	1
00177	Endosulfan Sulfate	1031-07-8	0.20 D2	0.0051	0.018	1
00177	Endrin	72-20-8	0.19 D2	0.0072	0.018	1
00177	Endrin Aldehyde	7421-93-4	0.18 D1	0.018	0.088	1
00177	Endrin Ketone	53494-70-5	0.20 D2	0.0044	0.018	1
00177	Heptachlor	76-44-8	0.090 D1	0.0018	0.0089	1
00177	Heptachlor Epoxide	1024-57-3	0.091 D2	0.0020	0.0089	1
00177	Methoxychlor	72-43-5	1.1 D1Z	0.027	0.088	1
00177	Toxaphene	8001-35-2	N.D. D1	0.27	0.88	1

The % difference for the calibration verification standard is outside the +/- 15% criteria for the analyte(s) listed below associated with the blank, laboratory control spike. Since the average of the % difference values meets the criteria, the results are reported. This applies to the following analyte(s): Endrin and Methoxychlor.

Z= The % difference for the calibration verification standard is outside the +/- 15% criteria for the analyte(s) listed below. Since the average of the % difference values meets the criteria, the results are reported. This applies to the following analyte(s): Methoxychlor and DDT.

Volatiles by Extraction		SW-846 8011	ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	0.12 D1	0.0095	0.028	1

Metals		SW-846 6010B	mg/l	mg/l	mg/l	
07044	Antimony	7440-36-0	0.534	0.0087	0.0200	1
07035	Arsenic	7440-38-2	0.146	0.0096	0.0200	1
07047	Beryllium	7440-41-7	0.0484	0.0020	0.0050	1
07049	Cadmium	7440-43-9	0.0492	0.0018	0.0050	1
07051	Chromium	7440-47-3	0.195	0.0033	0.0150	1
07053	Copper	7440-50-8	0.267 Q8	0.0040	0.0100	1
07061	Nickel	7440-02-0	0.513	0.0040	0.0100	1
07036	Selenium	7782-49-2	0.145	0.0093	0.0200	1
07066	Silver	7440-22-4	0.0467	0.0024	0.0050	1
07022	Thallium	7440-28-0	0.152	0.0137	0.0300	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP02-W001 MSD Grab Groundwater
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: WW 9337641
ELLE Group #: 1879988
Matrix: Groundwater

Project Name: APS Recycling

Submittal Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 14:30

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
Metals						
07072	Zinc	7440-66-6	0.527	0.0065	0.0200	1
Metals						
06035	Lead	7439-92-1	0.0156	0.00011	0.0010	1
Metals						
00259	Mercury	7439-97-6	0.00088 B	0.000050	0.00020	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was field filtered for dissolved metals, PAHs, PCBs, and Pesticides.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z173391AA	12/05/2017 14:36	Anthony H Downey	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z173391AA	12/05/2017 14:36	Anthony H Downey	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17334WAL026	12/06/2017 00:24	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	17334WAL026	12/01/2017 08:00	Kayla A Yuditsky	1
10227	PCBs in Water	SW-846 8082	1	173340008A	12/03/2017 18:08	Kirby B Turner	1
00177	OC Pesticides in Water	SW-846 8081A	1	173340007A	12/19/2017 17:19	Heather E Williams	1
10398	8011 Master Master	SW-846 8011	1	173340001A	12/01/2017 16:05	Sarah Estes	1
11117	PCB Waters Extraction	SW-846 3510C	1	173340008A	11/30/2017 22:10	Karen L Beyer	1
11118	Pesticide Screen Waters Ext	SW-846 3510C	1	173340007A	11/30/2017 22:00	Karen L Beyer	1
07786	EDB Extraction (8011)	SW-846 8011	1	173340001A	11/30/2017 20:00	Edwin Ortiz	1
07044	Antimony	SW-846 6010B	1	173380184801	12/07/2017 04:34	Jonathan J Allen	1
07035	Arsenic	SW-846 6010B	1	173380184801	12/07/2017 04:34	Jonathan J Allen	1
07047	Beryllium	SW-846 6010B	1	173380184801	12/07/2017 04:34	Jonathan J Allen	1
07049	Cadmium	SW-846 6010B	1	173380184801	12/07/2017 04:34	Jonathan J Allen	1
07051	Chromium	SW-846 6010B	1	173380184801	12/07/2017 04:34	Jonathan J Allen	1
07053	Copper	SW-846 6010B	1	173380184801	12/07/2017 04:34	Jonathan J Allen	1
07061	Nickel	SW-846 6010B	1	173380184801	12/07/2017 04:34	Jonathan J Allen	1
07036	Selenium	SW-846 6010B	1	173380184801	12/07/2017 04:34	Jonathan J Allen	1
07066	Silver	SW-846 6010B	1	173380184801	12/07/2017 04:34	Jonathan J Allen	1
07022	Thallium	SW-846 6010B	1	173380184801	12/07/2017 04:34	Jonathan J Allen	1
07072	Zinc	SW-846 6010B	1	173380184801	12/07/2017 04:34	Jonathan J Allen	1
06035	Lead	SW-846 6020	1	173340605002A	12/04/2017 04:30	Sarah L Burt	1
00259	Mercury	SW-846 7470A	1	173340571302	12/04/2017 06:52	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	173380184801	12/04/2017 22:00	Annamaria Kuhns	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	173340605002	12/01/2017 16:45	Barbara A Kane	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	173340571302	12/01/2017 18:15	Barbara A Kane	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP02-W001 DUP Grab Groundwater
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: WW 9337642
ELLE Group #: 1879988
Matrix: Groundwater

Project Name: APS Recycling

Submission Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 14:30

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
Metals			SW-846 6010B	mg/l	mg/l	
07044	Antimony	7440-36-0	N.D.	0.0087	0.0200	1
07035	Arsenic	7440-38-2	N.D.	0.0096	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.0020	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.0018	0.0050	1
07051	Chromium	7440-47-3	N.D.	0.0033	0.0150	1
07053	Copper	7440-50-8	N.D. Q8	0.0040	0.0100	1
07061	Nickel	7440-02-0	0.0179	0.0040	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0093	0.0200	1
07066	Silver	7440-22-4	N.D.	0.0024	0.0050	1
07022	Thallium	7440-28-0	N.D.	0.0137	0.0300	1
07072	Zinc	7440-66-6	0.0398	0.0065	0.0200	1
			SW-846 6020	mg/l	mg/l	
06035	Lead	7439-92-1	N.D.	0.00011	0.0010	1
			SW-846 7470A	mg/l	mg/l	
00259	Mercury	7439-97-6	N.D. B	0.000050	0.00020	1
Wet Chemistry			EPA 170.1	Degrees C	Degrees C	
12151	Temperature of pH	n.a.	21.0	0.010	0.010	1
			SM 4500-H+ B-2000	Std. Units	Std. Units	
12152	pH	n.a.	6.6	0.010	0.010	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was field filtered for dissolved metals, PAHs, PCBs, and Pesticides.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07044	Antimony	SW-846 6010B	1	173380184801	12/07/2017 04:28	Jonathan J Allen	1
07035	Arsenic	SW-846 6010B	1	173380184801	12/07/2017 04:28	Jonathan J Allen	1
07047	Beryllium	SW-846 6010B	1	173380184801	12/07/2017 04:28	Jonathan J Allen	1
07049	Cadmium	SW-846 6010B	1	173380184801	12/07/2017 04:28	Jonathan J Allen	1
07051	Chromium	SW-846 6010B	1	173380184801	12/07/2017 04:28	Jonathan J Allen	1
07053	Copper	SW-846 6010B	1	173380184801	12/07/2017 04:28	Jonathan J Allen	1
07061	Nickel	SW-846 6010B	1	173380184801	12/07/2017 04:28	Jonathan J Allen	1
07036	Selenium	SW-846 6010B	1	173380184801	12/07/2017 04:28	Jonathan J Allen	1
07066	Silver	SW-846 6010B	1	173380184801	12/07/2017 04:28	Jonathan J Allen	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP02-W001 DUP Grab Groundwater
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: WW 9337642
ELLE Group #: 1879988
Matrix: Groundwater

Project Name: APS Recycling

Submission Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 14:30

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07022	Thallium	SW-846 6010B	1	173380184801	12/07/2017 04:28	Jonathan J Allen	1
07072	Zinc	SW-846 6010B	1	173380184801	12/07/2017 04:28	Jonathan J Allen	1
06035	Lead	SW-846 6020	1	173340605002A	12/04/2017 04:26	Sarah L Burt	1
00259	Mercury	SW-846 7470A	1	173340571302	12/04/2017 06:48	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	173380184801	12/04/2017 22:00	Annamaria Kuhns	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	173340605002	12/01/2017 16:45	Barbara A Kane	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	173340571302	12/01/2017 18:15	Barbara A Kane	1
12151	Temperature of pH	EPA 170.1	1	17340002101A	12/06/2017 21:14	Nathan T Morgan	1
12152	pH	SM 4500-H+ B-2000	1	17340002101A	12/06/2017 21:14	Nathan T Morgan	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP02-W301 Water
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: WW 9337643
ELLE Group #: 1879988
Matrix: Water

Project Name: APS Recycling

Submission Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 14:40

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10945	Naphthalene	91-20-3	N.D.	1	4	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	2	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
Volatiles by Extraction		SW-846 8011	ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	N.D. D1	0.0096	0.029	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z173391AA	12/05/2017 13:23	Anthony H Downey	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z173391AA	12/05/2017 13:23	Anthony H Downey	1
10398	8011 Master Master	SW-846 8011	1	173340001A	12/01/2017 16:21	Sarah Estes	1
07786	EDB Extraction (8011)	SW-846 8011	1	173340001A	11/30/2017 20:00	Edwin Ortiz	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP03-S001 Grab Soil
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: SW 9337644
ELLE Group #: 1879988
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 13:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
10237	Benzene	71-43-2	0.0008 J	0.0005	0.005	1
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	1
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	1
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	1
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.005	1
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D. Q2	0.0005	0.005	1
10237	Naphthalene	91-20-3	N.D. Q2	0.001	0.005	1
10237	Toluene	108-88-3	N.D.	0.001	0.005	1
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.005	1
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.005	1
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	1

The recovery for the sample internal standard is outside the QC acceptance limits. The following corrective action was taken:
The sample was re-analyzed and the QC is again outside of the acceptance limits, indicating a matrix effect. The data is reported from the initial trial.

GC/MS Semivolatiles	SW-846 8270C	ug/kg	ug/kg	ug/kg	
10724	Acenaphthene	83-32-9	N.D.	3	18
10724	Acenaphthylene	208-96-8	8 J	3	18
10724	Anthracene	120-12-7	10 J	3	18
10724	Benzo(a)anthracene	56-55-3	46	3	18
10724	Benzo(a)pyrene	50-32-8	28 Q2	3	18
10724	Benzo(b)fluoranthene	205-99-2	69	3	18
10724	Benzo(g,h,i)perylene	191-24-2	33	3	18
10724	Benzo(k)fluoranthene	207-08-9	29	3	18
10724	Chrysene	218-01-9	54	3	18
10724	Dibenz(a,h)anthracene	53-70-3	7 J	3	18
10724	Fluoranthene	206-44-0	110	3	18
10724	Fluorene	86-73-7	N.D.	3	18
10724	Indeno(1,2,3-cd)pyrene	193-39-5	22	3	18
10724	Naphthalene	91-20-3	10 J	3	18
10724	Phenanthrene	85-01-8	65	3	18
10724	Pyrene	129-00-0	83	3	18

PCBs	SW-846 8082	ug/kg	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D. D1	3.7	18
10736	PCB-1221	11104-28-2	N.D. D1	4.8	18
10736	PCB-1232	11141-16-5	N.D. D1	8.3	18
10736	PCB-1242	53469-21-9	N.D. D1	3.4	18
10736	PCB-1248	12672-29-6	35 D2	3.4	18
10736	PCB-1254	11097-69-1	72 ZD1	3.4	18
10736	PCB-1260	11096-82-5	27 ZD1	5.1	18

Z=The % difference for the calibration verification standard is outside the

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP03-S001 Grab Soil
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: SW 9337644
ELLE Group #: 1879988
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 13:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
+/- 15% criteria. Since the average of the% difference values meets the criteria, the results are reported.						
Pesticides		SW-846 8081A	ug/kg	ug/kg	ug/kg	
10738	Aldrin	309-00-2	N.D. D2	0.18	0.86	1
10738	Alpha BHC	319-84-6	N.D. D2	0.18	0.86	1
10738	Beta BHC	319-85-7	N.D. D2	0.31	1.0	1
10738	Gamma BHC - Lindane	58-89-9	N.D. D1	0.18	0.86	1
10738	Alpha Chlordane	5103-71-9	0.88 PD2	0.18	0.86	1
10738	Gamma Chlordane	5103-74-2	N.D. D1	0.26	0.86	1
10738	p,p-DDD	72-54-8	N.D. D1	0.34	1.8	1
10738	p,p-DDE	72-55-9	1.4 JPD2	0.34	1.8	1
10738	p,p-DDT	50-29-3	N.D. D1	0.37	1.8	1
10738	Delta BHC	319-86-8	N.D. D2	0.47	0.94	1
10738	Dieldrin	60-57-1	N.D. D2	0.34	1.8	1
10738	Endosulfan I	959-98-8	N.D. D1	0.23	0.86	1
10738	Endosulfan II	33213-65-9	N.D. D1	0.34	1.8	1
10738	Endosulfan Sulfate	1031-07-8	N.D. D2	0.34	1.8	1
10738	Endrin	72-20-8	N.D. VD2	0.47	1.8	1
10738	Endrin Aldehyde	7421-93-4	0.90 JZD2	0.34	1.8	1
10738	Endrin Ketone	53494-70-5	N.D. D1	0.62	1.9	1
10738	Heptachlor	76-44-8	N.D. D2	0.18	0.86	1
10738	Heptachlor Epoxide	1024-57-3	N.D. VD1	0.35	0.86	1
10738	Methoxychlor	72-43-5	N.D. D1	1.8	7.0	1
10738	Toxaphene	8001-35-2	N.D. D1	15	34	1
Z=The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the% difference values meets the criteria, the results are reported.						
Metals		SW-846 6010B	mg/kg	mg/kg	mg/kg	
06944	Antimony	7440-36-0	10.5 Q8	0.756	1.74	1
06935	Arsenic	7440-38-2	9.13	0.834	1.74	1
06947	Beryllium	7440-41-7	0.425 J	0.0687	0.435	1
06949	Cadmium	7440-43-9	0.698 Q8	0.0469	0.435	1
06951	Chromium	7440-47-3	22.2	0.148	1.30	1
06953	Copper	7440-50-8	245 BQ2	0.209	0.869	1
06955	Lead	7439-92-1	348 Q2Q8	0.521	1.30	1
06961	Nickel	7440-02-0	39.2	0.130	0.869	1
06936	Selenium	7782-49-2	N.D.	0.808	1.74	1
06966	Silver	7440-22-4	1.41	0.209	0.435	1
06925	Thallium	7440-28-0	N.D.	1.19	2.61	1
06972	Zinc	7440-66-6	144 Q2Q8	0.209	1.74	1
		SW-846 7471A	mg/kg	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.0593 J Q2	0.0099	0.0986	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP03-S001 Grab Soil
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: SW 9337644
ELLE Group #: 1879988
Matrix: Soil

Project Name: APS Recycling

Submittal Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 13:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry						
00394	pH	n.a.	7.76	0.0100	0.0100	1
The pH was measured in water at 19.3 C.						
Wet Chemistry						
00111	Moisture	n.a.	4.9 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	X173381AA	12/04/2017 18:31	Jennifer K Howe	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733348112	11/27/2017 13:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733348112	11/27/2017 13:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733348112	11/27/2017 13:30	Client Supplied	1
10724	PAH 8270 (microwave)	SW-846 8270C	1	17334SLA026	12/06/2017 15:21	Linda M Hartenstine	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	17334SLA026	11/30/2017 18:00	Sally L Appleyard	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173330020A	12/04/2017 11:29	Kirby B Turner	1
10738	Pesticides in Soil (microwave)	SW-846 8081A	1	173330019A	12/11/2017 23:47	Heather E Williams	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173330020A	11/30/2017 07:00	Michelle A Newswanger	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	173330019A	11/30/2017 07:00	Michelle A Newswanger	1
06944	Antimony	SW-846 6010B	1	173330570802	12/01/2017 06:27	Jonathan J Allen	1
06935	Arsenic	SW-846 6010B	1	173330570802	12/01/2017 06:27	Jonathan J Allen	1
06947	Beryllium	SW-846 6010B	1	173330570802	12/01/2017 06:27	Jonathan J Allen	1
06949	Cadmium	SW-846 6010B	1	173330570802	12/01/2017 06:27	Jonathan J Allen	1
06951	Chromium	SW-846 6010B	1	173330570802	12/01/2017 06:27	Jonathan J Allen	1
06953	Copper	SW-846 6010B	1	173330570802	12/01/2017 06:27	Jonathan J Allen	1
06955	Lead	SW-846 6010B	1	173330570802	12/01/2017 06:27	Jonathan J Allen	1
06961	Nickel	SW-846 6010B	1	173330570802	12/01/2017 06:27	Jonathan J Allen	1
06936	Selenium	SW-846 6010B	1	173330570802	12/05/2017 19:43	Cindy M Gehman	1
06966	Silver	SW-846 6010B	1	173330570802	12/01/2017 06:27	Jonathan J Allen	1
06925	Thallium	SW-846 6010B	1	173330570802	12/05/2017 19:43	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173330570802	12/01/2017 06:27	Jonathan J Allen	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP03-S001 Grab Soil
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: SW 9337644
ELLE Group #: 1879988
Matrix: Soil

Project Name: APS Recycling

Submittal Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 13:30

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00159	Mercury	SW-846 7471A	1	173340571101	12/01/2017 07:26	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173330570802	11/30/2017 16:10	JoElla L Rice	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173340571101	12/01/2017 03:55	Denise L Trimby	1
00394	pH	SW-846 9045C modified	1	17338039402A	12/04/2017 19:40	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17335820005B	12/01/2017 12:56	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP03-S002 Grab Soil
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: SW 9337645
ELLE Group #: 1879988
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 13:40

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Benzene	71-43-2	N.D.	0.0005	0.005	1.02
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	1.02
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	1.02
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	1.02
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.005	1.02
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	1.02
10237	Naphthalene	91-20-3	N.D.	0.001	0.005	1.02
10237	Toluene	108-88-3	N.D.	0.001	0.005	1.02
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.005	1.02
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.005	1.02
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	1.02
GC/MS Semivolatiles			ug/kg	ug/kg	ug/kg	
SW-846 8270C						
10724	Acenaphthene	83-32-9	N.D.	3	18	1
10724	Acenaphthylene	208-96-8	N.D.	3	18	1
10724	Anthracene	120-12-7	N.D.	3	18	1
10724	Benzo(a)anthracene	56-55-3	N.D.	3	18	1
10724	Benzo(a)pyrene	50-32-8	N.D.	3	18	1
10724	Benzo(b)fluoranthene	205-99-2	N.D.	3	18	1
10724	Benzo(g,h,i)perylene	191-24-2	N.D.	3	18	1
10724	Benzo(k)fluoranthene	207-08-9	N.D.	3	18	1
10724	Chrysene	218-01-9	N.D.	3	18	1
10724	Dibenz(a,h)anthracene	53-70-3	N.D.	3	18	1
10724	Fluoranthene	206-44-0	N.D.	3	18	1
10724	Fluorene	86-73-7	N.D.	3	18	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	3	18	1
10724	Naphthalene	91-20-3	N.D.	3	18	1
10724	Phenanthrene	85-01-8	4 J	3	18	1
10724	Pyrene	129-00-0	N.D.	3	18	1
PCBs			ug/kg	ug/kg	ug/kg	
SW-846 8082						
10736	PCB-1016	12674-11-2	N.D. D2	3.7	18	1
10736	PCB-1221	11104-28-2	N.D. D2	4.8	18	1
10736	PCB-1232	11141-16-5	N.D. D2	8.3	18	1
10736	PCB-1242	53469-21-9	N.D. D2	3.4	18	1
10736	PCB-1248	12672-29-6	N.D. D2	3.4	18	1
10736	PCB-1254	11097-69-1	N.D. ZD1	3.4	18	1
10736	PCB-1260	11096-82-5	N.D. ZD1	5.1	18	1

Z=The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported.

Pesticides **SW-846 8081A** **ug/kg** **ug/kg** **ug/kg**

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP03-S002 Grab Soil
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: SW 9337645
ELLE Group #: 1879988
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 13:40

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Pesticides			SW-846 8081A	ug/kg	ug/kg	
10738	Aldrin	309-00-2	N.D. D2	0.18	0.86	1
10738	Alpha BHC	319-84-6	N.D. D2	0.18	0.86	1
10738	Beta BHC	319-85-7	N.D. D2	0.31	1.0	1
10738	Gamma BHC - Lindane	58-89-9	N.D. D2	0.18	0.86	1
10738	Alpha Chlordane	5103-71-9	N.D. D2	0.18	0.86	1
10738	Gamma Chlordane	5103-74-2	N.D. D1	0.26	0.86	1
10738	p,p-DDD	72-54-8	N.D. D1	0.34	1.8	1
10738	p,p-DDE	72-55-9	N.D. D1	0.34	1.8	1
10738	p,p-DDT	50-29-3	N.D. D1	0.37	1.8	1
10738	Delta BHC	319-86-8	N.D. D1	0.46	0.93	1
10738	Dieldrin	60-57-1	N.D. D1	0.34	1.8	1
10738	Endosulfan I	959-98-8	N.D. D1	0.23	0.86	1
10738	Endosulfan II	33213-65-9	N.D. D2	0.34	1.8	1
10738	Endosulfan Sulfate	1031-07-8	N.D. D2	0.34	1.8	1
10738	Endrin	72-20-8	N.D. D1	0.35	1.8	1
10738	Endrin Aldehyde	7421-93-4	N.D. ZD1	0.34	1.8	1
10738	Endrin Ketone	53494-70-5	N.D. D1	0.62	1.9	1
10738	Heptachlor	76-44-8	N.D. D1	0.18	0.86	1
10738	Heptachlor Epoxide	1024-57-3	N.D. D1	0.18	0.86	1
10738	Methoxychlor	72-43-5	N.D. D2	1.8	6.9	1
10738	Toxaphene	8001-35-2	N.D. D1	14	34	1

Z=The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported.

Metals			SW-846 6010B	mg/kg	mg/kg	mg/kg
06944	Antimony	7440-36-0	3.29 Q8	0.715	1.64	1
06935	Arsenic	7440-38-2	9.00	0.789	1.64	1
06947	Beryllium	7440-41-7	0.565	0.0649	0.411	1
06949	Cadmium	7440-43-9	0.371 J Q8	0.0444	0.411	1
06951	Chromium	7440-47-3	19.9	0.140	1.23	1
06953	Copper	7440-50-8	78.8 BQ2	0.197	0.822	1
06955	Lead	7439-92-1	84.9 Q2Q8	0.493	1.23	1
06961	Nickel	7440-02-0	30.9	0.123	0.822	1
06936	Selenium	7782-49-2	N.D.	0.764	1.64	1
06966	Silver	7440-22-4	1.08	0.197	0.411	1
06925	Thallium	7440-28-0	N.D.	1.13	2.46	1
06972	Zinc	7440-66-6	74.2 Q2Q8	0.197	1.64	1

Metals			SW-846 7471A	mg/kg	mg/kg	mg/kg
00159	Mercury	7439-97-6	0.0106 J Q2	0.0100	0.100	1

Wet Chemistry **SW-846 9045C modified** **Std. Units** **Std. Units** **Std. Units**

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP03-S002 Grab Soil
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: SW 9337645
ELLE Group #: 1879988
Matrix: Soil

Project Name: APS Recycling

Submittal Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 13:40

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry						
00394	pH	n.a.	7.31	0.0100	0.0100	1
The pH was measured in water at 19.5 C.						
Wet Chemistry						
00111	Moisture	n.a.	3.4 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A173392AA	12/05/2017 22:48	Patrick T Herres	1.02
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733348112	11/27/2017 13:40	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733348112	11/27/2017 13:40	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733348112	11/27/2017 13:40	Client Supplied	1
10724	PAH 8270 (microwave)	SW-846 8270C	1	17334SLE026	12/07/2017 05:10	Anthony P Bauer	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	17334SLE026	12/01/2017 09:00	Michelle A Newswanger	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173330020A	12/04/2017 11:41	Kirby B Turner	1
10738	Pesticides in Soil (microwave)	SW-846 8081A	1	173330019A	12/12/2017 00:14	Heather E Williams	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173330020A	11/30/2017 07:00	Michelle A Newswanger	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	173330019A	11/30/2017 07:00	Michelle A Newswanger	1
06944	Antimony	SW-846 6010B	1	173330570802	12/01/2017 06:30	Jonathan J Allen	1
06935	Arsenic	SW-846 6010B	1	173330570802	12/01/2017 06:30	Jonathan J Allen	1
06947	Beryllium	SW-846 6010B	1	173330570802	12/01/2017 06:30	Jonathan J Allen	1
06949	Cadmium	SW-846 6010B	1	173330570802	12/01/2017 06:30	Jonathan J Allen	1
06951	Chromium	SW-846 6010B	1	173330570802	12/01/2017 06:30	Jonathan J Allen	1
06953	Copper	SW-846 6010B	1	173330570802	12/01/2017 06:30	Jonathan J Allen	1
06955	Lead	SW-846 6010B	1	173330570802	12/01/2017 06:30	Jonathan J Allen	1
06961	Nickel	SW-846 6010B	1	173330570802	12/01/2017 06:30	Jonathan J Allen	1
06936	Selenium	SW-846 6010B	1	173330570802	12/05/2017 19:46	Cindy M Gehman	1
06966	Silver	SW-846 6010B	1	173330570802	12/01/2017 06:30	Jonathan J Allen	1
06925	Thallium	SW-846 6010B	1	173330570802	12/05/2017 19:46	Cindy M Gehman	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP03-S002 Grab Soil
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: SW 9337645
ELLE Group #: 1879988
Matrix: Soil

Project Name: APS Recycling

Submittal Date/Time: 11/28/2017 19:10
Collection Date/Time: 11/27/2017 13:40

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06972	Zinc	SW-846 6010B	1	173330570802	12/01/2017 06:30	Jonathan J Allen	1
00159	Mercury	SW-846 7471A	1	173340571101	12/01/2017 07:28	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173330570802	11/30/2017 16:10	JoElla L Rice	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173340571101	12/01/2017 03:55	Denise L Trimby	1
00394	pH	SW-846 9045C modified	1	17338039401B	12/04/2017 18:30	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17335820005B	12/01/2017 12:56	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/22/2017 15:55

Group Number: 1879988

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	MDL**	LOQ
	mg/kg	mg/kg	mg/kg
Batch number: A173392AA	Sample number(s): 9337637,9337645		
Benzene	N.D.	0.0005	0.005
1,2-Dibromoethane	N.D.	0.001	0.005
1,2-Dichloroethane	N.D.	0.001	0.005
Ethylbenzene	N.D.	0.001	0.005
Isopropylbenzene	N.D.	0.001	0.005
Methyl Tertiary Butyl Ether	N.D.	0.0005	0.005
Naphthalene	N.D.	0.001	0.005
Toluene	N.D.	0.001	0.005
1,2,4-Trimethylbenzene	N.D.	0.001	0.005
1,3,5-Trimethylbenzene	N.D.	0.001	0.005
Xylene (Total)	N.D.	0.001	0.005
Batch number: X173381AA	Sample number(s): 9337632-9337634,9337636,9337638,9337644		
Benzene	N.D.	0.0005	0.005
1,2-Dibromoethane	N.D.	0.001	0.005
1,2-Dichloroethane	N.D.	0.001	0.005
Ethylbenzene	N.D.	0.001	0.005
Isopropylbenzene	N.D.	0.001	0.005
Methyl Tertiary Butyl Ether	N.D.	0.0005	0.005
Naphthalene	N.D.	0.001	0.005
Toluene	N.D.	0.001	0.005
1,2,4-Trimethylbenzene	N.D.	0.001	0.005
1,3,5-Trimethylbenzene	N.D.	0.001	0.005
Xylene (Total)	N.D.	0.001	0.005
	ug/l	ug/l	ug/l
Batch number: Z173391AA	Sample number(s): 9337639-9337641,9337643		
Benzene	N.D.	0.5	1
1,2-Dichloroethane	N.D.	0.5	1
Ethylbenzene	N.D.	0.5	1
Isopropylbenzene	N.D.	0.5	2
Methyl Tertiary Butyl Ether	N.D.	0.5	1
Naphthalene	N.D.	1	4
Toluene	N.D.	0.5	1
1,2,4-Trimethylbenzene	N.D.	0.5	2
1,3,5-Trimethylbenzene	N.D.	0.5	2
Xylene (Total)	N.D.	0.5	1
	ug/kg	ug/kg	ug/kg

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/22/2017 15:55

Group Number: 1879988

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	ug/kg	ug/kg	ug/kg
Batch number: 17334SLA026	Sample number(s): 9337632-9337634,9337636-9337638,9337644		
Acenaphthene	N.D.	3	17
Acenaphthylene	N.D.	3	17
Anthracene	N.D.	3	17
Benzo(a)anthracene	N.D.	3	17
Benzo(a)pyrene	N.D.	3	17
Benzo(b)fluoranthene	N.D.	3	17
Benzo(g,h,i)perylene	N.D.	3	17
Benzo(k)fluoranthene	N.D.	3	17
Chrysene	N.D.	3	17
Dibenz(a,h)anthracene	N.D.	3	17
Fluoranthene	N.D.	3	17
Fluorene	N.D.	3	17
Indeno(1,2,3-cd)pyrene	N.D.	3	17
Naphthalene	N.D.	3	17
Phenanthrene	N.D.	3	17
Pyrene	N.D.	3	17
Batch number: 17334SLE026	Sample number(s): 9337645		
Acenaphthene	N.D.	3	17
Acenaphthylene	N.D.	3	17
Anthracene	N.D.	3	17
Benzo(a)anthracene	N.D.	3	17
Benzo(a)pyrene	N.D.	3	17
Benzo(b)fluoranthene	N.D.	3	17
Benzo(g,h,i)perylene	N.D.	3	17
Benzo(k)fluoranthene	N.D.	3	17
Chrysene	N.D.	3	17
Dibenz(a,h)anthracene	N.D.	3	17
Fluoranthene	N.D.	3	17
Fluorene	N.D.	3	17
Indeno(1,2,3-cd)pyrene	N.D.	3	17
Naphthalene	N.D.	3	17
Phenanthrene	N.D.	3	17
Pyrene	N.D.	3	17
	ug/l	ug/l	ug/l
Batch number: 17334WAL026	Sample number(s): 9337639-9337641		
Acenaphthene	N.D.	0.1	0.5
Acenaphthylene	N.D.	0.1	0.5
Anthracene	N.D.	0.1	0.5
Benzo(a)anthracene	N.D.	0.1	0.5
Benzo(a)pyrene	N.D.	0.1	0.5
Benzo(b)fluoranthene	N.D.	0.1	0.5
Benzo(g,h,i)perylene	N.D.	0.1	0.5
Benzo(k)fluoranthene	N.D.	0.1	0.5

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/22/2017 15:55

Group Number: 1879988

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	ug/l	ug/l	ug/l
Chrysene	N.D.	0.1	0.5
Dibenz(a,h)anthracene	N.D.	0.1	0.5
Fluoranthene	N.D.	0.1	0.5
Fluorene	N.D.	0.1	0.5
Indeno(1,2,3-cd)pyrene	N.D.	0.1	0.5
Naphthalene	N.D.	0.1	0.5
Phenanthrene	N.D.	0.1	0.5
Pyrene	N.D.	0.1	0.5
	ug/kg	ug/kg	ug/kg
Batch number: 173330020A	Sample number(s): 9337632-9337634,9337636-9337638,9337644-9337645		
PCB-1016	N.D.	3.6	17
PCB-1221	N.D.	4.6	17
PCB-1232	N.D.	8.0	17
PCB-1242	N.D.	3.3	17
PCB-1248	N.D.	3.3	17
PCB-1254	N.D.	3.3	17
PCB-1260	N.D.	4.9	17
	ug/l	ug/l	ug/l
Batch number: 173340008A	Sample number(s): 9337639-9337641		
PCB-1016	N.D.	0.080	0.40
PCB-1221	N.D.	0.080	0.40
PCB-1232	N.D.	0.16	0.40
PCB-1242	N.D.	0.080	0.40
PCB-1248	N.D.	0.080	0.40
PCB-1254	N.D.	0.080	0.40
PCB-1260	N.D.	0.12	0.40
	ug/kg	ug/kg	ug/kg
Batch number: 173330019A	Sample number(s): 9337632-9337634,9337636-9337638,9337644-9337645		
Aldrin	N.D.	0.17	0.83
Alpha BHC	N.D.	0.17	0.83
Beta BHC	N.D.	0.30	1.0
Gamma BHC - Lindane	N.D.	0.17	0.83
Alpha Chlordane	N.D.	0.17	0.83
Gamma Chlordane	N.D.	0.25	0.83
p,p-DDD	N.D.	0.33	1.7
p,p-DDE	N.D.	0.33	1.7
p,p-DDT	N.D.	0.36	1.7
Delta BHC	N.D.	0.45	0.90
Dieldrin	N.D.	0.33	1.7
Endosulfan I	N.D.	0.22	0.83
Endosulfan II	N.D.	0.33	1.7
Endosulfan Sulfate	N.D.	0.33	1.7
Endrin	N.D.	0.34	1.7

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/22/2017 15:55

Group Number: 1879988

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	ug/kg	ug/kg	ug/kg
Endrin Aldehyde	N.D.	0.33	1.7
Endrin Ketone	N.D.	0.60	1.8
Heptachlor	N.D.	0.17	0.83
Heptachlor Epoxide	N.D.	0.17	0.83
Methoxychlor	N.D.	1.7	6.7
Toxaphene	N.D.	14	33

	ug/l	ug/l	ug/l
Batch number: 173340007A	Sample number(s): 9337639-9337641		
Aldrin	N.D.	0.0016	0.0080
Alpha BHC	N.D.	0.0024	0.0080
Beta BHC	N.D.	0.0027	0.0080
Gamma BHC - Lindane	N.D.	0.0016	0.0080
Alpha Chlordane	N.D.	0.0024	0.0080
Gamma Chlordane	N.D.	0.0056	0.016
p,p-DDD	N.D.	0.0040	0.016
p,p-DDE	N.D.	0.0040	0.016
p,p-DDT	N.D.	0.0042	0.016
Delta BHC	N.D.	0.0027	0.0080
Dieldrin	N.D.	0.0042	0.016
Endosulfan I	N.D.	0.0034	0.0080
Endosulfan II	N.D.	0.012	0.024
Endosulfan Sulfate	N.D.	0.0046	0.016
Endrin	N.D.	0.0065	0.016
Endrin Aldehyde	N.D.	0.016	0.080
Endrin Ketone	N.D.	0.0040	0.016
Heptachlor	N.D.	0.0016	0.0080
Heptachlor Epoxide	N.D.	0.0018	0.0080
Methoxychlor	N.D.	0.024	0.080
Toxaphene	N.D.	0.24	0.80

Batch number: 173340001A	Sample number(s): 9337639-9337641,9337643		
Ethylene dibromide	N.D.	0.010	0.030

	mg/kg	mg/kg	mg/kg
Batch number: 173330570802	Sample number(s): 9337632-9337638,9337644-9337645		
Antimony	N.D.	0.870	2.00
Arsenic	N.D.	0.960	2.00
Beryllium	N.D.	0.0790	0.500
Cadmium	N.D.	0.0540	0.500
Chromium	N.D.	0.170	1.50
Copper	0.246 J	0.240	1.00
Lead	N.D.	0.600	1.50
Nickel	N.D.	0.150	1.00
Selenium	N.D.	0.930	2.00
Silver	N.D.	0.240	0.500

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/22/2017 15:55

Group Number: 1879988

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	mg/kg	mg/kg	mg/kg
Thallium	N.D.	1.37	3.00
Zinc	N.D.	0.240	2.00
Batch number: 173340571101	Sample number(s): 9337632-9337638,9337644-9337645		
Mercury	N.D.	0.0100	0.100
	mg/l	mg/l	mg/l
Batch number: 173340571302	Sample number(s): 9337639-9337642		
Mercury	0.000051 J	0.000050	0.00020
Batch number: 173340605002A	Sample number(s): 9337639-9337642		
Lead	N.D.	0.00011	0.0010
Batch number: 173380184801	Sample number(s): 9337639-9337642		
Antimony	N.D.	0.0087	0.0200
Arsenic	N.D.	0.0096	0.0200
Beryllium	N.D.	0.0020	0.0050
Cadmium	N.D.	0.0018	0.0050
Chromium	N.D.	0.0033	0.0150
Copper	N.D.	0.0040	0.0100
Nickel	N.D.	0.0040	0.0100
Selenium	N.D.	0.0093	0.0200
Silver	N.D.	0.0024	0.0050
Thallium	N.D.	0.0137	0.0300
Zinc	N.D.	0.0065	0.0200

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: A173392AA	Sample number(s): 9337637,9337645								
Benzene	0.0200	0.0191	0.0200	0.0190	95	95	80-120	1	30
1,2-Dibromoethane	0.0200	0.0163	0.0200	0.0173	81	86	74-120	6	30
1,2-Dichloroethane	0.0200	0.0173	0.0200	0.0174	86	87	71-128	1	30
Ethylbenzene	0.0200	0.0175	0.0200	0.0183	88	92	80-120	4	30
Isopropylbenzene	0.0200	0.0179	0.0200	0.0178	89	89	76-120	0	30
Methyl Tertiary Butyl Ether	0.0200	0.0159	0.0200	0.0176	79	88	66-123	10	30
Naphthalene	0.0200	0.0148	0.0200	0.0151	74	75	54-132	2	30
Toluene	0.0200	0.0194	0.0200	0.0192	97	96	80-120	1	30
1,2,4-Trimethylbenzene	0.0200	0.0181	0.0200	0.0179	91	89	74-120	1	30
1,3,5-Trimethylbenzene	0.0200	0.0169	0.0200	0.0171	85	86	73-120	1	30
Xylene (Total)	0.0600	0.0512	0.0600	0.0512	85	85	80-120	0	30

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/22/2017 15:55

Group Number: 1879988

LCS/LCSD (continued)

Analysis Name	LCS Spike Added mg/kg	LCS Conc mg/kg	LCSD Spike Added mg/kg	LCSD Conc mg/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: X173381AA	Sample number(s): 9337632-9337634,9337636,9337638,9337644								
Benzene	0.0200	0.0185	0.0200	0.0184	92	92	80-120	1	30
1,2-Dibromoethane	0.0200	0.0178	0.0200	0.0178	89	89	74-120	0	30
1,2-Dichloroethane	0.0200	0.0185	0.0200	0.0185	93	92	71-128	0	30
Ethylbenzene	0.0200	0.0185	0.0200	0.0181	93	91	80-120	2	30
Isopropylbenzene	0.0200	0.0176	0.0200	0.0172	88	86	76-120	2	30
Methyl Tertiary Butyl Ether	0.0200	0.0141	0.0200	0.0145	71	72	66-123	2	30
Naphthalene	0.0200	0.0144	0.0200	0.0144	72	72	54-132	0	30
Toluene	0.0200	0.0189	0.0200	0.0185	94	92	80-120	2	30
1,2,4-Trimethylbenzene	0.0200	0.0177	0.0200	0.0173	89	87	74-120	2	30
1,3,5-Trimethylbenzene	0.0200	0.0174	0.0200	0.0170	87	85	73-120	2	30
Xylene (Total)	0.0600	0.0556	0.0600	0.0541	93	90	80-120	3	30
	ug/l	ug/l	ug/l	ug/l					
Batch number: Z173391AA	Sample number(s): 9337639-9337641,9337643								
Benzene	20	17.33			87		78-120		
1,2-Dichloroethane	20	17.42			87		73-124		
Ethylbenzene	20	18.06			90		78-120		
Isopropylbenzene	20	18.31			92		80-120		
Methyl Tertiary Butyl Ether	20	17.54			88		75-120		
Naphthalene	20	14.18			71		59-120		
Toluene	20	18.19			91		80-120		
1,2,4-Trimethylbenzene	20	18.43			92		75-120		
1,3,5-Trimethylbenzene	20	17.85			89		75-120		
Xylene (Total)	60	55.82			93		80-120		
	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 17334SLA026	Sample number(s): 9337632-9337634,9337636-9337638,9337644								
Acenaphthene	1666.67	1624.89			97		78-119		
Acenaphthylene	1666.67	1881.44			113		76-119		
Anthracene	1666.67	1832.96			110		82-118		
Benzo(a)anthracene	1666.67	1545.4			93		76-119		
Benzo(a)pyrene	1666.67	1493.34			90		78-117		
Benzo(b)fluoranthene	1666.67	1475.19			89		74-127		
Benzo(g,h,i)perylene	1666.67	1429.45			86		72-118		
Benzo(k)fluoranthene	1666.67	1486.84			89		71-123		
Chrysene	1666.67	1657.28			99		72-121		
Dibenz(a,h)anthracene	1666.67	1506.57			90		72-129		
Fluoranthene	1666.67	1719.14			103		72-120		
Fluorene	1666.67	1593.39			96		75-118		
Indeno(1,2,3-cd)pyrene	1666.67	1531.08			92		69-125		
Naphthalene	1666.67	1666.14			100		75-113		
Phenanthrene	1666.67	1722.3			103		74-114		
Pyrene	1666.67	1593.64			96		74-112		

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/22/2017 15:55

Group Number: 1879988

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 17334SLE026	Sample number(s): 9337645								
Acenaphthene	1666.67	1604.78			96		78-119		
Acenaphthylene	1666.67	1848.29			111		76-119		
Anthracene	1666.67	1641.55			98		82-118		
Benzo(a)anthracene	1666.67	1550.9			93		76-119		
Benzo(a)pyrene	1666.67	1423.27			85		78-117		
Benzo(b)fluoranthene	1666.67	1373.15			82		74-127		
Benzo(g,h,i)perylene	1666.67	1392.63			84		72-118		
Benzo(k)fluoranthene	1666.67	1483.22			89		71-123		
Chrysene	1666.67	1595.2			96		72-121		
Dibenz(a,h)anthracene	1666.67	1527.87			92		72-129		
Fluoranthene	1666.67	1556.24			93		72-120		
Fluorene	1666.67	1517.72			91		75-118		
Indeno(1,2,3-cd)pyrene	1666.67	1509.27			91		69-125		
Naphthalene	1666.67	1631.91			98		75-113		
Phenanthrene	1666.67	1598.11			96		74-114		
Pyrene	1666.67	1586			95		74-112		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 17334WAL026	Sample number(s): 9337639-9337641								
Acenaphthene	50	44.61			89		68-112		
Acenaphthylene	50	51.45			103		67-111		
Anthracene	50	48.39			97		73-113		
Benzo(a)anthracene	50	48.64			97		74-124		
Benzo(a)pyrene	50	49.65			99		70-113		
Benzo(b)fluoranthene	50	48.76			98		72-117		
Benzo(g,h,i)perylene	50	49.55			99		64-117		
Benzo(k)fluoranthene	50	48.87			98		73-121		
Chrysene	50	50.26			101		75-120		
Dibenz(a,h)anthracene	50	51.65			103		68-121		
Fluoranthene	50	47.58			95		75-117		
Fluorene	50	44.59			89		68-112		
Indeno(1,2,3-cd)pyrene	50	48.74			97		67-117		
Naphthalene	50	40.14			80		54-109		
Phenanthrene	50	46.6			93		72-110		
Pyrene	50	47.32			95		72-109		
	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 173330020A	Sample number(s): 9337632-9337634,9337636-9337638,9337644-9337645								
PCB-1016	167	161.72			97		76-121		
PCB-1260	167	189.42			113		79-130		
	ug/l	ug/l	ug/l	ug/l					

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/22/2017 15:55

Group Number: 1879988

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 173340008A	Sample number(s): 9337639-9337641								
PCB-1016	5.01	4.42			88		60-117		
PCB-1260	5.01	5.09			102		57-134		
	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 173330019A	Sample number(s): 9337632-9337634,9337636-9337638,9337644-9337645								
Aldrin	3.33	3.05			92		60-117		
Alpha BHC	3.27	3.09			95		65-124		
Beta BHC	3.27	3.17			97		68-129		
Gamma BHC - Lindane	3.27	3.09			94		47-140		
Alpha Chlordane	3.33	3.14			94		73-131		
Gamma Chlordane	3.33	3.28			99		76-134		
p,p-DDD	6.53	7.57			116		69-138		
p,p-DDE	6.60	6.74			102		68-146		
p,p-DDT	6.53	7.21			110		67-135		
Delta BHC	3.27	3.08			94		45-151		
Dieldrin	6.47	6.75			104		63-126		
Endosulfan I	3.27	3.16			97		62-119		
Endosulfan II	6.67	6.88			103		65-126		
Endosulfan Sulfate	6.60	7.22			109		71-132		
Endrin	6.53	7.04			108		65-125		
Endrin Aldehyde	6.60	6.31			96		59-122		
Endrin Ketone	6.60	7.35			111		64-121		
Heptachlor	3.27	3.22			99		66-118		
Heptachlor Epoxide	3.33	3.21			96		74-128		
Methoxychlor	32.8	35.09			107		65-131		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 173340007A	Sample number(s): 9337639-9337641								
Aldrin	0.100	0.0571			57		28-119		
Alpha BHC	0.0980	0.0654			67		47-132		
Beta BHC	0.0980	0.0790			81		56-125		
Gamma BHC - Lindane	0.0980	0.0691			70		51-132		
Alpha Chlordane	0.100	0.0637			64		53-126		
Gamma Chlordane	0.100	0.0673			67		53-130		
p,p-DDD	0.196	0.135			69		42-148		
p,p-DDE	0.198	0.124			63		51-129		
p,p-DDT	0.196	0.149			76		40-145		
Delta BHC	0.0980	0.0689			70		49-140		
Dieldrin	0.194	0.136			70		54-126		
Endosulfan I	0.0980	0.0634			65		40-138		
Endosulfan II	0.200	0.139			69		54-124		
Endosulfan Sulfate	0.198	0.139			70		41-133		
Endrin	0.196	0.135			69		35-143		

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/22/2017 15:55

Group Number: 1879988

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Endrin Aldehyde	0.198	0.128			64		40-135		
Endrin Ketone	0.198	0.140			71		44-136		
Heptachlor	0.0980	0.0632			65		38-135		
Heptachlor Epoxide	0.100	0.0673			67		56-132		
Methoxychlor	0.984	0.801			81		39-143		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 173340001A	Sample number(s): 9337639-9337641,9337643								
Ethylene dibromide	0.128	0.118	0.128	0.123	92	96	60-140	4	20
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 173330570802	Sample number(s): 9337632-9337638,9337644-9337645								
Antimony	50	50.69			101		80-120		
Arsenic	15	15.55			104		80-120		
Beryllium	5.00	4.86			97		80-120		
Cadmium	5.00	5.02			100		80-120		
Chromium	20	19.62			98		80-120		
Copper	25	26.11			104		80-120		
Lead	15	15.15			101		80-120		
Nickel	50	51.79			104		80-120		
Selenium	15	14.88			99		80-120		
Silver	5.00	5.01			100		80-120		
Thallium	15	15.53			104		80-120		
Zinc	50	49.97			100		80-120		
Batch number: 173340571101	Sample number(s): 9337632-9337638,9337644-9337645								
Mercury	0.100	0.0836			84		80-120		
	mg/l	mg/l	mg/l	mg/l					
Batch number: 173340571302	Sample number(s): 9337639-9337642								
Mercury	0.00100	0.000847			85		80-120		
Batch number: 173340605002A	Sample number(s): 9337639-9337642								
Lead	0.0150	0.0151			101		80-120		
Batch number: 173380184801	Sample number(s): 9337639-9337642								
Antimony	0.500	0.527			105		80-120		
Arsenic	0.150	0.140			94		80-120		
Beryllium	0.0500	0.0488			98		80-120		
Cadmium	0.0500	0.0513			103		80-120		
Chromium	0.200	0.198			99		80-120		
Copper	0.250	0.257			103		80-120		
Nickel	0.500	0.518			104		80-120		
Selenium	0.150	0.137			91		80-120		
Silver	0.0500	0.0466			93		80-120		

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/22/2017 15:55

Group Number: 1879988

LCS/LCSD (continued)

Analysis Name	LCS Spike Added mg/l	LCS Conc mg/l	LCSD Spike Added mg/l	LCSD Conc mg/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Thallium	0.150	0.152			101		80-120		
Zinc	0.500	0.495			99		80-120		
	Std. Units	Std. Units	Std. Units	Std. Units					
Batch number: 17338039401B pH	Sample number(s): 9337632,9337635-9337638,9337645								
	7.00	6.94			99		95-105		
Batch number: 17338039402A pH	Sample number(s): 9337644								
	7.00	7.00			100		95-105		
Batch number: 17340002101A pH	Sample number(s): 9337639,9337642								
	7.00	6.87			98		95-105		
	%	%	%	%					
Batch number: 17335820005B Moisture	Sample number(s): 9337632-9337638,9337644-9337645								
	89.5	89.44			100		99-101		
Moisture	89.5	89.44			100		99-101		
Moisture Duplicate	89.5	89.44			100		99-101		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: X173381AA	Sample number(s): 9337632-9337634,9337636,9337638,9337644 UNSPK: 9337632									
Benzene	N.D.	0.0182	0.0173	0.0204	0.0194	95	95	80-120	12	30
1,2-Dibromoethane	N.D.	0.0182	0.0166	0.0204	0.0189	91	93	74-120	13	30
1,2-Dichloroethane	N.D.	0.0182	0.0166	0.0204	0.0197	91	97	71-128	17	30
Ethylbenzene	N.D.	0.0182	0.0162	0.0204	0.0185	89	91	80-120	14	30
Isopropylbenzene	N.D.	0.0182	0.0154	0.0204	0.0163	84	80	76-120	6	30
Methyl Tertiary Butyl Ether	N.D.	0.0182	0.0117	0.0204	0.0140	64*	69	66-123	17	30
Naphthalene	N.D.	0.0182	0.00361	0.0204	0.00450	20*	22*	54-132	22	30
Toluene	N.D.	0.0182	0.0204	0.0204	0.0208	112	102	80-120	2	30
1,2,4-Trimethylbenzene	N.D.	0.0182	0.0191	0.0204	0.0199	105	98	74-120	4	30
1,3,5-Trimethylbenzene	N.D.	0.0182	0.0200	0.0204	0.0203	110	100	73-120	2	30
Xylene (Total)	N.D.	0.0546	0.0472	0.0611	0.0538	86	88	80-120	13	30
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: Z173391AA	Sample number(s): 9337639-9337641,9337643 UNSPK: 9337639									
Benzene	N.D.	20	20.51	20	20.71	103	104	78-120	1	30

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/22/2017 15:55

Group Number: 1879988

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
1,2-Dichloroethane	N.D.	20	20.12	20	20.52	101	103	73-124	2	30
Ethylbenzene	N.D.	20	21.65	20	21.62	108	108	78-120	0	30
Isopropylbenzene	N.D.	20	22.33	20	22.48	112	112	80-120	1	30
Methyl Tertiary Butyl Ether	N.D.	20	18.99	20	19.64	95	98	75-120	3	30
Naphthalene	N.D.	20	14.82	20	15.56	74	78	59-120	5	30
Toluene	N.D.	20	22.01	20	22.1	110	111	80-120	0	30
1,2,4-Trimethylbenzene	N.D.	20	21.51	20	21.9	108	109	75-120	2	30
1,3,5-Trimethylbenzene	N.D.	20	20.6	20	21.08	103	105	75-120	2	30
Xylene (Total)	N.D.	60	67.25	60	67.73	112	113	80-120	1	30
	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 17334SLA026	Sample number(s): 9337632-9337634,9337636-9337638,9337644 UNSPK: 9337632									
Acenaphthene	N.D.	1655.63	1485.33	1651.8	1559.4	90	94	78-119	5	30
Acenaphthylene	24.45	1655.63	1702.7	1651.8	1831.47	101	109	76-119	7	30
Anthracene	28.5	1655.63	1608	1651.8	1550.28	95	92	82-118	4	30
Benzo(a)anthracene	118.25	1655.63	1508.31	1651.8	1537.29	84	86	76-119	2	30
Benzo(a)pyrene	97.59	1655.63	1366.61	1651.8	1398.43	77*	79	78-117	2	30
Benzo(b)fluoranthene	143.63	1655.63	1460.35	1651.8	1430.78	80	78	74-127	2	30
Benzo(g,h,i)perylene	79.27	1655.63	1442.07	1651.8	1427.67	82	82	72-118	1	30
Benzo(k)fluoranthene	51.93	1655.63	1315.54	1651.8	1342.28	76	78	71-123	2	30
Chrysene	127.55	1655.63	1641.39	1651.8	1648.3	91	92	72-121	0	30
Dibenz(a,h)anthracene	25.53	1655.63	1487.86	1651.8	1508.76	88	90	72-129	1	30
Fluoranthene	246.14	1655.63	1469.99	1651.8	1489.01	74	75	72-120	1	30
Fluorene	6.13	1655.63	1400.69	1651.8	1460.17	84	88	75-118	4	30
Indeno(1,2,3-cd)pyrene	69.92	1655.63	1495.13	1651.8	1514.99	86	87	69-125	1	30
Naphthalene	36.49	1655.63	1565.03	1651.8	1589.53	92	94	75-113	2	30
Phenanthrene	62.57	1655.63	1594	1651.8	1574.24	92	92	74-114	1	30
Pyrene	252.7	1655.63	1663.77	1651.8	1687.53	85	87	74-112	1	30
Batch number: 17334SLE026	Sample number(s): 9337645 UNSPK: 9337645									
Acenaphthene	N.D.	1655.63	1663.6	1666.67	1605	100	96	78-119	4	30
Acenaphthylene	N.D.	1655.63	1969.47	1666.67	1830.02	119	110	76-119	7	30
Anthracene	N.D.	1655.63	1641.86	1666.67	1550.8	99	93	82-118	6	30
Benzo(a)anthracene	N.D.	1655.63	1408.16	1666.67	1407.32	85	84	76-119	0	30
Benzo(a)pyrene	N.D.	1655.63	1309.42	1666.67	1297.83	79	78	78-117	1	30
Benzo(b)fluoranthene	N.D.	1655.63	1308.65	1666.67	1246.89	79	75	74-127	5	30
Benzo(g,h,i)perylene	N.D.	1655.63	1209.98	1666.67	1219.2	73	73	72-118	1	30
Benzo(k)fluoranthene	N.D.	1655.63	1317.98	1666.67	1271.87	80	76	71-123	4	30
Chrysene	N.D.	1655.63	1474.6	1666.67	1444.03	89	87	72-121	2	30
Dibenz(a,h)anthracene	N.D.	1655.63	1350.13	1666.67	1346.16	82	81	72-129	0	30
Fluoranthene	N.D.	1655.63	1355.24	1666.67	1317.68	82	79	72-120	3	30
Fluorene	N.D.	1655.63	1536.03	1666.67	1480.83	93	89	75-118	4	30
Indeno(1,2,3-cd)pyrene	N.D.	1655.63	1331.82	1666.67	1327.87	80	80	69-125	0	30

*- Outside of specification

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P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/22/2017 15:55

Group Number: 1879988

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Naphthalene	N.D.	1655.63	1522.88	1666.67	1504.44	92	90	75-113	1	30
Phenanthrene	3.71	1655.63	1585.69	1666.67	1531.96	96	92	74-114	3	30
Pyrene	N.D.	1655.63	1447.5	1666.67	1458.04	87	87	74-112	1	30
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: 17334WAL026	Sample number(s): 9337639-9337641 UNSPK: 9337639									
Acenaphthene	N.D.	55.07	48.1	55.31	52.67	87	95	68-112	9	30
Acenaphthylene	N.D.	55.07	55.96	55.31	60.99	102	110	67-111	9	30
Anthracene	N.D.	55.07	53.41	55.31	56.89	97	103	73-113	6	30
Benzo(a)anthracene	N.D.	55.07	53.44	55.31	54.36	97	98	74-124	2	30
Benzo(a)pyrene	N.D.	55.07	52.09	55.31	55.51	95	100	70-113	6	30
Benzo(b)fluoranthene	N.D.	55.07	50.56	55.31	54.34	92	98	72-117	7	30
Benzo(g,h,i)perylene	N.D.	55.07	53.19	55.31	55.61	97	101	64-117	4	30
Benzo(k)fluoranthene	N.D.	55.07	53.08	55.31	54.61	96	99	73-121	3	30
Chrysene	N.D.	55.07	55.3	55.31	57.01	100	103	75-120	3	30
Dibenz(a,h)anthracene	N.D.	55.07	53.65	55.31	56.09	97	101	68-121	4	30
Fluoranthene	N.D.	55.07	53.26	55.31	56.04	97	101	75-117	5	30
Fluorene	N.D.	55.07	49.42	55.31	52.71	90	95	68-112	6	30
Indeno(1,2,3-cd)pyrene	N.D.	55.07	50.83	55.31	53.62	92	97	67-117	5	30
Naphthalene	N.D.	55.07	43.83	55.31	46.06	80	83	54-109	5	30
Phenanthrene	N.D.	55.07	52.15	55.31	54.14	95	98	72-110	4	30
Pyrene	N.D.	55.07	53.03	55.31	54.88	96	99	72-109	3	30
	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 173330020A	Sample number(s): 9337632-9337634,9337636-9337638,9337644-9337645 UNSPK: 9337632									
PCB-1016	N.D.	164	150.96	165	139.93	92	85	76-121	8	50
PCB-1260	N.D.	164	182.52	165	168.73	111	102	79-130	8	50
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: 173340008A	Sample number(s): 9337639-9337641 UNSPK: 9337639									
PCB-1016	N.D.	5.18	4.18	5.40	2.66	81	49*	60-117	45*	30
PCB-1260	N.D.	5.18	4.86	5.40	3.12	94	58	57-134	44*	30
	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 173330019A	Sample number(s): 9337632-9337634,9337636-9337638,9337644-9337645 UNSPK: 9337632									
Aldrin	N.D.	3.30	2.68	3.32	2.67	81	81	60-117	0	50
Alpha BHC	N.D.	3.23	2.77	3.26	2.76	86	85	65-124	0	50
Beta BHC	N.D.	3.23	2.79	3.26	2.86	86	88	68-129	2	50
Gamma BHC - Lindane	N.D.	3.23	2.87	3.26	2.76	89	85	47-140	4	50
Alpha Chlordane	0.276	3.30	3.36	3.32	3.00	93	82	73-131	11	50
Gamma Chlordane	N.D.	3.30	3.14	3.32	2.93	95	88	76-134	7	50
p,p-DDD	N.D.	6.47	6.81	6.51	6.49	105	100	69-138	5	50

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/22/2017 15:55

Group Number: 1879988

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
p,p-DDE	0.429	6.53	6.50	6.58	6.23	93	88	68-146	4	50
p,p-DDT	N.D.	6.47	6.87	6.51	6.53	106	100	67-135	5	50
Delta BHC	N.D.	3.23	3.26	3.26	2.95	101	91	45-151	10	50
Dieldrin	N.D.	6.40	5.92	6.44	5.75	93	89	63-126	3	50
Endosulfan I	N.D.	3.23	2.54	3.26	2.57	79	79	62-119	1	50
Endosulfan II	N.D.	6.60	5.64	6.64	5.60	85	84	65-126	1	50
Endosulfan Sulfate	N.D.	6.53	5.93	6.58	5.82	91	89	71-132	2	50
Endrin	N.D.	6.47	5.93	6.51	6.01	92	92	65-125	1	50
Endrin Aldehyde	N.D.	6.53	4.86	6.58	4.15	74	63	59-122	16	35
Endrin Ketone	N.D.	6.53	6.08	6.58	5.77	93	88	64-121	5	50
Heptachlor	N.D.	3.23	3.34	3.26	2.85	103	87	66-118	16	50
Heptachlor Epoxide	N.D.	3.30	3.65	3.32	3.21	111	97	74-128	13	50
Methoxychlor	N.D.	32.5	31.16	32.7	30.92	96	95	65-131	1	50
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: 173340007A	Sample number(s): 9337639-9337641 UNSPK: 9337639									
Aldrin	N.D.	0.105	0.0995	0.111	0.0836	95	75	28-119	17	30
Alpha BHC	N.D.	0.102	0.110	0.108	0.0899	108	83	47-132	21	30
Beta BHC	N.D.	0.102	0.0975	0.108	0.124	96	114	56-125	24	30
Gamma BHC - Lindane	N.D.	0.102	0.110	0.108	0.0925	108	86	51-132	18	30
Alpha Chlordane	N.D.	0.105	0.103	0.111	0.0917	98	83	53-126	11	30
Gamma Chlordane	N.D.	0.105	0.119	0.111	0.0976	113	88	53-130	20	30
p,p-DDD	N.D.	0.205	0.219	0.217	0.191	107	88	67-123	14	30
p,p-DDE	N.D.	0.207	0.216	0.219	0.188	104	86	51-129	14	30
p,p-DDT	N.D.	0.205	0.254	0.217	0.221	124*	102	66-119	14	30
Delta BHC	N.D.	0.102	0.111	0.108	0.0921	109	85	76-126	19	30
Dieldrin	N.D.	0.203	0.219	0.215	0.189	108	88	54-126	15	30
Endosulfan I	N.D.	0.102	0.103	0.108	0.0885	101	82	40-138	15	30
Endosulfan II	N.D.	0.209	0.220	0.221	0.193	105	87	54-124	13	30
Endosulfan Sulfate	N.D.	0.207	0.232	0.219	0.203	112	93	41-133	14	30
Endrin	N.D.	0.205	0.218	0.217	0.189	106	87	35-143	14	30
Endrin Aldehyde	N.D.	0.207	0.200	0.219	0.177	97	81	40-135	12	20
Endrin Ketone	N.D.	0.207	0.227	0.219	0.198	110	90	44-136	14	30
Heptachlor	N.D.	0.102	0.106	0.108	0.0902	104	84	38-135	16	30
Heptachlor Epoxide	N.D.	0.105	0.107	0.111	0.0912	101	82	56-132	15	30
Methoxychlor	N.D.	1.03	1.27	1.09	1.10	123	101	39-143	14	30
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: 173340001A	Sample number(s): 9337639-9337641,9337643 UNSPK: 9337639									
Ethylene dibromide	N.D.	0.121	0.110	0.121	0.116	91	96	60-140	5	20
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					

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(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/22/2017 15:55

Group Number: 1879988

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 173330570802	Sample number(s): 9337632-9337638,9337644-9337645 UNSPK: 9337632									
Antimony	2.24	39.68	33.2	39.68	32.29	78	76	75-125	3	20
Arsenic	7.13	11.9	20.22	11.9	16.93	110	82	75-125	18	20
Beryllium	0.627	3.97	4.52	3.97	4.53	98	98	75-125	0	20
Cadmium	0.772	3.97	4.19	3.97	4.32	86	89	75-125	3	20
Chromium	25.72	15.87	40.1	15.87	41.62	91	100	75-125	4	20
Copper	47.14	19.84	51.37	19.84	58.58	21*	58*	75-125	13	20
Lead	46.46	11.9	38.52	11.9	45.11	-67*	-11*	75-125	16	20
Nickel	32.03	39.68	67.53	39.68	68	89	91	75-125	1	20
Selenium	N.D.	11.9	12.13	11.9	11.53	102	97	75-125	5	20
Silver	1.02	3.97	4.64	3.97	4.61	91	90	75-125	1	20
Thallium	N.D.	11.9	11.15	11.9	11.12	94	93	75-125	0	20
Zinc	140.11	39.68	139.99	39.68	155.62	0*	39*	75-125	11	20
Batch number: 173340571101	Sample number(s): 9337632-9337638,9337644-9337645 UNSPK: 9337632									
Mercury	0.0492	0.167	0.194	0.154	0.171	87	79*	80-120	12	20
	mg/l	mg/l	mg/l	mg/l	mg/l					
Batch number: 173340571302	Sample number(s): 9337639-9337642 UNSPK: 9337639									
Mercury	N.D.	0.00100	0.000906	0.00100	0.000878	91	88	80-120	3	20
Batch number: 173340605002A	Sample number(s): 9337639-9337642 UNSPK: 9337639									
Lead	N.D.	0.0150	0.0155	0.0150	0.0156	103	104	75-125	1	20
Batch number: 173380184801	Sample number(s): 9337639-9337642 UNSPK: 9337639									
Antimony	N.D.	0.500	0.523	0.500	0.534	105	107	75-125	2	20
Arsenic	N.D.	0.150	0.140	0.150	0.146	94	97	75-125	4	20
Beryllium	N.D.	0.0500	0.0476	0.0500	0.0484	95	97	75-125	2	20
Cadmium	N.D.	0.0500	0.0490	0.0500	0.0492	98	98	75-125	0	20
Chromium	N.D.	0.200	0.193	0.200	0.195	96	98	75-125	1	20
Copper	0.00517	0.250	0.261	0.250	0.267	102	105	75-125	2	20
Nickel	0.0179	0.500	0.504	0.500	0.513	97	99	75-125	2	20
Selenium	N.D.	0.150	0.139	0.150	0.145	93	97	75-125	4	20
Silver	N.D.	0.0500	0.0462	0.0500	0.0467	92	93	75-125	1	20
Thallium	N.D.	0.150	0.147	0.150	0.152	98	101	75-125	3	20
Zinc	0.0404	0.500	0.517	0.500	0.527	95	97	75-125	2	20

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

*- Outside of specification

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(2) The unspiked result was more than four times the spike added.

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/22/2017 15:55

Group Number: 1879988

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/kg	DUP Conc mg/kg	DUP RPD	DUP RPD Max
Batch number: 173330570802	Sample number(s): 9337632-9337638,9337644-9337645 BKG: 9337632			
Antimony	2.24	3.57	46* (1)	20
Arsenic	7.13	6.34	12 (1)	20
Beryllium	0.627	0.550	13 (1)	20
Cadmium	0.772	1.01	26* (1)	20
Chromium	25.72	23.65	8	20
Copper	47.14	55.96	17	20
Lead	46.46	69.36	40*	20
Nickel	32.03	31.02	3	20
Selenium	N.D.	N.D.	0 (1)	20
Silver	1.02	0.859	17 (1)	20
Thallium	N.D.	N.D.	0 (1)	20
Zinc	140.11	204.94	38*	20
Batch number: 173340571101	Sample number(s): 9337632-9337638,9337644-9337645 BKG: 9337632			
Mercury	0.0492	0.0588	18 (1)	20
	mg/l	mg/l		
Batch number: 173340571302	Sample number(s): 9337639-9337642 BKG: 9337639			
Mercury	N.D.	N.D.	0 (1)	20
Batch number: 173340605002A	Sample number(s): 9337639-9337642 BKG: 9337639			
Lead	N.D.	N.D.	0 (1)	20
Batch number: 173380184801	Sample number(s): 9337639-9337642 BKG: 9337639			
Antimony	N.D.	N.D.	0 (1)	20
Arsenic	N.D.	N.D.	0 (1)	20
Beryllium	N.D.	N.D.	0 (1)	20
Cadmium	N.D.	N.D.	0 (1)	20
Chromium	N.D.	N.D.	0 (1)	20
Copper	0.00517	N.D.	200* (1)	20
Nickel	0.0179	0.0179	0 (1)	20
Selenium	N.D.	N.D.	0 (1)	20
Silver	N.D.	N.D.	0 (1)	20
Thallium	N.D.	N.D.	0 (1)	20
Zinc	0.0404	0.0398	2 (1)	20
	Degrees C	Degrees C		
Batch number: 17340002101A	Sample number(s): 9337639,9337642 BKG: 9337639			
Temperature of pH	22.14	21.03	5	5
	Std. Units	Std. Units		
Batch number: 17338039401B	Sample number(s): 9337632,9337635-9337638,9337645 BKG: 9337632			
pH	8.03	7.96	1	3

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/22/2017 15:55

Group Number: 1879988

Laboratory Duplicate (continued)

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc Std. Units	DUP Conc Std. Units	DUP RPD	DUP RPD Max
Batch number: 17338039402A pH	Sample number(s): 9337644 BKG: 9337644 7.76	7.75	0	3
Batch number: 17340002101A pH	Sample number(s): 9337639,9337642 BKG: 9337639 6.50	6.60	2	4
	%	%		
Batch number: 17335820005B Moisture	Sample number(s): 9337632-9337638,9337644-9337645 BKG: 9337632, P337632 13.98	15.83	12*	5
Moisture	13.98	15.83	12*	5
Moisture Duplicate	13.98	15.83	12*	5

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report. For dual column analyses, the surrogate (at least one surrogate for multi-surrogate tests) must be within the acceptance limits on at least one of the two columns.

Analysis Name: PA UST Leaded/Unleaded VOCs
Batch number: A173392AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9337637	105	104	116	92
9337645	105	104	110	99
Blank	103	102	111	98
LCS	102	102	105	98
LCSD	102	101	105	98
Limits:	50-141	54-135	52-141	50-131

Analysis Name: PA UST Leaded/Unleaded VOCs
Batch number: X173381AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9337632	104	108	96	76
9337633	99	105	118	80
9337634	99	105	107	89
9337636	105	108	98	86
9337638	105	106	98	84
9337644	110	111	116	60
Blank	102	104	98	88

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/22/2017 15:55

Group Number: 1879988

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report. For dual column analyses, the surrogate (at least one surrogate for multi-surrogate tests) must be within the acceptance limits on at least one of the two columns.

Analysis Name: PA UST Leaded/Unleaded VOCs
Batch number: X173381AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
LCS	99	103	101	100
LCSD	99	103	101	100
MS	99	105	118	80
MSD	99	105	107	89
Limits:	50-141	54-135	52-141	50-131

Analysis Name: VOCs- 5ml Water by 8260B UST
Batch number: Z173391AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9337639	110	99	101	95
9337640	104	99	102	107
9337641	104	99	102	106
9337643	108	100	100	95
Blank	106	100	100	95
LCS	103	98	101	103
MS	104	99	102	107
MSD	104	99	102	106
Limits:	80-120	80-120	80-120	80-120

Analysis Name: PAH 8270 (microwave)
Batch number: 17334SLA026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
9337632	80	94	92
9337633	77	90	94
9337634	77	98	95
9337636	71	101	96
9337637	72	103	94
9337638	59	87	77
9337644	71	100	85
Blank	78	93	97
LCS	85	94	95
MS	77	90	94
MSD	77	98	95
Limits:	49-118	57-116	55-118

Analysis Name: PAH 8270 (microwave)
Batch number: 17334SLE026

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/22/2017 15:55

Group Number: 1879988

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report. For dual column analyses, the surrogate (at least one surrogate for multi-surrogate tests) must be within the acceptance limits on at least one of the two columns.

Analysis Name: PAH 8270 (microwave)
Batch number: 17334SLE026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
9337645	67	100	99
Blank	76	96	97
LCS	74	92	98
MS	67	104	98
MSD	65	99	95
Limits:	49-118	57-116	55-118

Analysis Name: PAHs 8270C MINI
Batch number: 17334WAL026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
9337639	78	80	65
9337640	84	82	73
9337641	89	89	77
Blank	77	78	67
LCS	81	81	76
MS	84	82	73
MSD	89	89	77
Limits:	40-113	46-104	35-119

Analysis Name: Pesticides in Soil (microwave)
Batch number: 173330019A

	Tetrachloro-m-xylene-D1	Decachlorobiphenyl-D1	Tetrachloro-m-xylene-D2	Decachlorobiphenyl-D2
9337632	88	94	76	84
9337633	85	85	67	74
9337634	84	83	70	73
9337636	45	90	37	80
9337637	69	81	64	60
9337638	64	82	54	70
9337644	81	82	67	71
9337645	78	95	65	83
Blank	73	100	62	94
LCS	57	107	49	102
MS	85	85	67	74
MSD	84	83	70	73
Limits:	26-145	39-152	26-145	39-152

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/22/2017 15:55

Group Number: 1879988

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report. For dual column analyses, the surrogate (at least one surrogate for multi-surrogate tests) must be within the acceptance limits on at least one of the two columns.

Analysis Name: PCBs in Soil (microwave)
Batch number: 173330020A

	Tetrachloro-m-xylene-D1	Decachlorobiphenyl-D1	Tetrachloro-m-xylene-D2	Decachlorobiphenyl-D2
9337632	108	118	101	100
9337633	101	116	96	94
9337634	96	112	89	93
9337636	106	108	99	102
9337637	99	108	85	85
9337638	100	106	94	96
9337644	103	123	97	101
9337645	110	123	100	104
Blank	109	115	102	106
LCS	107	117	100	113
MS	101	116	96	94
MSD	96	112	89	93
Limits:	53-140	45-143	53-140	45-143

Analysis Name: 8011 Master Master
Batch number: 173340001A

	1,1,2,2-Tetrachloroethane-D1	1,1,2,2-Tetrachloroethane-D2
9337639	98	98
9337640	97	94
9337641	103	99
9337643	97	105
Blank	93	99
LCS	95	97
LCSD	93	97
MS	97	94
MSD	103	99
Limits:	46-136	46-136

Analysis Name: OC Pesticides in Water
Batch number: 173340007A

	Tetrachloro-m-xylene-D1	Decachlorobiphenyl-D1	Tetrachloro-m-xylene-D2	Decachlorobiphenyl-D2
9337639	90	138	88	117
9337640	95	102	87	90
9337641	75	84	66	71
Blank	62	57	53	52
LCS	60	39	53	29*
MS	95	102	87	90

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/22/2017 15:55

Group Number: 1879988

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report. For dual column analyses, the surrogate (at least one surrogate for multi-surrogate tests) must be within the acceptance limits on at least one of the two columns.

Analysis Name: OC Pesticides in Water
Batch number: 173340007A

	Tetrachloro-m-xylene-D1	Decachlorobiphenyl-D1	Tetrachloro-m-xylene-D2	Decachlorobiphenyl-D2
MSD	75	84	66	71
Limits:	29-129	32-149	29-129	32-149

Analysis Name: PCBs in Water
Batch number: 173340008A

	Tetrachloro-m-xylene-D1	Decachlorobiphenyl-D1	Tetrachloro-m-xylene-D2	Decachlorobiphenyl-D2
9337639	68	72	68	76
9337640	79	81	81	84
9337641	48	51	47	56
Blank	41	32	41	33
LCS	84	79	87	84
MS	79	81	81	84
MSD	48	51	47	56
Limits:	33-137	10-148	33-137	10-148

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Environmental Analysis Request/Chain of Custody



Lancaster Laboratories Environmental

For Eurofins Lancaster Laboratories Environmental use only

Acct. # 4549 Group # 1879988 Sample # 9337632-45

COC # 539166

Client Information				Matrix				Analysis Requested										For Lab Use Only	
Client: <u>BrightFields, Inc.</u>		Acct. #:		<input type="checkbox"/> Tissue	<input checked="" type="checkbox"/> Ground	<input type="checkbox"/> Surface	Total # of Containers	Preservation Codes										FSC: _____	SCR#: _____
Project Name/#: <u>APS Recycling</u>		PWSID #:						<input type="checkbox"/> Potable	<input type="checkbox"/> NPDES	Other: _____									
Project Manager: <u>Victoria Bisbing</u>		P.O. #:												H=HCl	T=Thiosulfate				
Sampler: <u>James Thompson</u>		Quote #:												N=HNO ₃	B=NaOH				
State where samples were collected: <u>PA</u>		For Compliance: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>												S=H ₂ SO ₄	O=Other				
Sample Identification		Collected		Grab	Composite	Soil <input checked="" type="checkbox"/>	Water	Other:	Total # of Containers	PA UST loaded/unloaded/cvs	Metals PPL	PAHs	pH	Asbestos	TCL Pesticides	PCBs	Remarks		
Date	Time																Custody Seal #s:		
APS-6P01-5001	11/27/17	1150	X		X				4	X	X	X	X	X	X	X		(MS/MSD)	
APS-6P01-5002	11/27/17	1230	X		X				3	X	X	X	X	X	X	X			
APS-6P02-5001	11/27/17	1245	X		X				3	X	X	X	X	X	X	X			
APS-6P02-5002	11/27/17	1300	X		X				3	X	X	X	X	X	X	X			
APS-6P02-W001	11/27/17	1430	X			X			33	X	X	X	X	X	X	X		(MS/MSD)	
APS-6P02-W301	11/27/17	1440	X			X			3	X									
APS-6P03-5001	11/27/17	1370	X		X				3	X	X	X	X	X	X	X			
APS-6P03-5002	11/27/17	1340	X		X				3	X	X	X	X	X	X	X			

Turnaround Time (TAT) Requested (please circle) Standard _____ Rush _____ (Rush TAT is subject to laboratory approval and surcharge.)		Relinquished by: <u>[Signature]</u>	Date: <u>11/27/17</u>	Time: <u>1520</u>	Received by: <u>[Signature]</u>	Date: <u>11/27/17</u>	Time: <u>1520</u>
Date results are needed: _____		Relinquished by: <u>[Signature]</u>	Date: <u>11/28/17</u>	Time: <u>0920</u>	Received by: <u>[Signature]</u>	Date: <u>11/28/17</u>	Time: <u>0920</u>
E-mail address: _____		Relinquished by: <u>[Signature]</u>	Date: <u>11/28/17</u>	Time: <u>1230</u>	Received by: <u>[Signature]</u>	Date: <u>11/29/17</u>	Time: <u>1330</u>
Data Package Options (circle if required) Type I (EPA Level 3 Equivalent/non-CLP) _____ Type VI (Raw Data Only) _____ Type III (Reduced non-CLP) _____ NJ DKQP _____ TX TRRP-13 _____ NYSDEC Category A or B _____ MA MCP _____ CT RCP _____		Relinquished by: <u>[Signature]</u>	Date: <u>11/28/17</u>	Time: <u>1910</u>	Received by: <u>[Signature]</u>	Date: <u>11/28/17</u>	Time: <u>1910</u>
EDD Required? Yes No				Relinquished by Commercial Carrier:			
If yes, format: _____				UPS _____ FedEx _____ Other _____			
Site-Specific QC (MS/MSD/Dup)? Yes No				Temperature upon receipt <u>0.7-2.2</u> °C			
(If yes, indicate QC sample and submit triplicate sample volume.)							



Client: Brightfileds

Delivery and Receipt Information

Delivery Method: ELLE Courier Arrival Timestamp: 11/28/2017 19:10
 Number of Packages: 3 Number of Projects: 1
 State/Province of Origin: PA

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	3
Paperwork Enclosed:	Yes	Trip Blank Type:	HCI
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	Yes		

Unpacked by Simon Nies (25112) at 20:20 on 11/28/2017

Samples Chilled Details

Thermometer Types: *DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.*

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT42-02	1.5	DT	Wet	Y	Bagged	N
2	DT42-02	2.2	DT	Wet	Y	Bagged	N
3	DT42-02	0.7	DT	Wet	Y	Bagged	N

Container Quantity Discrepancy Details

Sample ID on COC	Container Qty. Received	Container Qty. on COC	Comments
APS-GP01-S001	18	9	
APS-GP01-S002	6	3	
APS-GP02-S001	6	3	
APS-GP02-S002	6	3	
APS-GP03-S001	6	3	
APS-GP03-S002	6	3	

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	mg	milligram(s)
C	degrees Celsius	mL	milliliter(s)
cfu	colony forming units	MPN	Most Probable Number
CP Units	cobalt-chloroplatinate units	N.D.	non-detect
F	degrees Fahrenheit	ng	nanogram(s)
g	gram(s)	NTU	nephelometric turbidity units
IU	International Units	pg/L	picogram/liter
kg	kilogram(s)	RL	Reporting Limit
L	liter(s)	TNTC	Too Numerous To Count
lb.	pound(s)	µg	microgram(s)
m3	cubic meter(s)	µL	microliter(s)
meq	milliequivalents	umhos/cm	micromhos/cm
<	less than		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
J (or G, I, X)	Estimated value \geq the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report
B	Detection in the Blank
Q0	LCS/LCSD Low
Q1	LCS/LCSD High
Q2	MS/MSD Low
Q3	MS/MSD High
Q7	LCS/LCSD RPD
Q8	DUP RPD
Q9	MS/MSD RPD

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.



ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Brightfields, Inc.
801 Industrial St.
Suite 1
Wilmington DE 19801

Report Date: January 04, 2018 13:07

Project: APS Recycling

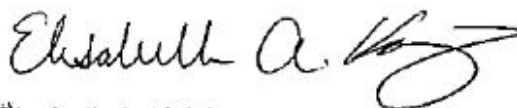
Account #: 04549
Group Number: 1879989
PO Number: 14726

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/> . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To Brightfields, Inc.
Electronic Copy To Brightfields, Inc.

Attn: James Thompson
Attn: Victoria Bisbing

Respectfully Submitted,



Elisabeth A. Knisley
Project Manager

(717) 556-7262



SAMPLE INFORMATION

<u>Client Sample Description</u>	<u>Sample Collection Date/Time</u>	<u>ELLE#</u>
APS-GP01-S001 Grab Soil	11/27/2017 11:50	9337646
APS-GP01-S001 MS Grab Soil	11/27/2017 11:50	9337647
APS-GP01-S001 MSD Grab Soil	11/27/2017 11:50	9337648
APS-GP01-S002 Grab Soil	11/27/2017 12:30	9337649
APS-GP02-S001 Grab Soil	11/27/2017 12:45	9337650
APS-GP02-S002 Grab Soil	11/27/2017 13:00	9337651
APS-GP03-S001 Grab Soil	11/27/2017 13:30	9337652
APS-GP03-S002 Grab Soil	11/27/2017 13:40	9337653

Sample Description: **APS-GP01-S001 Grab Soil
I-80 Phase III ESA's**

Brightfields, Inc.
ELLE Sample #: **SW 9337646**
ELLE Group #: **1879989**

Project Name: **APS Recycling**

Submittal Date/Time: 11/28/2017 19:10

Collection Date/Time: 11/27/2017 11:50

Sample Comments

The analysis for Asbestos was subcontracted to EMSL Analytical, Inc. in Westmont, NJ.
See Attached Report.

Sample Description: **APS-GP01-S001 MS Grab Soil
I-80 Phase III ESA's**

Brightfields, Inc.
ELLE Sample #: SW 9337647
ELLE Group #: 1879989

Project Name: **APS Recycling**

Submittal Date/Time: 11/28/2017 19:10

Collection Date/Time: 11/27/2017 11:50

Sample Comments

The analysis for Asbestos was subcontracted to EMSL Analytical, Inc. in Westmont, NJ.
See Attached Report.

Sample Description: **APS-GP01-S001 MSD Grab Soil
I-80 Phase III ESA's**

Brightfields, Inc.
ELLE Sample #: **SW 9337648**
ELLE Group #: **1879989**

Project Name: **APS Recycling**

Submittal Date/Time: 11/28/2017 19:10

Collection Date/Time: 11/27/2017 11:50

Sample Comments

The analysis for Asbestos was subcontracted to EMSL Analytical, Inc. in Westmont, NJ.
See Attached Report.

Sample Description: **APS-GP01-S002 Grab Soil
I-80 Phase III ESA's**

Brightfields, Inc.
ELLE Sample #: SW 9337649
ELLE Group #: 1879989

Project Name: **APS Recycling**

Submittal Date/Time: 11/28/2017 19:10

Collection Date/Time: 11/27/2017 12:30

Sample Comments

The analysis for Asbestos was subcontracted to EMSL Analytical, Inc. in Westmont, NJ.
See Attached Report.

Sample Description: **APS-GP02-S001 Grab Soil
I-80 Phase III ESA's**

Brightfields, Inc.
ELLE Sample #: SW 9337650
ELLE Group #: 1879989

Project Name: **APS Recycling**

Submittal Date/Time: 11/28/2017 19:10

Collection Date/Time: 11/27/2017 12:45

Sample Comments

The analysis for Asbestos was subcontracted to EMSL Analytical, Inc. in Westmont, NJ.
See Attached Report.

Sample Description: **APS-GP02-S002 Grab Soil
I-80 Phase III ESA's**

Brightfields, Inc.
ELLE Sample #: SW 9337651
ELLE Group #: 1879989

Project Name: **APS Recycling**

Submittal Date/Time: 11/28/2017 19:10

Collection Date/Time: 11/27/2017 13:00

Sample Comments

The analysis for Asbestos was subcontracted to EMSL Analytical, Inc. in Westmont, NJ.
See Attached Report.

Sample Description: **APS-GP03-S001 Grab Soil
I-80 Phase III ESA's**

Brightfields, Inc.
ELLE Sample #: **SW 9337652**
ELLE Group #: **1879989**

Project Name: **APS Recycling**

Submittal Date/Time: 11/28/2017 19:10

Collection Date/Time: 11/27/2017 13:30

Sample Comments

The analysis for Asbestos was subcontracted to EMSL Analytical, Inc. in Westmont, NJ.
See Attached Report.

Sample Description: **APS-GP03-S002 Grab Soil
I-80 Phase III ESA's**

Brightfields, Inc.
ELLE Sample #: **SW 9337653**
ELLE Group #: **1879989**

Project Name: **APS Recycling**

Submittal Date/Time: 11/28/2017 19:10

Collection Date/Time: 11/27/2017 13:40

Sample Comments

The analysis for Asbestos was subcontracted to EMSL Analytical, Inc. in Westmont, NJ.
See Attached Report.

Environmental Analysis Request/Chain of Custody



Lancaster Laboratories Environmental

For Eurofins Lancaster Laboratories Environmental use only

Acct. # 4549 Group # 1879989 Sample # 9337646-53

COC # 539166

Client Information				Matrix			Analysis Requested										For Lab Use Only		
Client: <u>BrightFields, Inc.</u>		Acct. #:		<input type="checkbox"/> Tissue <input checked="" type="checkbox"/> Ground <input type="checkbox"/> Surface	<input type="checkbox"/> Potable <input type="checkbox"/> NPDES <input type="checkbox"/> Water	<input type="checkbox"/> Sediment <input type="checkbox"/> Other:	Preservation Codes										FSC: _____	SCR#: _____	
Project Name: # <u>APS Recycling</u>		PWSID #:					PA VST Leaded/Unleaded PVCs Metals PPL PAHs pH Asbestos TCL Pesticides PCBs										Preservation Codes H=HCl T=Thiosulfate N=HNO ₃ B=NaOH S=H ₂ SO ₄ O=Other		
Project Manager: <u>Victoria Bisby</u>		P.O. #:		Remarks Custody Seal #s: 029160, 029161, and 029162															
Sampler: <u>James Thompson</u>		Quote #:																	
State where samples were collected: <u>PA</u>		For Compliance: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>																	
Sample Identification		Collected		Grab	Composite	Soil	Water	Other:	Total # of Containers										
		Date	Time																
APS-6P01-5001		11/27/17	1150	X		X			9	X	X	X	X	X	X			(MS/MSD)	
APS-6P01-5002		11/27/17	1230	X		X			3	X	X	X	X	X	X				
APS-6P02-5001		11/27/17	1245	X		X			3	X	X	X	X	X	X				
APS-6P02-5002		11/27/17	1300	X		X			3	X	X	X	X	X	X				
APS-6P02-W001		11/27/17	1430	X			X		33	X	X	X	X	X	X			(MS/MSD)	
APS-6P02-W301		11/27/17	1440	X			X		3	X									
APS-6P03-5001		11/27/17	1370	X		X			3	X	X	X	X	X	X				
APS-6P03-5002		11/27/17	1340	X		X			3	X	X	X	X	X	X				

Turnaround Time (TAT) Requested (please circle) Standard _____ Rush _____ (Rush TAT is subject to laboratory approval and surcharge.)	Relinquished by: <u>[Signature]</u>	Date: <u>11/27/17</u>	Time: <u>1520</u>	Received by: <u>[Signature]</u>	Date: <u>11/27/17</u>	Time: <u>1520</u>
	Date results are needed: _____	Relinquished by: <u>[Signature]</u>	Date: <u>11/28/17</u>	Time: <u>0920</u>	Received by: <u>[Signature]</u>	Date: <u>11/28/17</u>
E-mail address: _____	Relinquished by: <u>[Signature]</u>	Date: <u>11/28/17</u>	Time: <u>1230</u>	Received by: <u>[Signature]</u>	Date: <u>11/29/17</u>	Time: <u>1330</u>
Data Package Options (circle if required) Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only) Type III (Reduced non-CLP) NJ DKQP TX TRRP-13 NYSDEC Category A or B MA MCP CT RCP	Relinquished by: <u>[Signature]</u>	Date: <u>11/28/17</u>	Time: <u>1910</u>	Received by: <u>[Signature]</u>	Date: <u>11/28/17</u>	Time: <u>1910</u>
	EDD Required? Yes No	If yes, format: _____		Relinquished by Commercial Carrier: UPS _____ FedEx _____ Other _____		Temperature upon receipt: <u>0.7-2.2 °C</u>
Site-Specific QC (MS/MSD/Dup)? Yes No			(If yes, indicate QC sample and submit triplicate sample volume.)			



Client: Brightfileds

Delivery and Receipt Information

Delivery Method:	<u>ELLE Courier</u>	Arrival Timestamp:	<u>11/28/2017 19:10</u>
Number of Packages:	<u>3</u>	Number of Projects:	<u>1</u>
State/Province of Origin:	<u>PA</u>		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace \geq 6mm:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	3
Paperwork Enclosed:	Yes	Trip Blank Type:	HCl
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	Yes		

Unpacked by Simon Nies (25112) at 20:20 on 11/28/2017

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT42-02	1.5	DT	Wet	Y	Bagged	N
2	DT42-02	2.2	DT	Wet	Y	Bagged	N
3	DT42-02	0.7	DT	Wet	Y	Bagged	N

Container Quantity Discrepancy Details

Sample ID on COC	Container Qty. Received	Container Qty. on COC	Comments
APS-GP01-S001	18	9	
APS-GP01-S002	6	3	
APS-GP02-S001	6	3	
APS-GP02-S002	6	3	
APS-GP03-S001	6	3	
APS-GP03-S002	6	3	



EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077
Phone/Fax: (800) 220-3675 / (856) 786-5974
<http://www.EMSL.com> / cinnaslab@EMSL.com

EMSL Order: 041734292
Customer ID: LANC55
Customer PO:
Project ID:

Attention: Kathy Binkley
Eurofins Lancaster Laboratories, Inc.
2425 New Holland Pike
Lancaster, PA 17601

Phone:
Fax: (717) 656-2681
Received: 11/30/2017 9:20 AM
Analysis Date: 12/14/2017
Collected: 11/27/2017

Project: Group 1879989

Test Report: PLM Analysis of Bulk Samples for Asbestos via EPA 600/R-93/116 Method with CARB 435 Prep (Milling) Level A for 0.25% Target Analytical Sensitivity

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
9337646 041734292-0001	APS GP01 S001	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
9337647 041734292-0002	APS GP01 S001 MS	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
9337648 041734292-0003	APS GP01 S001 MSD	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
9337649 041734292-0004	APS GP01 S002	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
9337650 041734292-0005	APS GP02 S001	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<0.25% Chrysotile
9337651 041734292-0006	APS GP02 S002	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
9337652 041734292-0007	APS GP03 S001	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<0.25% Chrysotile
9337653 041734292-0008	APS GP03 S002	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Analyst(s)

Steven Quinn (8)

Benjamin Ellis, Laboratory Manager
or other approved signatory

This report relates only to the samples listed above and may not be reproduced except in full, without EMSL's written approval. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. EMSL is not responsible for sample collection activities or method limitations. Some samples may contain asbestos fibers below the resolution limit of PLM. EMSL recommends that samples reported as none detected or less than the limit of detection undergo additional analysis via TEM. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ

Initial report from: 12/14/2017 15:59:39



EMSL ANALYTICAL, INC.
LABORATORY PRODUCTS TRAINING

Asbestos Chain of Custody

EMSL Order Number (Lab Use Only):

041734292

EMSL ANALYTICAL, INC.
200 ROUTE 130 NORTH
CINNAMINSON, NJ 08077
PHONE: (856) 858-4890
FAX: (856) 858-4960

Company : Eurofins Lancaster Laboratories Environmental		EMSL-Bill to: <input checked="" type="checkbox"/> Same <input type="checkbox"/> Different If Bill to is Different note instructions in Comments	
Street: 2425 New Holland Pike		Third Party Billing requires written authorization from third party	
City: Lancaster	State/Province: PA	Zip/Postal Code: 17601	Country: USA
Report To (Name): Kathy Binkley		Fax #: 717-656-6766	
Telephone #: 656-2300 x1393		Email Address: KathyBinkley@eurofinsUS.com	
Project Name/Number: Group 1879989			
Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email		Purchase Order: <input type="checkbox"/> U.S. State Samples Taken: PA	

Turnaround Time (TAT) Options* - Please Check

3 Hour
 6 Hour
 24 Hour
 48 Hour
 72 Hour
 96 Hour
 1 Week
 2 Week

*For TEM Air 3 hr through 6 hr, please call ahead to schedule. *There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.

PCM - Air <input type="checkbox"/> NIOSH 7400 <input type="checkbox"/> w/ OSHA 8hr. TWA	TEM - Air <input type="checkbox"/> 4-4.5hr TAT (AHERA only) <input type="checkbox"/> AHERA 40 CFR, Part 763 <input type="checkbox"/> NIOSH 7402 <input type="checkbox"/> EPA Level II <input type="checkbox"/> ISO 10312	TEM- Dust <input type="checkbox"/> Microvac - ASTM D 5755 <input type="checkbox"/> Wipe - ASTM D6480 <input type="checkbox"/> Carpet Sonication (EPA 600/J-93/167)
PLM - Bulk (reporting limit) <input type="checkbox"/> PLM EPA 600/R-93/116 (<1%) <input type="checkbox"/> PLM EPA NOB (<1%) Point Count <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) Point Count w/Gravimetric <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) <input type="checkbox"/> NYS 198.1 (friable in NY) <input type="checkbox"/> NYS 198.6 NOB (non-friable-NY) <input type="checkbox"/> NIOSH 9002 (<1%)	TEM - Bulk <input type="checkbox"/> TEM EPA NOB <input type="checkbox"/> NYS NOB 198.4 (non-friable-NY) <input type="checkbox"/> Chatfield SOP <input type="checkbox"/> TEM Mass Analysis-EPA 600 sec. 2.5	Soil/Rock/Vermiculite <input checked="" type="checkbox"/> PLM CARB 435 - A (0.25% sensitivity) <input type="checkbox"/> PLM CARB 435 - B (0.1% sensitivity) <input type="checkbox"/> TEM CARB 435 - B (0.1% sensitivity) <input type="checkbox"/> TEM CARB 435 - C (0.01% sensitivity) <input type="checkbox"/> EPA Protocol (Semi-Quantitative) <input type="checkbox"/> EPA Protocol (Quantitative)
TEM - Water: EPA 100.2 Fibers >10µm <input type="checkbox"/> Waste <input type="checkbox"/> Drinking All Fiber Sizes <input type="checkbox"/> Waste <input type="checkbox"/> Drinking		

Check For Positive Stop - Clearly Identify Homogenous Group

Samplers Name: N/A Samplers Signature: _____

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
9337646	APS GP01 S001		11/27/2017 11:50
9337647	APS GP01 S001 MS		11/27/2017 11:50
9337648	APS GP01 S001 MSD		11/27/2017 11:50
9337649	APS GP01 S002		11/27/2017 12:30
9337650	APS GP02 S001		11/27/2017 12:45
9337651	APS GP02 S002		11/27/2017 13:00
9337652	APS GP03 S001		11/27/2017 13:30
9337653	APS GP03 S002		11/27/2017 13:40

Client Sample # (s): 9337646 - 9337653 Total # of Samples: 8

Relinquished (Client): *Liz Bauer* Date: 11/29/17 Time: 1525

Received (Lab): *[Signature]* Date: 11-30-17 Time: 9:20

Comments/Special Instructions: RL<0.25%

Fx 5035-4244-0501

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	mg	milligram(s)
C	degrees Celsius	mL	milliliter(s)
cfu	colony forming units	MPN	Most Probable Number
CP Units	cobalt-chloroplatinate units	N.D.	non-detect
F	degrees Fahrenheit	ng	nanogram(s)
g	gram(s)	NTU	nephelometric turbidity units
IU	International Units	pg/L	picogram/liter
kg	kilogram(s)	RL	Reporting Limit
L	liter(s)	TNTC	Too Numerous To Count
lb.	pound(s)	µg	microgram(s)
m3	cubic meter(s)	µL	microliter(s)
meq	milliequivalents	umhos/cm	micromhos/cm
<	less than		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
J (or G, I, X)	Estimated value \geq the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.



ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Brightfields, Inc.
801 Industrial St.
Suite 1
Wilmington DE 19801

Report Date: December 29, 2017 09:57

Project: APS Recycling

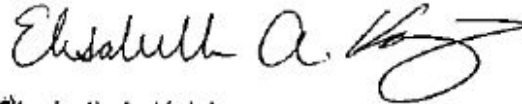
Account #: 04549
Group Number: 1880559
PO Number: 14726
State of Sample Origin: PA

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/>. To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To Brightfields, Inc.
Electronic Copy To Brightfields, Inc.

Attn: James Thompson
Attn: Victoria Bisbing

Respectfully Submitted,



Elisabeth A. Knisley
Project Manager

(717) 556-7262



SAMPLE INFORMATION

<u>Client Sample Description</u>	<u>Sample Collection Date/Time</u>	<u>ELLE#</u>
APS-GP04-S001 Grab Soil	11/27/2017 16:15	9339834
APS-GP04-S002 Grab Soil	11/27/2017 16:25	9339835
APS-GP05-S001 Grab Soil	11/28/2017 08:15	9339836
APS-GP05-S002 Grab Soil	11/28/2017 08:30	9339837
APS-GP06-S001 Grab Soil	11/28/2017 08:45	9339838
APS-GP06-S101 Grab Soil	11/28/2017 08:47	9339839
APS-GP06-S002 Grab Soil	11/28/2017 09:30	9339840
APS-GP07-S001 Grab Soil	11/28/2017 09:40	9339841
APS-GP07-S002 Grab Soil	11/28/2017 09:50	9339842
APS-GP08-S001 Grab Soil	11/28/2017 10:00	9339843
APS-GP08-S002 Grab Soil	11/28/2017 10:15	9339844
APS-GP09-S001 Grab Soil	11/28/2017 10:30	9339845
APS-GP09-S002 Grab Soil	11/28/2017 10:45	9339846
APS-GP10-S001 Grab Soil	11/28/2017 11:20	9339847
APS-GP10-S002 Grab Soil	11/28/2017 11:40	9339848
APS-GP07-W001 Grab Groundwater	11/28/2017 11:50	9339849
APS-GP07-W101 Grab Groundwater	11/28/2017 11:52	9339850
APS-GP05-W001 Grab Groundwater	11/28/2017 12:10	9339851
APS-GP06-W001 Grab Groundwater	11/28/2017 12:40	9339852
APS-GP10-W001 Grab Groundwater	11/28/2017 13:15	9339853
APS-GP10-S301 MeOH	11/28/2017 13:35	9339854
APS-GP10-W301 Water	11/28/2017 13:40	9339855

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Sample Description: APS-GP04-S001 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339834
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/27/2017 16:15

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	mg/kg	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D.	0.0006	0.006	0.99
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.006	0.99
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.006	0.99
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.006	0.99
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.006	0.99
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0006	0.006	0.99
10237	Naphthalene	91-20-3	N.D.	0.001	0.006	0.99
10237	Toluene	108-88-3	N.D.	0.001	0.006	0.99
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.006	0.99
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.006	0.99
10237	Xylene (Total)	1330-20-7	0.001 J	0.001	0.006	0.99
GC/MS Semivolatiles		SW-846 8270C	ug/kg	ug/kg	ug/kg	
10724	Acenaphthene	83-32-9	4 J	4	19	1
10724	Acenaphthylene	208-96-8	N.D.	4	19	1
10724	Anthracene	120-12-7	8 J	4	19	1
10724	Benzo(a)anthracene	56-55-3	19	4	19	1
10724	Benzo(a)pyrene	50-32-8	24	4	19	1
10724	Benzo(b)fluoranthene	205-99-2	33	4	19	1
10724	Benzo(g,h,i)perylene	191-24-2	21	4	19	1
10724	Benzo(k)fluoranthene	207-08-9	15 J	4	19	1
10724	Chrysene	218-01-9	30	4	19	1
10724	Dibenz(a,h)anthracene	53-70-3	N.D.	4	19	1
10724	Fluoranthene	206-44-0	37	4	19	1
10724	Fluorene	86-73-7	N.D.	4	19	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	19	4	19	1
10724	Naphthalene	91-20-3	6 J	4	19	1
10724	Phenanthrene	85-01-8	19 J	4	19	1
10724	Pyrene	129-00-0	35	4	19	1
PCBs		SW-846 8082	ug/kg	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D. D1 Q3	4.0	19	1
10736	PCB-1221	11104-28-2	N.D. D1	5.1	19	1
10736	PCB-1232	11141-16-5	N.D. D1	8.9	19	1
10736	PCB-1242	53469-21-9	N.D. D1	3.7	19	1
10736	PCB-1248	12672-29-6	38 D2	3.7	19	1
10736	PCB-1254	11097-69-1	65 D1	3.7	19	1
10736	PCB-1260	11096-82-5	N.D. D1	5.4	19	1

The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported.
This applies to the DCB and TCX surrogates.

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP04-S001 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339834
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/27/2017 16:15

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Pesticides			SW-846 8081A	ug/kg	ug/kg	
10738	Aldrin	309-00-2	N.D. D2	0.19	0.92	1
10738	Alpha BHC	319-84-6	N.D. D2 Q2	0.19	0.92	1
10738	Beta BHC	319-85-7	N.D. D2	0.33	1.1	1
10738	Gamma BHC - Lindane	58-89-9	N.D. D2 Q2	0.19	0.92	1
10738	Alpha Chlordane	5103-71-9	N.D. VD2	0.23	0.92	1
10738	Gamma Chlordane	5103-74-2	N.D. D2	0.28	0.92	1
10738	p,p-DDD	72-54-8	N.D. D2	0.37	1.9	1
10738	p,p-DDE	72-55-9	N.D. D2	0.37	1.9	1
10738	p,p-DDT	50-29-3	N.D. ZD2 Q3	0.40	1.9	1
10738	Delta BHC	319-86-8	N.D. D2 Q2Q9	0.50	1.0	1
10738	Dieldrin	60-57-1	N.D. D2	0.94	1.9	1
10738	Endosulfan I	959-98-8	N.D. D2 Q2	0.24	0.92	1
10738	Endosulfan II	33213-65-9	N.D. D2 Q2Q9	0.37	1.9	1
10738	Endosulfan Sulfate	1031-07-8	N.D. D2	0.37	1.9	1
10738	Endrin	72-20-8	N.D. VD2	0.40	1.9	1
10738	Endrin Aldehyde	7421-93-4	N.D. D2	0.37	1.9	1
10738	Endrin Ketone	53494-70-5	N.D. D2	0.67	2.0	1
10738	Heptachlor	76-44-8	N.D. D2	0.19	0.92	1
10738	Heptachlor Epoxide	1024-57-3	N.D. VD2	0.38	0.92	1
10738	Methoxychlor	72-43-5	N.D. D2	1.9	7.4	1
10738	Toxaphene	8001-35-2	N.D. D2	16	37	1

Z=The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported.

Reporting limits were raised due to interference from the sample matrix.

Metals			SW-846 6010B	mg/kg	mg/kg	mg/kg	
06944	Antimony	7440-36-0	1.01	J	0.837	1.92	1
06935	Arsenic	7440-38-2	3.92		0.924	1.92	1
06947	Beryllium	7440-41-7	0.269	J	0.0760	0.481	1
06949	Cadmium	7440-43-9	0.279	J Q8	0.0520	0.481	1
06951	Chromium	7440-47-3	22.0		0.164	1.44	1
06953	Copper	7440-50-8	23.0	B	0.231	0.962	1
06955	Lead	7439-92-1	58.3	Q3	0.577	1.44	1
06961	Nickel	7440-02-0	17.2		0.144	0.962	1
06936	Selenium	7782-49-2	N.D.		0.895	1.92	1
06966	Silver	7440-22-4	N.D.		0.231	0.481	1
06925	Thallium	7440-28-0	N.D.		1.32	2.89	1
06972	Zinc	7440-66-6	92.7		0.231	1.92	1
SW-846 7471A			mg/kg	mg/kg	mg/kg		
00159	Mercury	7439-97-6	0.0305	J Q2	0.0110	0.110	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP04-S001 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339834
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/27/2017 16:15

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry						
00394	pH	n.a.	10.3 J	0.0100	0.0100	1
The pH was measured in water at 20 C.						
Wet Chemistry						
00111	Moisture	n.a.	10.4 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A173413AA	12/08/2017 00:10	Stephen C Nolte	0.99
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733448132	11/27/2017 16:15	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733448132	11/27/2017 16:15	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733448132	11/27/2017 16:15	Client Supplied	1
10724	PAH 8270 (microwave)	SW-846 8270C	1	17334SLE026	12/07/2017 06:22	Anthony P Bauer	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	17334SLE026	12/01/2017 09:00	Michelle A Newswanger	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173340027A	12/08/2017 11:16	Kirby B Turner	1
10738	Pesticides in Soil (microwave)	SW-846 8081A	1	173340026A	12/14/2017 20:49	Anita M Dale	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173340027A	12/01/2017 07:00	Joshua S Ruth	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	173340026A	12/01/2017 07:00	Joshua S Ruth	1
06944	Antimony	SW-846 6010B	1	173340570802	12/17/2017 04:10	Jonathan J Allen	1
06935	Arsenic	SW-846 6010B	1	173340570802	12/11/2017 22:02	Cindy M Gehman	1
06947	Beryllium	SW-846 6010B	1	173340570802	12/11/2017 22:02	Cindy M Gehman	1
06949	Cadmium	SW-846 6010B	1	173340570802	12/11/2017 22:02	Cindy M Gehman	1
06951	Chromium	SW-846 6010B	1	173340570802	12/11/2017 22:02	Cindy M Gehman	1
06953	Copper	SW-846 6010B	1	173340570802	12/11/2017 22:02	Cindy M Gehman	1
06955	Lead	SW-846 6010B	1	173340570802	12/11/2017 22:02	Cindy M Gehman	1
06961	Nickel	SW-846 6010B	1	173340570802	12/11/2017 22:02	Cindy M Gehman	1
06936	Selenium	SW-846 6010B	1	173340570802	12/17/2017 04:10	Jonathan J Allen	1
06966	Silver	SW-846 6010B	1	173340570802	12/11/2017 22:02	Cindy M Gehman	1
06925	Thallium	SW-846 6010B	1	173340570802	12/11/2017 22:02	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173340570802	12/11/2017 22:02	Cindy M Gehman	1
00159	Mercury	SW-846 7471A	1	173340571101	12/01/2017 07:45	Damary Valentin	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP04-S001 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339834
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submittal Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/27/2017 16:15

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173340570802	12/01/2017 16:00	JoElla L Rice	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173340571101	12/01/2017 03:55	Denise L Trimby	1
00394	pH	SW-846 9045C modified	1	17338039401B	12/04/2017 18:30	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17339820005A	12/05/2017 21:06	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP04-S002 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339835
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/27/2017 16:25

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D.	0.0005	0.005	0.94
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	0.94
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	0.94
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	0.94
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.005	0.94
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	0.94
10237	Naphthalene	91-20-3	N.D.	0.001	0.005	0.94
10237	Toluene	108-88-3	N.D.	0.001	0.005	0.94
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.005	0.94
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.005	0.94
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	0.94
GC/MS Semivolatiles			SW-846 8270C	ug/kg	ug/kg	
10724	Acenaphthene	83-32-9	N.D.	4	19	1
10724	Acenaphthylene	208-96-8	N.D.	4	19	1
10724	Anthracene	120-12-7	N.D.	4	19	1
10724	Benzo(a)anthracene	56-55-3	6 J	4	19	1
10724	Benzo(a)pyrene	50-32-8	N.D.	4	19	1
10724	Benzo(b)fluoranthene	205-99-2	6 J	4	19	1
10724	Benzo(g,h,i)perylene	191-24-2	N.D.	4	19	1
10724	Benzo(k)fluoranthene	207-08-9	N.D.	4	19	1
10724	Chrysene	218-01-9	5 J	4	19	1
10724	Dibenz(a,h)anthracene	53-70-3	N.D.	4	19	1
10724	Fluoranthene	206-44-0	4 J	4	19	1
10724	Fluorene	86-73-7	N.D.	4	19	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	4	19	1
10724	Naphthalene	91-20-3	N.D.	4	19	1
10724	Phenanthrene	85-01-8	4 J	4	19	1
10724	Pyrene	129-00-0	7 J	4	19	1
PCBs			SW-846 8082	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D. D1 Q3	3.9	19	1
10736	PCB-1221	11104-28-2	N.D. D1	5.0	19	1
10736	PCB-1232	11141-16-5	N.D. D1	8.8	19	1
10736	PCB-1242	53469-21-9	N.D. D1	3.6	19	1
10736	PCB-1248	12672-29-6	12 JD1	3.6	19	1
10736	PCB-1254	11097-69-1	26 D1	3.6	19	1
10736	PCB-1260	11096-82-5	N.D. D1	5.4	19	1

The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported.
This applies to the DCB and TCX surrogates.

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP04-S002 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339835
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/27/2017 16:25

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Pesticides			SW-846 8081A	ug/kg	ug/kg	
10738	Aldrin	309-00-2	N.D. D2	0.19	0.91	1
10738	Alpha BHC	319-84-6	N.D. D2 Q2	0.19	0.91	1
10738	Beta BHC	319-85-7	N.D. D2	0.33	1.1	1
10738	Gamma BHC - Lindane	58-89-9	N.D. D2 Q2	0.19	0.91	1
10738	Alpha Chlordane	5103-71-9	0.23 JD2	0.19	0.91	1
10738	Gamma Chlordane	5103-74-2	N.D. D2	0.27	0.91	1
10738	p,p-DDD	72-54-8	N.D. D2	0.36	1.9	1
10738	p,p-DDE	72-55-9	0.44 JD2	0.36	1.9	1
10738	p,p-DDT	50-29-3	N.D. ZD2 Q3	0.39	1.9	1
10738	Delta BHC	319-86-8	N.D. D2 Q2Q9	0.49	0.99	1
10738	Dieldrin	60-57-1	N.D. D2	0.36	1.9	1
10738	Endosulfan I	959-98-8	N.D. D2 Q2	0.24	0.91	1
10738	Endosulfan II	33213-65-9	N.D. D2 Q2Q9	0.36	1.9	1
10738	Endosulfan Sulfate	1031-07-8	N.D. D2	0.36	1.9	1
10738	Endrin	72-20-8	N.D. D2	0.37	1.9	1
10738	Endrin Aldehyde	7421-93-4	N.D. D2	0.36	1.9	1
10738	Endrin Ketone	53494-70-5	N.D. D2	0.66	2.0	1
10738	Heptachlor	76-44-8	N.D. D2	0.19	0.91	1
10738	Heptachlor Epoxide	1024-57-3	N.D. D2	0.19	0.91	1
10738	Methoxychlor	72-43-5	N.D. D2	1.9	7.3	1
10738	Toxaphene	8001-35-2	N.D. D2	15	36	1

Z=The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported.

Metals			SW-846 6010B	mg/kg	mg/kg	mg/kg
06944	Antimony	7440-36-0	N.D.	0.869	2.00	1
06935	Arsenic	7440-38-2	8.80	0.959	2.00	1
06947	Beryllium	7440-41-7	0.528	0.0789	0.500	1
06949	Cadmium	7440-43-9	0.128 J Q8	0.0539	0.500	1
06951	Chromium	7440-47-3	22.1	0.170	1.50	1
06953	Copper	7440-50-8	24.4 B	0.240	0.999	1
06955	Lead	7439-92-1	28.4 Q3	0.599	1.50	1
06961	Nickel	7440-02-0	31.2	0.150	0.999	1
06936	Selenium	7782-49-2	N.D.	0.929	2.00	1
06966	Silver	7440-22-4	N.D.	0.240	0.500	1
06925	Thallium	7440-28-0	N.D.	1.37	3.00	1
06972	Zinc	7440-66-6	86.8	0.240	2.00	1

Metals			SW-846 7471A	mg/kg	mg/kg	mg/kg
00159	Mercury	7439-97-6	0.0380 J Q8	0.0105	0.105	1

Wet Chemistry **SW-846 9045C modified** **Std. Units** **Std. Units** **Std. Units**

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP04-S002 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339835
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/27/2017 16:25

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
00394	Wet Chemistry pH The pH was measured in water at 19.9 C.	SW-846 9045C modified n.a.	Std. Units 9.30	Std. Units 0.0100	Std. Units 0.0100	1
00111	Wet Chemistry Moisture Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.	SM 2540 G-1997 %Moisture Calc n.a.	% 9.0 Q8	% 0.50	% 0.50	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A173392AA	12/06/2017 01:49	Patrick T Herres	0.94
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733448132	11/27/2017 16:25	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733448132	11/27/2017 16:25	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733448132	11/27/2017 16:25	Client Supplied	1
10724	PAH 8270 (microwave)	SW-846 8270C	1	17334SLE026	12/07/2017 06:46	Anthony P Bauer	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	17334SLE026	12/01/2017 09:00	Michelle A Newswanger	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173340027A	12/08/2017 11:27	Kirby B Turner	1
10738	Pesticides in Soil (microwave)	SW-846 8081A	1	173340026A	12/14/2017 21:29	Anita M Dale	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173340027A	12/01/2017 07:00	Joshua S Ruth	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	173340026A	12/01/2017 07:00	Joshua S Ruth	1
06944	Antimony	SW-846 6010B	1	173340570802	12/17/2017 04:20	Jonathan J Allen	1
06935	Arsenic	SW-846 6010B	1	173340570802	12/11/2017 22:06	Cindy M Gehman	1
06947	Beryllium	SW-846 6010B	1	173340570802	12/11/2017 22:06	Cindy M Gehman	1
06949	Cadmium	SW-846 6010B	1	173340570802	12/11/2017 22:06	Cindy M Gehman	1
06951	Chromium	SW-846 6010B	1	173340570802	12/11/2017 22:06	Cindy M Gehman	1
06953	Copper	SW-846 6010B	1	173340570802	12/11/2017 22:06	Cindy M Gehman	1
06955	Lead	SW-846 6010B	1	173340570802	12/11/2017 22:06	Cindy M Gehman	1
06961	Nickel	SW-846 6010B	1	173340570802	12/11/2017 22:06	Cindy M Gehman	1
06936	Selenium	SW-846 6010B	1	173340570802	12/17/2017 04:20	Jonathan J Allen	1
06966	Silver	SW-846 6010B	1	173340570802	12/11/2017 22:06	Cindy M Gehman	1
06925	Thallium	SW-846 6010B	1	173340570802	12/11/2017 22:06	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173340570802	12/11/2017 22:06	Cindy M Gehman	1
00159	Mercury	SW-846 7471A	1	173340571102	12/04/2017 07:02	Damary Valentin	1

*=This limit was used in the evaluation of the final result

Sample Description: **APS-GP04-S002 Grab Soil**
 APS Recycling

Brightfields, Inc.
ELLE Sample #: **SW 9339835**
ELLE Group #: **1880559**
Matrix: **Soil**

Project Name: **APS Recycling**

Submittal Date/Time: **11/29/2017 16:35**
Collection Date/Time: **11/27/2017 16:25**

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173340570802	12/01/2017 16:00	JoElla L Rice	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173340571102	12/01/2017 17:15	JoElla L Rice	1
00394	pH	SW-846 9045C modified	1	17338039402A	12/04/2017 19:40	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17339820005A	12/05/2017 21:06	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP05-S001 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339836
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 08:15

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Benzene	71-43-2	0.0006 J	0.0006	0.006	0.99
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.006	0.99
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.006	0.99
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.006	0.99
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.006	0.99
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0006	0.006	0.99
10237	Naphthalene	91-20-3	N.D.	0.001	0.006	0.99
10237	Toluene	108-88-3	N.D.	0.001	0.006	0.99
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.006	0.99
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.006	0.99
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.006	0.99

The recovery for the sample internal standard is outside the QC acceptance limits. The following corrective action was taken:
The sample was re-analyzed and the QC is again outside of the acceptance limits, indicating a matrix effect. The data is reported from the initial trial.

GC/MS Semivolatiles	SW-846 8270C	ug/kg	ug/kg	ug/kg
10724	Acenaphthene	83-32-9	11 J	4
10724	Acenaphthylene	208-96-8	34	4
10724	Anthracene	120-12-7	81	4
10724	Benzo(a)anthracene	56-55-3	240	4
10724	Benzo(a)pyrene	50-32-8	210	4
10724	Benzo(b)fluoranthene	205-99-2	370	4
10724	Benzo(g,h,i)perylene	191-24-2	230	4
10724	Benzo(k)fluoranthene	207-08-9	130	4
10724	Chrysene	218-01-9	320	4
10724	Dibenz(a,h)anthracene	53-70-3	69	4
10724	Fluoranthene	206-44-0	340	4
10724	Fluorene	86-73-7	22	4
10724	Indeno(1,2,3-cd)pyrene	193-39-5	200	4
10724	Naphthalene	91-20-3	58	4
10724	Phenanthrene	85-01-8	240	4
10724	Pyrene	129-00-0	380	4

PCBs	SW-846 8082	ug/kg	ug/kg	ug/kg
10736	PCB-1016	12674-11-2	N.D. D1 Q3	21
10736	PCB-1221	11104-28-2	N.D. D1	26
10736	PCB-1232	11141-16-5	N.D. D1	46
10736	PCB-1242	53469-21-9	N.D. D1	19
10736	PCB-1248	12672-29-6	820 D1	19
10736	PCB-1254	11097-69-1	790 D1	19
10736	PCB-1260	11096-82-5	220 D1	28

The % difference for the calibration verification standard is outside the

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP05-S001 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339836
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 08:15

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
+/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported. This applies to the DCB and TCX surrogates.						
Pesticides		SW-846 8081A	ug/kg	ug/kg	ug/kg	
10738	Aldrin	309-00-2	N.D. D2	3.9	19	20
10738	Alpha BHC	319-84-6	N.D. D2 Q2	3.9	19	20
10738	Beta BHC	319-85-7	N.D. D2	6.8	23	20
10738	Gamma BHC - Lindane	58-89-9	N.D. D2 Q2	3.9	19	20
10738	Alpha Chlordane	5103-71-9	N.D. D2	3.9	19	20
10738	Gamma Chlordane	5103-74-2	N.D. D2	5.7	19	20
10738	p,p-DDD	72-54-8	N.D. D2	7.5	39	20
10738	p,p-DDE	72-55-9	16 JD2	7.5	39	20
10738	p,p-DDT	50-29-3	N.D. ZD2 Q3	8.2	39	20
10738	Delta BHC	319-86-8	N.D. D2 Q2Q9	10	21	20
10738	Dieldrin	60-57-1	13 JD2	7.5	39	20
10738	Endosulfan I	959-98-8	N.D. D2 Q2	5.0	19	20
10738	Endosulfan II	33213-65-9	N.D. D2 Q2Q9	7.5	39	20
10738	Endosulfan Sulfate	1031-07-8	N.D. D2	7.5	39	20
10738	Endrin	72-20-8	N.D. D2	7.8	39	20
10738	Endrin Aldehyde	7421-93-4	N.D. D2	7.5	39	20
10738	Endrin Ketone	53494-70-5	N.D. D2	14	41	20
10738	Heptachlor	76-44-8	N.D. D2	3.9	19	20
10738	Heptachlor Epoxide	1024-57-3	46 D2	3.9	19	20
10738	Methoxychlor	72-43-5	N.D. D2	39	150	20
10738	Toxaphene	8001-35-2	N.D. D2	320	750	20

Z=The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported.

Metals		SW-846 6010B	mg/kg	mg/kg	mg/kg	
06944	Antimony	7440-36-0	17.9	0.929	2.14	1
06935	Arsenic	7440-38-2	13.2	1.03	2.14	1
06947	Beryllium	7440-41-7	0.499 J	0.0844	0.534	1
06949	Cadmium	7440-43-9	3.62 Q8	0.0577	0.534	1
06951	Chromium	7440-47-3	62.8	0.182	1.60	1
06953	Copper	7440-50-8	675 B	0.256	1.07	1
06955	Lead	7439-92-1	844 Q3	0.641	1.60	1
06961	Nickel	7440-02-0	57.4	0.160	1.07	1
06936	Selenium	7782-49-2	N.D.	0.993	2.14	1
06966	Silver	7440-22-4	0.301 J	0.256	0.534	1
06925	Thallium	7440-28-0	N.D.	1.46	3.20	1
06972	Zinc	7440-66-6	1,290	0.256	2.14	1
		SW-846 7471A	mg/kg	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.525 Q8	0.0109	0.109	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP05-S001 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339836
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 08:15

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry						
	SW-846 9045C modified		Std. Units	Std. Units	Std. Units	
00394	pH	n.a.	8.37	0.0100	0.0100	1
	The pH was measured in water at 19.5 C.					
Wet Chemistry						
	SM 2540 G-1997		%	%	%	
	%Moisture Calc					
00111	Moisture	n.a.	12.5 Q8	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A173413AA	12/08/2017 00:33	Stephen C Nolte	0.99
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733448132	11/28/2017 08:15	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733448132	11/28/2017 08:15	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733448132	11/28/2017 08:15	Client Supplied	1
10724	PAH 8270 (microwave)	SW-846 8270C	1	17334SLE026	12/07/2017 07:10	Anthony P Bauer	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	17334SLE026	12/01/2017 09:00	Michelle A Newswanger	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173340027A	12/08/2017 11:50	Kirby B Turner	5
10738	Pesticides in Soil (microwave)	SW-846 8081A	1	173340026A	12/14/2017 21:42	Anita M Dale	20
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173340027A	12/01/2017 07:00	Joshua S Ruth	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	173340026A	12/01/2017 07:00	Joshua S Ruth	1
06944	Antimony	SW-846 6010B	1	173340570802	12/17/2017 04:23	Jonathan J Allen	1
06935	Arsenic	SW-846 6010B	1	173340570802	12/11/2017 22:09	Cindy M Gehman	1
06947	Beryllium	SW-846 6010B	1	173340570802	12/11/2017 22:09	Cindy M Gehman	1
06949	Cadmium	SW-846 6010B	1	173340570802	12/11/2017 22:09	Cindy M Gehman	1
06951	Chromium	SW-846 6010B	1	173340570802	12/11/2017 22:09	Cindy M Gehman	1
06953	Copper	SW-846 6010B	1	173340570802	12/11/2017 22:09	Cindy M Gehman	1
06955	Lead	SW-846 6010B	1	173340570802	12/11/2017 22:09	Cindy M Gehman	1
06961	Nickel	SW-846 6010B	1	173340570802	12/11/2017 22:09	Cindy M Gehman	1
06936	Selenium	SW-846 6010B	1	173340570802	12/17/2017 04:23	Jonathan J Allen	1
06966	Silver	SW-846 6010B	1	173340570802	12/11/2017 22:09	Cindy M Gehman	1
06925	Thallium	SW-846 6010B	1	173340570802	12/11/2017 22:09	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173340570802	12/17/2017 04:23	Jonathan J Allen	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP05-S001 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339836
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submittal Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 08:15

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00159	Mercury	SW-846 7471A	1	173340571102	12/04/2017 07:08	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173340570802	12/01/2017 16:00	JoElla L Rice	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173340571102	12/01/2017 17:15	JoElla L Rice	1
00394	pH	SW-846 9045C modified	1	17338039402A	12/04/2017 19:40	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	2	17340820011A	12/06/2017 23:29	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP05-S002 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339837
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 08:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D.	0.0005	0.005	0.93
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	0.93
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	0.93
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	0.93
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.005	0.93
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	0.93
10237	Naphthalene	91-20-3	N.D. Q2	0.001	0.005	0.93
10237	Toluene	108-88-3	N.D.	0.001	0.005	0.93
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.005	0.93
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.005	0.93
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	0.93
GC/MS Semivolatiles			SW-846 8270C	ug/kg	ug/kg	
10724	Acenaphthene	83-32-9	N.D.	4	19	1
10724	Acenaphthylene	208-96-8	N.D.	4	19	1
10724	Anthracene	120-12-7	N.D.	4	19	1
10724	Benzo(a)anthracene	56-55-3	N.D.	4	19	1
10724	Benzo(a)pyrene	50-32-8	N.D.	4	19	1
10724	Benzo(b)fluoranthene	205-99-2	N.D.	4	19	1
10724	Benzo(g,h,i)perylene	191-24-2	N.D.	4	19	1
10724	Benzo(k)fluoranthene	207-08-9	N.D.	4	19	1
10724	Chrysene	218-01-9	N.D.	4	19	1
10724	Dibenz(a,h)anthracene	53-70-3	N.D.	4	19	1
10724	Fluoranthene	206-44-0	5 J	4	19	1
10724	Fluorene	86-73-7	N.D.	4	19	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	4	19	1
10724	Naphthalene	91-20-3	N.D.	4	19	1
10724	Phenanthrene	85-01-8	N.D.	4	19	1
10724	Pyrene	129-00-0	6 J	4	19	1
PCBs			SW-846 8082	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D. D1 Q3	4.0	19	1
10736	PCB-1221	11104-28-2	N.D. D1	5.1	19	1
10736	PCB-1232	11141-16-5	N.D. D1	8.9	19	1
10736	PCB-1242	53469-21-9	N.D. D1	3.7	19	1
10736	PCB-1248	12672-29-6	N.D. D1	3.7	19	1
10736	PCB-1254	11097-69-1	4.4 JZD1	3.7	19	1
10736	PCB-1260	11096-82-5	N.D. ZD1	5.5	19	1

Z=The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported.

Pesticides **SW-846 8081A** **ug/kg** **ug/kg** **ug/kg**

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP05-S002 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339837
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 08:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Pesticides		SW-846 8081A	ug/kg	ug/kg	ug/kg	
10738	Aldrin	309-00-2	N.D. D2	0.19	0.92	1
10738	Alpha BHC	319-84-6	N.D. D2 Q2	0.19	0.92	1
10738	Beta BHC	319-85-7	N.D. D2	0.33	1.1	1
10738	Gamma BHC - Lindane	58-89-9	N.D. D2 Q2	0.19	0.92	1
10738	Alpha Chlordane	5103-71-9	N.D. D2	0.19	0.92	1
10738	Gamma Chlordane	5103-74-2	N.D. D2	0.28	0.92	1
10738	p,p-DDD	72-54-8	N.D. D2	0.37	1.9	1
10738	p,p-DDE	72-55-9	N.D. D2	0.37	1.9	1
10738	p,p-DDT	50-29-3	N.D. ZD2 Q3	0.40	1.9	1
10738	Delta BHC	319-86-8	N.D. D2 Q2Q9	0.50	1.0	1
10738	Dieldrin	60-57-1	N.D. D2	0.37	1.9	1
10738	Endosulfan I	959-98-8	N.D. D2 Q2	0.25	0.92	1
10738	Endosulfan II	33213-65-9	N.D. D2 Q2Q9	0.37	1.9	1
10738	Endosulfan Sulfate	1031-07-8	N.D. D2	0.37	1.9	1
10738	Endrin	72-20-8	N.D. D2	0.38	1.9	1
10738	Endrin Aldehyde	7421-93-4	N.D. D2	0.37	1.9	1
10738	Endrin Ketone	53494-70-5	N.D. D2	0.67	2.0	1
10738	Heptachlor	76-44-8	N.D. D2	0.19	0.92	1
10738	Heptachlor Epoxide	1024-57-3	N.D. D2	0.19	0.92	1
10738	Methoxychlor	72-43-5	N.D. D2	1.9	7.5	1
10738	Toxaphene	8001-35-2	N.D. D2	16	37	1

Z=The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported.

Metals		SW-846 6010B	mg/kg	mg/kg	mg/kg	
06944	Antimony	7440-36-0	N.D.	0.912	2.10	1
06935	Arsenic	7440-38-2	13.2	1.01	2.10	1
06947	Beryllium	7440-41-7	0.633	0.0828	0.524	1
06949	Cadmium	7440-43-9	0.169 J Q8	0.0566	0.524	1
06951	Chromium	7440-47-3	19.9	0.178	1.57	1
06953	Copper	7440-50-8	27.9 B	0.252	1.05	1
06955	Lead	7439-92-1	25.9 Q3	0.629	1.57	1
06961	Nickel	7440-02-0	34.5	0.157	1.05	1
06936	Selenium	7782-49-2	N.D.	0.975	2.10	1
06966	Silver	7440-22-4	N.D.	0.252	0.524	1
06925	Thallium	7440-28-0	1.45 J	1.44	3.15	1
06972	Zinc	7440-66-6	88.0	0.252	2.10	1

Metals		SW-846 7471A	mg/kg	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.0154 J Q8	0.0113	0.113	1

Wet Chemistry **SW-846 9045C modified** **Std. Units** **Std. Units** **Std. Units**

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP05-S002 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339837
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submittal Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 08:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry						
00394	pH	n.a.	8.05	0.0100	0.0100	1
The pH was measured in water at 19.4 C.						
Wet Chemistry						
00111	Moisture	n.a.	11.7 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A173421AA	12/08/2017 14:29	Jennifer K Howe	0.93
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733448132	11/28/2017 08:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733448132	11/28/2017 08:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733448132	11/28/2017 08:30	Client Supplied	1
10724	PAH 8270 (microwave)	SW-846 8270C	1	17334SLE026	12/07/2017 07:34	Anthony P Bauer	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	17334SLE026	12/01/2017 09:00	Michelle A Newswanger	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173340027A	12/14/2017 18:07	Kirby B Turner	1
10738	Pesticides in Soil (microwave)	SW-846 8081A	1	173340026A	12/14/2017 22:09	Anita M Dale	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173340027A	12/01/2017 07:00	Joshua S Ruth	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	173340026A	12/01/2017 07:00	Joshua S Ruth	1
06944	Antimony	SW-846 6010B	1	173340570802	12/17/2017 04:30	Jonathan J Allen	1
06935	Arsenic	SW-846 6010B	1	173340570802	12/11/2017 22:12	Cindy M Gehman	1
06947	Beryllium	SW-846 6010B	1	173340570802	12/11/2017 22:12	Cindy M Gehman	1
06949	Cadmium	SW-846 6010B	1	173340570802	12/11/2017 22:12	Cindy M Gehman	1
06951	Chromium	SW-846 6010B	1	173340570802	12/11/2017 22:12	Cindy M Gehman	1
06953	Copper	SW-846 6010B	1	173340570802	12/11/2017 22:12	Cindy M Gehman	1
06955	Lead	SW-846 6010B	1	173340570802	12/11/2017 22:12	Cindy M Gehman	1
06961	Nickel	SW-846 6010B	1	173340570802	12/11/2017 22:12	Cindy M Gehman	1
06936	Selenium	SW-846 6010B	1	173340570802	12/17/2017 04:30	Jonathan J Allen	1
06966	Silver	SW-846 6010B	1	173340570802	12/11/2017 22:12	Cindy M Gehman	1
06925	Thallium	SW-846 6010B	1	173340570802	12/11/2017 22:12	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173340570802	12/11/2017 22:12	Cindy M Gehman	1
00159	Mercury	SW-846 7471A	1	173340571102	12/04/2017 07:10	Damary Valentin	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP05-S002 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339837
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submittal Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 08:30

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173340570802	12/01/2017 16:00	JoElla L Rice	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173340571102	12/01/2017 17:15	JoElla L Rice	1
00394	pH	SW-846 9045C modified	1	17338039402A	12/04/2017 19:40	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17339820005A	12/05/2017 21:06	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP06-S001 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339838
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 08:45

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Benzene	71-43-2	0.068 J	0.029	0.29	47.17
10237	1,2-Dibromoethane	106-93-4	N.D.	0.057	0.29	47.17
10237	1,2-Dichloroethane	107-06-2	N.D.	0.057	0.29	47.17
10237	Ethylbenzene	100-41-4	0.11 J	0.057	0.29	47.17
10237	Isopropylbenzene	98-82-8	0.26 J	0.057	0.29	47.17
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.029	0.29	47.17
10237	Naphthalene	91-20-3	0.075 J	0.057	0.29	47.17
10237	Toluene	108-88-3	0.27 J	0.057	0.29	47.17
10237	1,2,4-Trimethylbenzene	95-63-6	0.12 J	0.057	0.29	47.17
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.057	0.29	47.17
10237	Xylene (Total)	1330-20-7	0.34	0.057	0.29	47.17

Reporting limits were raised due to interference from the sample matrix.

GC/MS Semivolatiles	SW-846 8270C	ug/kg	ug/kg	ug/kg		
10724	Acenaphthene	83-32-9	120	20	100	5
10724	Acenaphthylene	208-96-8	130	20	100	5
10724	Anthracene	120-12-7	340	20	100	5
10724	Benzo(a)anthracene	56-55-3	840	20	100	5
10724	Benzo(a)pyrene	50-32-8	790	20	100	5
10724	Benzo(b)fluoranthene	205-99-2	1,100	20	100	5
10724	Benzo(g,h,i)perylene	191-24-2	670	20	100	5
10724	Benzo(k)fluoranthene	207-08-9	510	20	100	5
10724	Chrysene	218-01-9	970	20	100	5
10724	Dibenz(a,h)anthracene	53-70-3	220	20	100	5
10724	Fluoranthene	206-44-0	1,300	20	100	5
10724	Fluorene	86-73-7	97 J	20	100	5
10724	Indeno(1,2,3-cd)pyrene	193-39-5	640	20	100	5
10724	Naphthalene	91-20-3	140	20	100	5
10724	Phenanthrene	85-01-8	920	20	100	5
10724	Pyrene	129-00-0	1,300	20	100	5

PCBs	SW-846 8082	ug/kg	ug/kg	ug/kg		
10736	PCB-1016	12674-11-2	N.D. D1 Q3	22	100	5
10736	PCB-1221	11104-28-2	N.D. D1	28	100	5
10736	PCB-1232	11141-16-5	N.D. D1	49	100	5
10736	PCB-1242	53469-21-9	N.D. D1	20	100	5
10736	PCB-1248	12672-29-6	1,200 D2	20	100	5
10736	PCB-1254	11097-69-1	1,700 D1	20	100	5
10736	PCB-1260	11096-82-5	N.D. D1	30	100	5

The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported.
This applies to the DCB and TCX surrogates.

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP06-S001 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339838
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 08:45

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Pesticides			SW-846 8081A	ug/kg	ug/kg	
10738	Aldrin	309-00-2	N.D. D2	4.1	20	20
10738	Alpha BHC	319-84-6	N.D. D2 Q2	4.1	20	20
10738	Beta BHC	319-85-7	N.D. D2	7.3	24	20
10738	Gamma BHC - Lindane	58-89-9	6.9 JPD2 Q2	4.1	20	20
10738	Alpha Chlordane	5103-71-9	N.D. D2	4.1	20	20
10738	Gamma Chlordane	5103-74-2	N.D. D1	6.1	20	20
10738	p,p-DDD	72-54-8	N.D. D2	8.0	41	20
10738	p,p-DDE	72-55-9	55 D1	8.0	41	20
10738	p,p-DDT	50-29-3	N.D. D2 Q3	8.7	41	20
10738	Delta BHC	319-86-8	N.D. D1 Q2Q9	11	22	20
10738	Dieldrin	60-57-1	N.D. D2	8.0	41	20
10738	Endosulfan I	959-98-8	N.D. D1 Q2	5.3	20	20
10738	Endosulfan II	33213-65-9	N.D. VD1 Q2Q9	11	41	20
10738	Endosulfan Sulfate	1031-07-8	N.D. D2	8.0	41	20
10738	Endrin	72-20-8	N.D. VD2	15	41	20
10738	Endrin Aldehyde	7421-93-4	72 ZD1	8.0	41	20
10738	Endrin Ketone	53494-70-5	N.D. D1	15	44	20
10738	Heptachlor	76-44-8	5.3 JPD2	4.1	20	20
10738	Heptachlor Epoxide	1024-57-3	N.D. VD1	12	20	20
10738	Methoxychlor	72-43-5	N.D. D1	41	160	20
10738	Toxaphene	8001-35-2	N.D. D1	340	800	20

Z=The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported.

Reporting limits were raised due to interference from the sample matrix.

Metals			SW-846 6010B	mg/kg	mg/kg	mg/kg
06944	Antimony	7440-36-0	17.3	5.29	12.2	5
06935	Arsenic	7440-38-2	17.4	5.84	12.2	5
06947	Beryllium	7440-41-7	0.513 J	0.0961	0.608	1
06949	Cadmium	7440-43-9	18.2 Q8	0.328	3.04	5
06951	Chromium	7440-47-3	221	1.03	9.12	5
06953	Copper	7440-50-8	743 B	1.46	6.08	5
06955	Lead	7439-92-1	1,320 Q3	3.65	9.12	5
06961	Nickel	7440-02-0	155	0.912	6.08	5
06936	Selenium	7782-49-2	N.D.	5.66	12.2	5
06966	Silver	7440-22-4	3.58	1.46	3.04	5
06925	Thallium	7440-28-0	N.D.	8.33	18.2	5
Reporting limits for metals were raised due to interference from the sample matrix.						
06972	Zinc	7440-66-6	2,810	1.46	12.2	5

SW-846 7471A **mg/kg** **mg/kg** **mg/kg**

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP06-S001 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339838
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submittal Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 08:45

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Metals						
		SW-846 7471A	mg/kg	mg/kg	mg/kg	
00159	Mercury	7439-97-6	1.01 Q8	0.0299	0.299	2.5
Wet Chemistry						
		SW-846 9045C modified	Std. Units	Std. Units	Std. Units	
00394	pH	n.a.	9.37	0.0100	0.0100	1
The pH was measured in water at 19.6 C.						
Wet Chemistry						
		SM 2540 G-1997	%	%	%	
		%Moisture Calc				
00111	Moisture	n.a.	17.8 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	Q173403AA	12/07/2017 02:01	Stephen C Nolte	47.17
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733448132	11/28/2017 08:45	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733448132	11/28/2017 08:45	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733448132	11/28/2017 08:45	Client Supplied	1
10724	PAH 8270 (microwave)	SW-846 8270C	1	17334SLE026	12/07/2017 07:58	Anthony P Bauer	5
10814	BNA Soil Microwave PAH	SW-846 3546	1	17334SLE026	12/01/2017 09:00	Michelle A Newswanger	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173340027A	12/08/2017 12:24	Kirby B Turner	5
10738	Pesticides in Soil (microwave)	SW-846 8081A	1	173340026A	12/22/2017 01:02	Anita M Dale	20
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173340027A	12/01/2017 07:00	Joshua S Ruth	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	173340026A	12/01/2017 07:00	Joshua S Ruth	1
06944	Antimony	SW-846 6010B	1	173340570802	12/17/2017 04:33	Jonathan J Allen	5
06935	Arsenic	SW-846 6010B	1	173340570802	12/17/2017 04:33	Jonathan J Allen	5
06947	Beryllium	SW-846 6010B	1	173340570802	12/11/2017 22:22	Cindy M Gehman	1
06949	Cadmium	SW-846 6010B	1	173340570802	12/17/2017 04:33	Jonathan J Allen	5
06951	Chromium	SW-846 6010B	1	173340570802	12/17/2017 04:33	Jonathan J Allen	5
06953	Copper	SW-846 6010B	1	173340570802	12/17/2017 04:33	Jonathan J Allen	5
06955	Lead	SW-846 6010B	1	173340570802	12/17/2017 04:33	Jonathan J Allen	5
06961	Nickel	SW-846 6010B	1	173340570802	12/17/2017 04:33	Jonathan J Allen	5
06936	Selenium	SW-846 6010B	1	173340570802	12/17/2017 04:33	Jonathan J Allen	5

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP06-S001 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339838
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submittal Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 08:45

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06966	Silver	SW-846 6010B	1	173340570802	12/17/2017 04:33	Jonathan J Allen	5
06925	Thallium	SW-846 6010B	1	173340570802	12/17/2017 04:33	Jonathan J Allen	5
06972	Zinc	SW-846 6010B	1	173340570802	12/17/2017 04:33	Jonathan J Allen	5
00159	Mercury	SW-846 7471A	1	173340571102	12/04/2017 07:28	Damary Valentin	2.5
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173340570802	12/01/2017 16:00	JoElla L Rice	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173340571102	12/01/2017 17:15	JoElla L Rice	1
00394	pH	SW-846 9045C modified	1	17338039402A	12/04/2017 19:40	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17339820005A	12/05/2017 21:06	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP06-S101 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339839
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 08:47

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Benzene	71-43-2	0.004 J	0.0006	0.006	1
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.006	1
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.006	1
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.006	1
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.006	1
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0006	0.006	1
10237	Naphthalene	91-20-3	0.001 J	0.001	0.006	1
10237	Toluene	108-88-3	0.007	0.001	0.006	1
10237	1,2,4-Trimethylbenzene	95-63-6	0.001 J	0.001	0.006	1
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.006	1
10237	Xylene (Total)	1330-20-7	0.003 J	0.001	0.006	1

The recovery for the sample internal standard is outside the QC acceptance limits. The following corrective action was taken:
The sample was re-analyzed and the QC is again outside of the acceptance limits, indicating a matrix effect. The data is reported from the initial trial.

GC/MS Semivolatiles	SW-846 8270C	ug/kg	ug/kg	ug/kg		
10724	Acenaphthene	83-32-9	160	20	100	5
10724	Acenaphthylene	208-96-8	84 J	20	100	5
10724	Anthracene	120-12-7	460	20	100	5
10724	Benzo(a)anthracene	56-55-3	1,900	20	100	5
10724	Benzo(a)pyrene	50-32-8	1,600	20	100	5
10724	Benzo(b)fluoranthene	205-99-2	2,600	20	100	5
10724	Benzo(g,h,i)perylene	191-24-2	1,200	20	100	5
10724	Benzo(k)fluoranthene	207-08-9	950	20	100	5
10724	Chrysene	218-01-9	2,100	20	100	5
10724	Dibenz(a,h)anthracene	53-70-3	350	20	100	5
10724	Fluoranthene	206-44-0	3,100	20	100	5
10724	Fluorene	86-73-7	140	20	100	5
10724	Indeno(1,2,3-cd)pyrene	193-39-5	1,200	20	100	5
10724	Naphthalene	91-20-3	150	20	100	5
10724	Phenanthrene	85-01-8	1,500	20	100	5
10724	Pyrene	129-00-0	2,800	20	100	5

PCBs	SW-846 8082	ug/kg	ug/kg	ug/kg		
10736	PCB-1016	12674-11-2	N.D. D1 Q3	21	100	5
10736	PCB-1221	11104-28-2	N.D. D1	27	100	5
10736	PCB-1232	11141-16-5	N.D. D1	47	100	5
10736	PCB-1242	53469-21-9	N.D. D1	19	100	5
10736	PCB-1248	12672-29-6	1,800 D1	19	100	5
10736	PCB-1254	11097-69-1	2,100 D1	19	100	5
10736	PCB-1260	11096-82-5	N.D. D1	29	100	5

The % difference for the calibration verification standard is outside the

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP06-S101 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339839
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 08:47

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
+/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported. This applies to the DCB and TCX surrogates.						
Pesticides		SW-846 8081A	ug/kg	ug/kg	ug/kg	
10738	Aldrin	309-00-2	N.D. D2	10	49	50
10738	Alpha BHC	319-84-6	N.D. D2 Q2	10	49	50
10738	Beta BHC	319-85-7	N.D. D2	18	59	50
10738	Gamma BHC - Lindane	58-89-9	N.D. D2 Q2	10	49	50
10738	Alpha Chlordane	5103-71-9	N.D. D2	10	49	50
10738	Gamma Chlordane	5103-74-2	N.D. D1	15	49	50
10738	p,p-DDD	72-54-8	N.D. D2	19	100	50
10738	p,p-DDE	72-55-9	67 JPD2	19	100	50
10738	p,p-DDT	50-29-3	N.D. D2 Q3	21	100	50
10738	Delta BHC	319-86-8	N.D. D1 Q2Q9	27	53	50
10738	Dieldrin	60-57-1	N.D. D2	19	100	50
10738	Endosulfan I	959-98-8	N.D. D1 Q2	13	49	50
10738	Endosulfan II	33213-65-9	74 JD2 Q2Q9	19	100	50
10738	Endosulfan Sulfate	1031-07-8	N.D. D2	19	100	50
10738	Endrin	72-20-8	33 JPD2	20	100	50
10738	Endrin Aldehyde	7421-93-4	34 JZPD1	19	100	50
10738	Endrin Ketone	53494-70-5	N.D. D1	35	110	50
10738	Heptachlor	76-44-8	20 JD1	10	49	50
10738	Heptachlor Epoxide	1024-57-3	N.D. VD1	20	49	50
10738	Methoxychlor	72-43-5	N.D. D2	100	400	50
10738	Toxaphene	8001-35-2	N.D. D1	830	1,900	50

Z=The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported.

Reporting limits were raised due to interference from the sample matrix.

Metals		SW-846 6010B	mg/kg	mg/kg	mg/kg	
06944	Antimony	7440-36-0	13.2	4.19	9.62	5
06935	Arsenic	7440-38-2	17.1	4.62	9.62	5
06947	Beryllium	7440-41-7	0.527	0.0760	0.481	1
06949	Cadmium	7440-43-9	13.0 Q8	0.260	2.41	5
06951	Chromium	7440-47-3	135	0.818	7.22	5
06953	Copper	7440-50-8	733 B	1.15	4.81	5
06955	Lead	7439-92-1	780 Q3	2.89	7.22	5
06961	Nickel	7440-02-0	157	0.722	4.81	5
06936	Selenium	7782-49-2	N.D.	4.47	9.62	5
06966	Silver	7440-22-4	3.37	1.15	2.41	5
06925	Thallium	7440-28-0	N.D.	6.59	14.4	5

Reporting limits for metals were raised due to interference from the sample matrix.

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP06-S101 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339839
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 08:47

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Metals						
06972	Zinc	7440-66-6	3,320	1.15	9.62	5
Metals						
00159	Mercury	7439-97-6	0.824 Q2	0.0275	0.275	2.5
Wet Chemistry						
00394	pH	n.a.	9.34	0.0100	0.0100	1
The pH was measured in water at 19.8 C.						
Wet Chemistry						
00111	Moisture	n.a.	16.2 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A173413AA	12/08/2017 01:18	Stephen C Nolte	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733448132	11/28/2017 08:47	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733448132	11/28/2017 08:47	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733448132	11/28/2017 08:47	Client Supplied	1
10724	PAH 8270 (microwave)	SW-846 8270C	1	17334SLE026	12/07/2017 08:22	Anthony P Bauer	5
10814	BNA Soil Microwave PAH	SW-846 3546	1	17334SLE026	12/01/2017 09:00	Michelle A Newswanger	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173340027A	12/08/2017 12:47	Kirby B Turner	5
10738	Pesticides in Soil (microwave)	SW-846 8081A	1	173340026A	12/22/2017 02:22	Anita M Dale	50
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173340027A	12/01/2017 07:00	Joshua S Ruth	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	173340026A	12/01/2017 07:00	Joshua S Ruth	1
06944	Antimony	SW-846 6010B	1	173340570802	12/17/2017 04:37	Jonathan J Allen	5
06935	Arsenic	SW-846 6010B	1	173340570802	12/17/2017 04:37	Jonathan J Allen	5
06947	Beryllium	SW-846 6010B	1	173340570802	12/11/2017 22:25	Cindy M Gehman	1
06949	Cadmium	SW-846 6010B	1	173340570802	12/17/2017 04:37	Jonathan J Allen	5
06951	Chromium	SW-846 6010B	1	173340570802	12/17/2017 04:37	Jonathan J Allen	5
06953	Copper	SW-846 6010B	1	173340570802	12/17/2017 04:37	Jonathan J Allen	5

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP06-S101 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339839
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 08:47

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06955	Lead	SW-846 6010B	1	173340570802	12/17/2017 04:37	Jonathan J Allen	5
06961	Nickel	SW-846 6010B	1	173340570802	12/17/2017 04:37	Jonathan J Allen	5
06936	Selenium	SW-846 6010B	1	173340570802	12/17/2017 04:37	Jonathan J Allen	5
06966	Silver	SW-846 6010B	1	173340570802	12/17/2017 04:37	Jonathan J Allen	5
06925	Thallium	SW-846 6010B	1	173340570802	12/17/2017 04:37	Jonathan J Allen	5
06972	Zinc	SW-846 6010B	1	173340570802	12/17/2017 04:37	Jonathan J Allen	5
00159	Mercury	SW-846 7471A	1	173340571101	12/01/2017 08:03	Damary Valentin	2.5
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173340570802	12/01/2017 16:00	JoElla L Rice	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173340571101	12/01/2017 03:55	Denise L Trimby	1
00394	pH	SW-846 9045C modified	1	17338039402A	12/04/2017 19:40	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17339820005A	12/05/2017 21:06	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP06-S002 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339840
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 09:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Benzene	71-43-2	N.D.	0.0005	0.005	0.95
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	0.95
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	0.95
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	0.95
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.005	0.95
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	0.95
10237	Naphthalene	91-20-3	N.D.	0.001	0.005	0.95
10237	Toluene	108-88-3	N.D.	0.001	0.005	0.95
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.005	0.95
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.005	0.95
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	0.95

The recovery for the sample internal standard is outside the QC acceptance limits. The following corrective action was taken:
The sample was re-analyzed and the QC is again outside of the acceptance limits, indicating a matrix effect. The data is reported from the initial trial.

GC/MS Semivolatiles	SW-846 8270C	ug/kg	ug/kg	ug/kg	
10724	Acenaphthene	83-32-9	23	4	19
10724	Acenaphthylene	208-96-8	340	4	19
10724	Anthracene	120-12-7	380	4	19
10724	Benzo(a)anthracene	56-55-3	780	4	19
10724	Benzo(a)pyrene	50-32-8	330	4	19
10724	Benzo(b)fluoranthene	205-99-2	750	4	19
10724	Benzo(g,h,i)perylene	191-24-2	230	4	19
10724	Benzo(k)fluoranthene	207-08-9	340	4	19
10724	Chrysene	218-01-9	1,100	4	19
10724	Dibenz(a,h)anthracene	53-70-3	87	4	19
10724	Fluoranthene	206-44-0	1,900	4	19
10724	Fluorene	86-73-7	45	4	19
10724	Indeno(1,2,3-cd)pyrene	193-39-5	220	4	19
10724	Naphthalene	91-20-3	120	4	19
10724	Phenanthrene	85-01-8	480	4	19
10724	Pyrene	129-00-0	1,600	4	19

PCBs	SW-846 8082	ug/kg	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D. D1 Q3	4.1	19
10736	PCB-1221	11104-28-2	N.D. D1	5.2	19
10736	PCB-1232	11141-16-5	N.D. D1	9.1	19
10736	PCB-1242	53469-21-9	N.D. D1	3.7	19
10736	PCB-1248	12672-29-6	40 D1	3.7	19
10736	PCB-1254	11097-69-1	69 D1	3.7	19
10736	PCB-1260	11096-82-5	48 D1	5.5	19

The % difference for the calibration verification standard is outside the

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP06-S002 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339840
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 09:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
+/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported. This applies to the DCB and TCX surrogates.						
Pesticides		SW-846 8081A	ug/kg	ug/kg	ug/kg	
10738	Aldrin	309-00-2	N.D. D2	0.96	4.7	5
10738	Alpha BHC	319-84-6	N.D. D2 Q2	0.96	4.7	5
10738	Beta BHC	319-85-7	N.D. D2	1.7	5.7	5
10738	Gamma BHC - Lindane	58-89-9	N.D. D2 Q2	0.96	4.7	5
10738	Alpha Chlordane	5103-71-9	N.D. D2	0.96	4.7	5
10738	Gamma Chlordane	5103-74-2	N.D. D2	1.4	4.7	5
10738	p,p-DDD	72-54-8	N.D. D2	1.9	9.6	5
10738	p,p-DDE	72-55-9	N.D. D2	1.9	9.6	5
10738	p,p-DDT	50-29-3	6.8 JZD2 Q3	2.0	9.6	5
10738	Delta BHC	319-86-8	N.D. D2 Q2Q9	2.5	5.1	5
10738	Dieldrin	60-57-1	N.D. D2	1.9	9.6	5
10738	Endosulfan I	959-98-8	N.D. D2 Q2	1.2	4.7	5
10738	Endosulfan II	33213-65-9	N.D. D2 Q2Q9	1.9	9.6	5
10738	Endosulfan Sulfate	1031-07-8	N.D. D2	1.9	9.6	5
10738	Endrin	72-20-8	N.D. D2	1.9	9.6	5
10738	Endrin Aldehyde	7421-93-4	2.0 JD2	1.9	9.6	5
10738	Endrin Ketone	53494-70-5	N.D. D2	3.4	10	5
10738	Heptachlor	76-44-8	N.D. D2	0.96	4.7	5
10738	Heptachlor Epoxide	1024-57-3	N.D. D2	0.96	4.7	5
10738	Methoxychlor	72-43-5	N.D. D2	9.6	38	5
10738	Toxaphene	8001-35-2	N.D. D2	79	190	5

Z=The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported.

Metals		SW-846 6010B	mg/kg	mg/kg	mg/kg	
06944	Antimony	7440-36-0	17.8	0.881	2.03	1
06935	Arsenic	7440-38-2	14.8	0.972	2.03	1
06947	Beryllium	7440-41-7	0.508	0.0800	0.506	1
06949	Cadmium	7440-43-9	1.29 Q8	0.0547	0.506	1
06951	Chromium	7440-47-3	33.0	0.172	1.52	1
06953	Copper	7440-50-8	343 B	0.243	1.01	1
06955	Lead	7439-92-1	571 Q3	0.608	1.52	1
06961	Nickel	7440-02-0	36.1	0.152	1.01	1
06936	Selenium	7782-49-2	N.D.	0.942	2.03	1
06966	Silver	7440-22-4	N.D.	0.243	0.506	1
06925	Thallium	7440-28-0	N.D.	1.39	3.04	1
06972	Zinc	7440-66-6	463	0.243	2.03	1
		SW-846 7471A	mg/kg	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.0893 J Q2	0.0109	0.109	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP06-S002 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339840
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 09:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry						
	SW-846 9045C modified		Std. Units	Std. Units	Std. Units	
00394	pH	n.a.	7.64	0.0100	0.0100	1
	The pH was measured in water at 19.8 C.					
Wet Chemistry						
	SM 2540 G-1997		%	%	%	
	%Moisture Calc					
00111	Moisture	n.a.	12.6 Q8	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A173413AA	12/08/2017 01:41	Stephen C Nolte	0.95
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733448132	11/28/2017 09:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733448132	11/28/2017 09:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733448132	11/28/2017 09:30	Client Supplied	1
10724	PAH 8270 (microwave)	SW-846 8270C	1	17334SLE026	12/07/2017 08:45	Anthony P Bauer	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	17334SLE026	12/01/2017 09:00	Michelle A Newswanger	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173340027A	12/08/2017 12:59	Kirby B Turner	1
10738	Pesticides in Soil (microwave)	SW-846 8081A	1	173340026A	12/15/2017 00:10	Anita M Dale	5
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173340027A	12/01/2017 07:00	Joshua S Ruth	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	173340026A	12/01/2017 07:00	Joshua S Ruth	1
06944	Antimony	SW-846 6010B	1	173340570802	12/17/2017 04:40	Jonathan J Allen	1
06935	Arsenic	SW-846 6010B	1	173340570802	12/11/2017 22:29	Cindy M Gehman	1
06947	Beryllium	SW-846 6010B	1	173340570802	12/11/2017 22:29	Cindy M Gehman	1
06949	Cadmium	SW-846 6010B	1	173340570802	12/11/2017 22:29	Cindy M Gehman	1
06951	Chromium	SW-846 6010B	1	173340570802	12/11/2017 22:29	Cindy M Gehman	1
06953	Copper	SW-846 6010B	1	173340570802	12/11/2017 22:29	Cindy M Gehman	1
06955	Lead	SW-846 6010B	1	173340570802	12/11/2017 22:29	Cindy M Gehman	1
06961	Nickel	SW-846 6010B	1	173340570802	12/11/2017 22:29	Cindy M Gehman	1
06936	Selenium	SW-846 6010B	1	173340570802	12/17/2017 04:40	Jonathan J Allen	1
06966	Silver	SW-846 6010B	1	173340570802	12/11/2017 22:29	Cindy M Gehman	1
06925	Thallium	SW-846 6010B	1	173340570802	12/11/2017 22:29	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173340570802	12/11/2017 22:29	Cindy M Gehman	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP06-S002 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339840
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submittal Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 09:30

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00159	Mercury	SW-846 7471A	1	173340571101	12/01/2017 07:49	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173340570802	12/01/2017 16:00	JoElla L Rice	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173340571101	12/01/2017 03:55	Denise L Trimby	1
00394	pH	SW-846 9045C modified	1	17338039402A	12/04/2017 19:40	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17339820005A	12/05/2017 21:06	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP07-S001 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339841
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 09:40

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	Benzene	71-43-2	0.001 J	0.0006	0.006	0.99
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.006	0.99
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.006	0.99
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.006	0.99
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.006	0.99
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0006	0.006	0.99
10237	Naphthalene	91-20-3	N.D. Q2	0.001	0.006	0.99
10237	Toluene	108-88-3	0.003 J	0.001	0.006	0.99
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.006	0.99
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.006	0.99
10237	Xylene (Total)	1330-20-7	0.002 J	0.001	0.006	0.99
GC/MS Semivolatiles			SW-846 8270C	ug/kg	ug/kg	
10724	Acenaphthene	83-32-9	N.D.	4	19	1
10724	Acenaphthylene	208-96-8	37	4	19	1
10724	Anthracene	120-12-7	38	4	19	1
10724	Benzo(a)anthracene	56-55-3	110	4	19	1
10724	Benzo(a)pyrene	50-32-8	130	4	19	1
10724	Benzo(b)fluoranthene	205-99-2	200	4	19	1
10724	Benzo(g,h,i)perylene	191-24-2	120	4	19	1
10724	Benzo(k)fluoranthene	207-08-9	64	4	19	1
10724	Chrysene	218-01-9	160	4	19	1
10724	Dibenz(a,h)anthracene	53-70-3	47	4	19	1
10724	Fluoranthene	206-44-0	180	4	19	1
10724	Fluorene	86-73-7	17 J	4	19	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	98	4	19	1
10724	Naphthalene	91-20-3	130	4	19	1
10724	Phenanthrene	85-01-8	140	4	19	1
10724	Pyrene	129-00-0	210	4	19	1
PCBs			SW-846 8082	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D. D1 Q3	20	94	5
10736	PCB-1221	11104-28-2	N.D. D1	26	94	5
10736	PCB-1232	11141-16-5	N.D. D1	44	94	5
10736	PCB-1242	53469-21-9	N.D. D1	18	94	5
10736	PCB-1248	12672-29-6	730 D2	18	94	5
10736	PCB-1254	11097-69-1	340 D1	18	94	5
10736	PCB-1260	11096-82-5	N.D. D1	27	94	5

The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported.
This applies to the DCB and TCX surrogates.

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP07-S001 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339841
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 09:40

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Pesticides			SW-846 8081A	ug/kg	ug/kg	
10738	Aldrin	309-00-2	N.D. D2	1.9	9.2	10
10738	Alpha BHC	319-84-6	6.5 JD1 Q2	1.9	9.2	10
10738	Beta BHC	319-85-7	4.3 JPD1	3.3	11	10
10738	Gamma BHC - Lindane	58-89-9	N.D. D2 Q2	1.9	9.2	10
10738	Alpha Chlordane	5103-71-9	2.1 JPD2	1.9	9.2	10
10738	Gamma Chlordane	5103-74-2	4.2 JPD1	2.8	9.2	10
10738	p,p-DDD	72-54-8	N.D. D2	3.7	19	10
10738	p,p-DDE	72-55-9	8.8 JD1	3.7	19	10
10738	p,p-DDT	50-29-3	N.D. D2 Q3	4.0	19	10
10738	Delta BHC	319-86-8	N.D. VD1 Q2Q9	5.3	10	10
10738	Dieldrin	60-57-1	N.D. D2	3.7	19	10
10738	Endosulfan I	959-98-8	N.D. D1 Q2	2.4	9.2	10
10738	Endosulfan II	33213-65-9	N.D. D1 Q2Q9	3.7	19	10
10738	Endosulfan Sulfate	1031-07-8	N.D. D2	3.7	19	10
10738	Endrin	72-20-8	N.D. D2	3.8	19	10
10738	Endrin Aldehyde	7421-93-4	N.D. ZVD1	4.2	19	10
10738	Endrin Ketone	53494-70-5	N.D. D1	6.7	20	10
10738	Heptachlor	76-44-8	4.2 JPD2	1.9	9.2	10
10738	Heptachlor Epoxide	1024-57-3	N.D. VD1	2.1	9.2	10
10738	Methoxychlor	72-43-5	120 D1	19	74	10
10738	Toxaphene	8001-35-2	N.D. D1	160	370	10

Z=The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported.

Reporting limits were raised due to interference from the sample matrix.

Metals			SW-846 6010B	mg/kg	mg/kg	mg/kg
06944	Antimony	7440-36-0	13.9	0.904	2.08	1
06935	Arsenic	7440-38-2	9.19	0.998	2.08	1
06947	Beryllium	7440-41-7	0.400 J	0.0821	0.520	1
06949	Cadmium	7440-43-9	2.24 Q8	0.0561	0.520	1
06951	Chromium	7440-47-3	50.5	0.177	1.56	1
06953	Copper	7440-50-8	213 B	0.249	1.04	1
06955	Lead	7439-92-1	359 Q3	0.624	1.56	1
06961	Nickel	7440-02-0	50.0	0.156	1.04	1
06936	Selenium	7782-49-2	N.D.	0.967	2.08	1
06966	Silver	7440-22-4	N.D.	0.249	0.520	1
06925	Thallium	7440-28-0	N.D.	1.42	3.12	1
06972	Zinc	7440-66-6	704	0.249	2.08	1
SW-846 7471A			mg/kg	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.910 Q2	0.0265	0.265	2.5

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP07-S001 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339841
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 09:40

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry						
00394	pH	n.a.	11.9 J	0.0100	0.0100	1
The pH was measured in water at 19.6 C.						
Wet Chemistry						
00111	Moisture	n.a.	10.1 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A173421AA	12/08/2017 15:37	Jennifer K Howe	0.99
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733448132	11/28/2017 09:40	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733448132	11/28/2017 09:40	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733448132	11/28/2017 09:40	Client Supplied	1
10724	PAH 8270 (microwave)	SW-846 8270C	1	17334SLE026	12/07/2017 09:09	Anthony P Bauer	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	17334SLE026	12/01/2017 09:00	Michelle A Newswanger	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173340027A	12/08/2017 13:21	Kirby B Turner	5
10738	Pesticides in Soil (microwave)	SW-846 8081A	1	173340026A	12/22/2017 03:15	Anita M Dale	10
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173340027A	12/01/2017 07:00	Joshua S Ruth	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	173340026A	12/01/2017 07:00	Joshua S Ruth	1
06944	Antimony	SW-846 6010B	1	173340570802	12/17/2017 04:43	Jonathan J Allen	1
06935	Arsenic	SW-846 6010B	1	173340570802	12/11/2017 22:32	Cindy M Gehman	1
06947	Beryllium	SW-846 6010B	1	173340570802	12/11/2017 22:32	Cindy M Gehman	1
06949	Cadmium	SW-846 6010B	1	173340570802	12/11/2017 22:32	Cindy M Gehman	1
06951	Chromium	SW-846 6010B	1	173340570802	12/11/2017 22:32	Cindy M Gehman	1
06953	Copper	SW-846 6010B	1	173340570802	12/11/2017 22:32	Cindy M Gehman	1
06955	Lead	SW-846 6010B	1	173340570802	12/11/2017 22:32	Cindy M Gehman	1
06961	Nickel	SW-846 6010B	1	173340570802	12/11/2017 22:32	Cindy M Gehman	1
06936	Selenium	SW-846 6010B	1	173340570802	12/17/2017 04:43	Jonathan J Allen	1
06966	Silver	SW-846 6010B	1	173340570802	12/11/2017 22:32	Cindy M Gehman	1
06925	Thallium	SW-846 6010B	1	173340570802	12/11/2017 22:32	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173340570802	12/11/2017 22:32	Cindy M Gehman	1
00159	Mercury	SW-846 7471A	1	173340571101	12/01/2017 08:05	Damary Valentin	2.5

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP07-S001 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339841
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submittal Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 09:40

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173340570802	12/01/2017 16:00	JoElla L Rice	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173340571101	12/01/2017 03:55	Denise L Trimby	1
00394	pH	SW-846 9045C modified	1	17338039402A	12/04/2017 19:40	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17339820005A	12/05/2017 21:06	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP07-S002 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339842
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 09:50

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D.	0.0005	0.005	0.95
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	0.95
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	0.95
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	0.95
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.005	0.95
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	0.95
10237	Naphthalene	91-20-3	N.D. Q2	0.001	0.005	0.95
10237	Toluene	108-88-3	N.D.	0.001	0.005	0.95
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.005	0.95
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.005	0.95
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	0.95
GC/MS Semivolatiles			SW-846 8270C	ug/kg	ug/kg	
10724	Acenaphthene	83-32-9	N.D.	4	19	1
10724	Acenaphthylene	208-96-8	5 J	4	19	1
10724	Anthracene	120-12-7	8 J	4	19	1
10724	Benzo(a)anthracene	56-55-3	36	4	19	1
10724	Benzo(a)pyrene	50-32-8	31	4	19	1
10724	Benzo(b)fluoranthene	205-99-2	49	4	19	1
10724	Benzo(g,h,i)perylene	191-24-2	31	4	19	1
10724	Benzo(k)fluoranthene	207-08-9	22	4	19	1
10724	Chrysene	218-01-9	41	4	19	1
10724	Dibenz(a,h)anthracene	53-70-3	N.D.	4	19	1
10724	Fluoranthene	206-44-0	42	4	19	1
10724	Fluorene	86-73-7	N.D.	4	19	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	24	4	19	1
10724	Naphthalene	91-20-3	13 J	4	19	1
10724	Phenanthrene	85-01-8	23	4	19	1
10724	Pyrene	129-00-0	55	4	19	1
PCBs			SW-846 8082	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D. D1 Q3	4.0	19	1
10736	PCB-1221	11104-28-2	N.D. D1	5.1	19	1
10736	PCB-1232	11141-16-5	N.D. D1	8.9	19	1
10736	PCB-1242	53469-21-9	N.D. D1	3.7	19	1
10736	PCB-1248	12672-29-6	200 D1	3.7	19	1
10736	PCB-1254	11097-69-1	83 D1	3.7	19	1
10736	PCB-1260	11096-82-5	N.D. D1	5.4	19	1

The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported.
This applies to the DCB and TCX surrogates.

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP07-S002 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339842
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submittal Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 09:50

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Pesticides			SW-846 8081A	ug/kg	ug/kg	
10738	Aldrin	309-00-2	N.D. D2	0.19	0.92	1
10738	Alpha BHC	319-84-6	N.D. D2 Q2	0.19	0.92	1
10738	Beta BHC	319-85-7	0.52 JPD2	0.33	1.1	1
10738	Gamma BHC - Lindane	58-89-9	0.36 JPD2 Q2	0.19	0.92	1
10738	Alpha Chlordane	5103-71-9	0.41 JPD2	0.19	0.92	1
10738	Gamma Chlordane	5103-74-2	N.D. VD2	0.46	0.92	1
10738	p,p-DDD	72-54-8	N.D. D2	0.37	1.9	1
10738	p,p-DDE	72-55-9	1.8 JD2	0.37	1.9	1
10738	p,p-DDT	50-29-3	N.D. ZD2 Q3	0.40	1.9	1
10738	Delta BHC	319-86-8	N.D. D2 Q2Q9	0.50	1.0	1
10738	Dieldrin	60-57-1	N.D. D2	0.37	1.9	1
10738	Endosulfan I	959-98-8	N.D. D2 Q2	0.24	0.92	1
10738	Endosulfan II	33213-65-9	N.D. VD2 Q2Q9	0.44	1.9	1
10738	Endosulfan Sulfate	1031-07-8	N.D. D2	0.37	1.9	1
10738	Endrin	72-20-8	N.D. VD2	0.52	1.9	1
10738	Endrin Aldehyde	7421-93-4	N.D. VD2	0.91	1.9	1
10738	Endrin Ketone	53494-70-5	N.D. D2	0.66	2.0	1
10738	Heptachlor	76-44-8	0.93 D2	0.19	0.92	1
10738	Heptachlor Epoxide	1024-57-3	N.D. VD2	0.53	0.92	1
10738	Methoxychlor	72-43-5	N.D. D2	1.9	7.4	1
10738	Toxaphene	8001-35-2	N.D. D2	16	37	1

Z=The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported.

Reporting limits were raised due to interference from the sample matrix.

Metals			SW-846 6010B	mg/kg	mg/kg	mg/kg
06944	Antimony	7440-36-0	N.D.	0.922	2.12	1
06935	Arsenic	7440-38-2	6.26	1.02	2.12	1
06947	Beryllium	7440-41-7	0.333 J	0.0837	0.530	1
06949	Cadmium	7440-43-9	0.326 J Q8	0.0572	0.530	1
06951	Chromium	7440-47-3	37.3	0.180	1.59	1
06953	Copper	7440-50-8	533 B	0.254	1.06	1
06955	Lead	7439-92-1	45.9 Q3	0.636	1.59	1
06961	Nickel	7440-02-0	30.7	0.159	1.06	1
06936	Selenium	7782-49-2	N.D.	0.986	2.12	1
06966	Silver	7440-22-4	N.D.	0.254	0.530	1
06925	Thallium	7440-28-0	N.D.	1.45	3.18	1
06972	Zinc	7440-66-6	133	0.254	2.12	1
SW-846 7471A			mg/kg	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.0552 J Q2	0.0107	0.107	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP07-S002 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339842
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 09:50

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry						
00394	pH	n.a.	10.2 J	0.0100	0.0100	1
The pH was measured in water at 19.4 C.						
Wet Chemistry						
00111	Moisture	n.a.	11.0 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A173421AA	12/08/2017 15:59	Jennifer K Howe	0.95
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733448132	11/28/2017 09:50	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733448132	11/28/2017 09:50	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733448132	11/28/2017 09:50	Client Supplied	1
10724	PAH 8270 (microwave)	SW-846 8270C	1	17334SLE026	12/07/2017 09:33	Anthony P Bauer	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	17334SLE026	12/01/2017 09:00	Michelle A Newswanger	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173340027A	12/08/2017 13:33	Kirby B Turner	1
10738	Pesticides in Soil (microwave)	SW-846 8081A	1	173340026A	12/15/2017 01:04	Anita M Dale	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173340027A	12/01/2017 07:00	Joshua S Ruth	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	173340026A	12/01/2017 07:00	Joshua S Ruth	1
06944	Antimony	SW-846 6010B	1	173340570802	12/17/2017 04:47	Jonathan J Allen	1
06935	Arsenic	SW-846 6010B	1	173340570802	12/11/2017 22:35	Cindy M Gehman	1
06947	Beryllium	SW-846 6010B	1	173340570802	12/11/2017 22:35	Cindy M Gehman	1
06949	Cadmium	SW-846 6010B	1	173340570802	12/11/2017 22:35	Cindy M Gehman	1
06951	Chromium	SW-846 6010B	1	173340570802	12/11/2017 22:35	Cindy M Gehman	1
06953	Copper	SW-846 6010B	1	173340570802	12/11/2017 22:35	Cindy M Gehman	1
06955	Lead	SW-846 6010B	1	173340570802	12/11/2017 22:35	Cindy M Gehman	1
06961	Nickel	SW-846 6010B	1	173340570802	12/11/2017 22:35	Cindy M Gehman	1
06936	Selenium	SW-846 6010B	1	173340570802	12/17/2017 04:47	Jonathan J Allen	1
06966	Silver	SW-846 6010B	1	173340570802	12/11/2017 22:35	Cindy M Gehman	1
06925	Thallium	SW-846 6010B	1	173340570802	12/11/2017 22:35	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173340570802	12/11/2017 22:35	Cindy M Gehman	1
00159	Mercury	SW-846 7471A	1	173340571101	12/01/2017 07:53	Damary Valentin	1

*=This limit was used in the evaluation of the final result

Sample Description: **APS-GP07-S002 Grab Soil**
APS Recycling

Brightfields, Inc.
ELLE Sample #: **SW 9339842**
ELLE Group #: **1880559**
Matrix: **Soil**

Project Name: **APS Recycling**

Submittal Date/Time: **11/29/2017 16:35**
Collection Date/Time: **11/28/2017 09:50**

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173340570802	12/01/2017 16:00	JoElla L Rice	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173340571101	12/01/2017 03:55	Denise L Trimby	1
00394	pH	SW-846 9045C modified	1	17338039402A	12/04/2017 19:40	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17339820005A	12/05/2017 21:06	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP08-S001 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339843
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 10:00

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D.	0.0005	0.005	0.98
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	0.98
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	0.98
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	0.98
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.005	0.98
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	0.98
10237	Naphthalene	91-20-3	N.D.	0.001	0.005	0.98
10237	Toluene	108-88-3	N.D.	0.001	0.005	0.98
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.005	0.98
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.005	0.98
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	0.98
GC/MS Semivolatiles			SW-846 8270C	ug/kg	ug/kg	
10724	Acenaphthene	83-32-9	N.D.	4	18	1
10724	Acenaphthylene	208-96-8	7 J	4	18	1
10724	Anthracene	120-12-7	8 J	4	18	1
10724	Benzo(a)anthracene	56-55-3	22	4	18	1
10724	Benzo(a)pyrene	50-32-8	27	4	18	1
10724	Benzo(b)fluoranthene	205-99-2	45	4	18	1
10724	Benzo(g,h,i)perylene	191-24-2	24	4	18	1
10724	Benzo(k)fluoranthene	207-08-9	18 J	4	18	1
10724	Chrysene	218-01-9	41	4	18	1
10724	Dibenz(a,h)anthracene	53-70-3	N.D.	4	18	1
10724	Fluoranthene	206-44-0	28	4	18	1
10724	Fluorene	86-73-7	N.D.	4	18	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	22	4	18	1
10724	Naphthalene	91-20-3	17 J	4	18	1
10724	Phenanthrene	85-01-8	39	4	18	1
10724	Pyrene	129-00-0	38	4	18	1
PCBs			SW-846 8082	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D. D2 Q3	3.9	18	1
10736	PCB-1221	11104-28-2	N.D. D2	4.9	18	1
10736	PCB-1232	11141-16-5	N.D. D2	8.6	18	1
10736	PCB-1242	53469-21-9	N.D. D2	3.5	18	1
10736	PCB-1248	12672-29-6	N.D. D2	3.5	18	1
10736	PCB-1254	11097-69-1	N.D. D2	3.5	18	1
10736	PCB-1260	11096-82-5	340 D2	5.3	18	1

The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported. This applies to the TCX surrogate.

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP08-S001 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339843
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submittal Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 10:00

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Pesticides			SW-846 8081A	ug/kg	ug/kg	
10738	Aldrin	309-00-2	N.D. D2	0.18	0.89	1
10738	Alpha BHC	319-84-6	N.D. D2 Q2	0.18	0.89	1
10738	Beta BHC	319-85-7	N.D. D2	0.32	1.1	1
10738	Gamma BHC - Lindane	58-89-9	N.D. D2 Q2	0.18	0.89	1
10738	Alpha Chlordane	5103-71-9	N.D. D2	0.23	0.89	1
10738	Gamma Chlordane	5103-74-2	N.D. VD2	0.28	0.89	1
10738	p,p-DDD	72-54-8	N.D. D2	1.8	9.1	5
10738	p,p-DDE	72-55-9	N.D. VD2	0.69	1.8	1
10738	p,p-DDT	50-29-3	N.D. ZD2 Q3	1.9	9.1	5
10738	Delta BHC	319-86-8	N.D. D2 Q2Q9	0.48	0.97	1
10738	Dieldrin	60-57-1	N.D. D2	1.8	9.1	5
10738	Endosulfan I	959-98-8	N.D. D2 Q2	0.24	0.89	1
10738	Endosulfan II	33213-65-9	N.D. D2 Q2Q9	1.8	9.1	5
10738	Endosulfan Sulfate	1031-07-8	N.D. D2	1.8	9.1	5
10738	Endrin	72-20-8	N.D. VD2	3.0	9.1	5
10738	Endrin Aldehyde	7421-93-4	7.9 JPD2	1.8	9.1	5
10738	Endrin Ketone	53494-70-5	N.D. D2	3.2	9.7	5
10738	Heptachlor	76-44-8	N.D. D2	0.18	0.89	1
10738	Heptachlor Epoxide	1024-57-3	N.D. VD2	0.43	0.89	1
10738	Methoxychlor	72-43-5	N.D. D2	9.1	36	5
10738	Toxaphene	8001-35-2	N.D. D2	75	180	5

Z=The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported.

Reporting limits were raised due to interference from the sample matrix.

Metals			SW-846 6010B	mg/kg	mg/kg	mg/kg
06944	Antimony	7440-36-0	3.13	0.785	1.81	1
06935	Arsenic	7440-38-2	11.9	0.867	1.81	1
06947	Beryllium	7440-41-7	0.514	0.0713	0.451	1
06949	Cadmium	7440-43-9	1.31 Q8	0.0487	0.451	1
06951	Chromium	7440-47-3	28.6	0.153	1.35	1
06953	Copper	7440-50-8	119 B	0.217	0.903	1
06955	Lead	7439-92-1	103 Q3	0.542	1.35	1
06961	Nickel	7440-02-0	31.6	0.135	0.903	1
06936	Selenium	7782-49-2	N.D.	0.839	1.81	1
06966	Silver	7440-22-4	N.D.	0.217	0.451	1
06925	Thallium	7440-28-0	N.D.	1.24	2.71	1
06972	Zinc	7440-66-6	348	0.217	1.81	1
SW-846 7471A			mg/kg	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.0394 J Q8	0.0107	0.107	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP08-S001 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339843
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 10:00

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry						
00394	pH	n.a.	8.72	0.0100	0.0100	1
The pH was measured in water at 19.9 C.						
Wet Chemistry						
00111	Moisture	n.a.	6.9	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A173413AA	12/08/2017 02:49	Stephen C Nolte	0.98
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733448132	11/28/2017 10:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733448132	11/28/2017 10:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733448132	11/28/2017 10:00	Client Supplied	1
10724	PAH 8270 (microwave)	SW-846 8270C	1	17334SLE026	12/07/2017 09:56	Anthony P Bauer	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	17334SLE026	12/01/2017 09:00	Michelle A Newswanger	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173340027A	12/08/2017 14:30	Kirby B Turner	1
10738	Pesticides in Soil (microwave)	SW-846 8081A	1	173340026A	12/15/2017 01:31	Anita M Dale	1
10738	Pesticides in Soil (microwave)	SW-846 8081A	1	173340026A	12/15/2017 01:44	Anita M Dale	5
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173340027A	12/01/2017 07:00	Joshua S Ruth	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	173340026A	12/01/2017 07:00	Joshua S Ruth	1
06944	Antimony	SW-846 6010B	1	173340570802	12/17/2017 04:50	Jonathan J Allen	1
06935	Arsenic	SW-846 6010B	1	173340570802	12/11/2017 22:38	Cindy M Gehman	1
06947	Beryllium	SW-846 6010B	1	173340570802	12/11/2017 22:38	Cindy M Gehman	1
06949	Cadmium	SW-846 6010B	1	173340570802	12/11/2017 22:38	Cindy M Gehman	1
06951	Chromium	SW-846 6010B	1	173340570802	12/11/2017 22:38	Cindy M Gehman	1
06953	Copper	SW-846 6010B	1	173340570802	12/11/2017 22:38	Cindy M Gehman	1
06955	Lead	SW-846 6010B	1	173340570802	12/11/2017 22:38	Cindy M Gehman	1
06961	Nickel	SW-846 6010B	1	173340570802	12/11/2017 22:38	Cindy M Gehman	1
06936	Selenium	SW-846 6010B	1	173340570802	12/17/2017 04:50	Jonathan J Allen	1
06966	Silver	SW-846 6010B	1	173340570802	12/11/2017 22:38	Cindy M Gehman	1
06925	Thallium	SW-846 6010B	1	173340570802	12/11/2017 22:38	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173340570802	12/11/2017 22:38	Cindy M Gehman	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP08-S001 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339843
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submittal Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 10:00

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00159	Mercury	SW-846 7471A	1	173340571102	12/04/2017 07:14	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173340570802	12/01/2017 16:00	JoElla L Rice	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173340571102	12/01/2017 17:15	JoElla L Rice	1
00394	pH	SW-846 9045C modified	1	17338039402A	12/04/2017 19:40	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17339820005B	12/05/2017 21:06	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP08-S002 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339844
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 10:15

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D.	0.0006	0.006	0.93
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.006	0.93
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.006	0.93
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.006	0.93
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.006	0.93
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0006	0.006	0.93
10237	Naphthalene	91-20-3	N.D. Q2	0.001	0.006	0.93
10237	Toluene	108-88-3	N.D.	0.001	0.006	0.93
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.006	0.93
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.006	0.93
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.006	0.93
GC/MS Semivolatiles			SW-846 8270C	ug/kg	ug/kg	
10724	Acenaphthene	83-32-9	4 J	4	20	1
10724	Acenaphthylene	208-96-8	N.D.	4	20	1
10724	Anthracene	120-12-7	N.D.	4	20	1
10724	Benzo(a)anthracene	56-55-3	N.D.	4	20	1
10724	Benzo(a)pyrene	50-32-8	N.D.	4	20	1
10724	Benzo(b)fluoranthene	205-99-2	N.D.	4	20	1
10724	Benzo(g,h,i)perylene	191-24-2	N.D.	4	20	1
10724	Benzo(k)fluoranthene	207-08-9	N.D.	4	20	1
10724	Chrysene	218-01-9	N.D.	4	20	1
10724	Dibenz(a,h)anthracene	53-70-3	N.D.	4	20	1
10724	Fluoranthene	206-44-0	N.D.	4	20	1
10724	Fluorene	86-73-7	N.D.	4	20	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	4	20	1
10724	Naphthalene	91-20-3	29	4	20	1
10724	Phenanthrene	85-01-8	4 J	4	20	1
10724	Pyrene	129-00-0	5 J	4	20	1
PCBs			SW-846 8082	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D. D2 Q3	4.3	20	1
10736	PCB-1221	11104-28-2	N.D. D2	5.4	20	1
10736	PCB-1232	11141-16-5	N.D. D2	9.5	20	1
10736	PCB-1242	53469-21-9	N.D. D2	3.9	20	1
10736	PCB-1248	12672-29-6	N.D. D2	3.9	20	1
10736	PCB-1254	11097-69-1	N.D. D2	3.9	20	1
10736	PCB-1260	11096-82-5	N.D. D2	5.8	20	1

The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported. This applies to the TCX surrogate.

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP08-S002 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339844
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 10:15

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Pesticides		SW-846 8081A	ug/kg	ug/kg	ug/kg	
10738	Aldrin	309-00-2	N.D. D2	0.20	0.98	1
10738	Alpha BHC	319-84-6	N.D. D2 Q2	0.20	0.98	1
10738	Beta BHC	319-85-7	N.D. D2	0.35	1.2	1
10738	Gamma BHC - Lindane	58-89-9	N.D. D2 Q2	0.20	0.98	1
10738	Alpha Chlordane	5103-71-9	N.D. D2	0.20	0.98	1
10738	Gamma Chlordane	5103-74-2	N.D. D2	0.30	0.98	1
10738	p,p-DDD	72-54-8	N.D. D2	0.39	2.0	1
10738	p,p-DDE	72-55-9	N.D. D2	0.39	2.0	1
10738	p,p-DDT	50-29-3	N.D. ZD2 Q3	0.43	2.0	1
10738	Delta BHC	319-86-8	N.D. D2 Q2Q9	0.53	1.1	1
10738	Dieldrin	60-57-1	N.D. D2	0.39	2.0	1
10738	Endosulfan I	959-98-8	N.D. D2 Q2	0.26	0.98	1
10738	Endosulfan II	33213-65-9	N.D. D2 Q2Q9	0.39	2.0	1
10738	Endosulfan Sulfate	1031-07-8	N.D. D2	0.39	2.0	1
10738	Endrin	72-20-8	N.D. D2	0.40	2.0	1
10738	Endrin Aldehyde	7421-93-4	N.D. D2	0.39	2.0	1
10738	Endrin Ketone	53494-70-5	N.D. D2	0.71	2.1	1
10738	Heptachlor	76-44-8	N.D. D2	0.20	0.98	1
10738	Heptachlor Epoxide	1024-57-3	N.D. D2	0.20	0.98	1
10738	Methoxychlor	72-43-5	N.D. D2	2.0	7.9	1
10738	Toxaphene	8001-35-2	N.D. D2	17	39	1

Z=The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported.

Metals		SW-846 6010B	mg/kg	mg/kg	mg/kg	
06944	Antimony	7440-36-0	N.D.	0.787	1.81	1
06935	Arsenic	7440-38-2	8.20	0.868	1.81	1
06947	Beryllium	7440-41-7	0.489	0.0715	0.452	1
06949	Cadmium	7440-43-9	N.D. Q8	0.0488	0.452	1
06951	Chromium	7440-47-3	15.9	0.154	1.36	1
06953	Copper	7440-50-8	20.0 B	0.217	0.904	1
06955	Lead	7439-92-1	18.0 Q3	0.543	1.36	1
06961	Nickel	7440-02-0	23.3	0.136	0.904	1
06936	Selenium	7782-49-2	N.D.	0.841	1.81	1
06966	Silver	7440-22-4	N.D.	0.217	0.452	1
06925	Thallium	7440-28-0	N.D.	1.24	2.71	1
06972	Zinc	7440-66-6	56.3	0.217	1.81	1

Wet Chemistry		SW-846 7471A	mg/kg	mg/kg	mg/kg	
00159	Mercury	7439-97-6	N.D. Q2	0.0118	0.118	1

Wet Chemistry **SW-846 9045C modified** **Std. Units** **Std. Units** **Std. Units**

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP08-S002 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339844
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 10:15

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry						
00394	pH	n.a.	6.33	0.0100	0.0100	1
The pH was measured in water at 20.3 C.						
Wet Chemistry						
00111	Moisture	n.a.	15.6	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A173421AA	12/08/2017 16:22	Jennifer K Howe	0.93
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733448132	11/28/2017 10:15	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733448132	11/28/2017 10:15	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733448132	11/28/2017 10:15	Client Supplied	1
10724	PAH 8270 (microwave)	SW-846 8270C	1	17334SLE026	12/07/2017 20:43	Linda M Hartenstine	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	17334SLE026	12/01/2017 09:00	Michelle A Newswanger	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173340027A	12/08/2017 14:42	Kirby B Turner	1
10738	Pesticides in Soil (microwave)	SW-846 8081A	1	173340026A	12/15/2017 02:11	Anita M Dale	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173340027A	12/01/2017 07:00	Joshua S Ruth	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	173340026A	12/01/2017 07:00	Joshua S Ruth	1
06944	Antimony	SW-846 6010B	1	173340570802	12/17/2017 05:00	Jonathan J Allen	1
06935	Arsenic	SW-846 6010B	1	173340570802	12/11/2017 22:42	Cindy M Gehman	1
06947	Beryllium	SW-846 6010B	1	173340570802	12/11/2017 22:42	Cindy M Gehman	1
06949	Cadmium	SW-846 6010B	1	173340570802	12/11/2017 22:42	Cindy M Gehman	1
06951	Chromium	SW-846 6010B	1	173340570802	12/11/2017 22:42	Cindy M Gehman	1
06953	Copper	SW-846 6010B	1	173340570802	12/11/2017 22:42	Cindy M Gehman	1
06955	Lead	SW-846 6010B	1	173340570802	12/11/2017 22:42	Cindy M Gehman	1
06961	Nickel	SW-846 6010B	1	173340570802	12/11/2017 22:42	Cindy M Gehman	1
06936	Selenium	SW-846 6010B	1	173340570802	12/17/2017 05:00	Jonathan J Allen	1
06966	Silver	SW-846 6010B	1	173340570802	12/11/2017 22:42	Cindy M Gehman	1
06925	Thallium	SW-846 6010B	1	173340570802	12/11/2017 22:42	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173340570802	12/11/2017 22:42	Cindy M Gehman	1
00159	Mercury	SW-846 7471A	1	173340571101	12/01/2017 07:59	Damary Valentin	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP08-S002 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339844
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submittal Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 10:15

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173340570802	12/01/2017 16:00	JoElla L Rice	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173340571101	12/01/2017 03:55	Denise L Trimby	1
00394	pH	SW-846 9045C modified	1	17338039402B	12/04/2017 19:40	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17339820005B	12/05/2017 21:06	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP09-S001 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339845
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 10:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Benzene	71-43-2	N.D.	0.027	0.27	48.54
10237	1,2-Dibromoethane	106-93-4	N.D.	0.054	0.27	48.54
10237	1,2-Dichloroethane	107-06-2	N.D.	0.054	0.27	48.54
10237	Ethylbenzene	100-41-4	N.D.	0.054	0.27	48.54
10237	Isopropylbenzene	98-82-8	N.D.	0.054	0.27	48.54
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.027	0.27	48.54
10237	Naphthalene	91-20-3	N.D.	0.054	0.27	48.54
10237	Toluene	108-88-3	N.D.	0.054	0.27	48.54
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.054	0.27	48.54
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.054	0.27	48.54
10237	Xylene (Total)	1330-20-7	0.057 J	0.054	0.27	48.54

Reporting limits were raised due to interference from the sample matrix.

GC/MS Semivolatiles	SW-846 8270C	ug/kg	ug/kg	ug/kg		
10724	Acenaphthene	83-32-9	34 J	18	94	5
10724	Acenaphthylene	208-96-8	190	18	94	5
10724	Anthracene	120-12-7	130	18	94	5
10724	Benzo(a)anthracene	56-55-3	430	18	94	5
10724	Benzo(a)pyrene	50-32-8	460	18	94	5
10724	Benzo(b)fluoranthene	205-99-2	700	18	94	5
10724	Benzo(g,h,i)perylene	191-24-2	530	18	94	5
10724	Benzo(k)fluoranthene	207-08-9	260	18	94	5
10724	Chrysene	218-01-9	630	18	94	5
10724	Dibenz(a,h)anthracene	53-70-3	130	18	94	5
10724	Fluoranthene	206-44-0	860	18	94	5
10724	Fluorene	86-73-7	25 J	18	94	5
10724	Indeno(1,2,3-cd)pyrene	193-39-5	490	18	94	5
10724	Naphthalene	91-20-3	170	18	94	5
10724	Phenanthrene	85-01-8	650	18	94	5
10724	Pyrene	129-00-0	830	18	94	5

PCBs	SW-846 8082	ug/kg	ug/kg	ug/kg		
10736	PCB-1016	12674-11-2	N.D. D2 Q3	4.0	19	1
10736	PCB-1221	11104-28-2	N.D. D2	5.1	19	1
10736	PCB-1232	11141-16-5	N.D. D2	8.8	19	1
10736	PCB-1242	53469-21-9	N.D. D2	3.6	19	1
10736	PCB-1248	12672-29-6	82 D2	3.6	19	1
10736	PCB-1254	11097-69-1	52 D2	3.6	19	1
10736	PCB-1260	11096-82-5	N.D. D2	5.4	19	1

The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported. This applies to the TCX surrogate.

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP09-S001 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339845
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 10:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Pesticides			SW-846 8081A	ug/kg	ug/kg	
10738	Aldrin	309-00-2	N.D. D2	0.94	4.6	5
10738	Alpha BHC	319-84-6	N.D. D2 Q2	0.94	4.6	5
10738	Beta BHC	319-85-7	N.D. D2	1.7	5.5	5
10738	Gamma BHC - Lindane	58-89-9	N.D. D2 Q2	0.94	4.6	5
10738	Alpha Chlordane	5103-71-9	1.0 JD2	0.94	4.6	5
10738	Gamma Chlordane	5103-74-2	N.D. D2	1.4	4.6	5
10738	p,p-DDD	72-54-8	N.D. VD2	2.8	9.4	5
10738	p,p-DDE	72-55-9	N.D. D2	1.8	9.4	5
10738	p,p-DDT	50-29-3	4.8 JZD2 Q3	2.0	9.4	5
10738	Delta BHC	319-86-8	N.D. D2 Q2Q9	2.5	5.0	5
10738	Dieldrin	60-57-1	N.D. D2	1.8	9.4	5
10738	Endosulfan I	959-98-8	N.D. D2 Q2	1.2	4.6	5
10738	Endosulfan II	33213-65-9	N.D. D2 Q2Q9	1.8	9.4	5
10738	Endosulfan Sulfate	1031-07-8	N.D. D2	1.8	9.4	5
10738	Endrin	72-20-8	N.D. D2	1.9	9.4	5
10738	Endrin Aldehyde	7421-93-4	4.8 JPD2	1.8	9.4	5
10738	Endrin Ketone	53494-70-5	N.D. D2	3.3	9.9	5
10738	Heptachlor	76-44-8	N.D. D2	0.94	4.6	5
10738	Heptachlor Epoxide	1024-57-3	N.D. VD2	0.95	4.6	5
10738	Methoxychlor	72-43-5	N.D. D2	9.4	37	5
10738	Toxaphene	8001-35-2	N.D. D2	77	180	5

Z=The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported.

Reporting limits were raised due to interference from the sample matrix.

Metals			SW-846 6010B	mg/kg	mg/kg	mg/kg
06944	Antimony	7440-36-0	18.1	0.858	1.97	1
06935	Arsenic	7440-38-2	16.9	0.947	1.97	1
06947	Beryllium	7440-41-7	0.556 Q8	0.0779	0.493	1
06949	Cadmium	7440-43-9	N.D.	0.0533	0.493	1
06951	Chromium	7440-47-3	23.7	0.168	1.48	1
06953	Copper	7440-50-8	550	0.237	0.987	1
06955	Lead	7439-92-1	865 Q3Q2Q8Q9	0.592	1.48	1
06961	Nickel	7440-02-0	28.9	0.148	0.987	1
06936	Selenium	7782-49-2	1.06 J	0.918	1.97	1
06966	Silver	7440-22-4	8.90 Q8	0.237	0.493	1
06925	Thallium	7440-28-0	N.D.	1.35	2.96	1
06972	Zinc	7440-66-6	276 Q3Q9	0.237	1.97	1
SW-846 7471A			mg/kg	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.152 Q2	0.0109	0.109	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP09-S001 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339845
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 10:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry						
00394	pH	n.a.	7.56	0.0100	0.0100	1
The pH was measured in water at 19.6 C.						
Wet Chemistry						
00111	Moisture	n.a.	9.5	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	Q173403AA	12/07/2017 04:17	Stephen C Nolte	48.54
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733448132	11/28/2017 10:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733448132	11/28/2017 10:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733448132	11/28/2017 10:30	Client Supplied	1
10724	PAH 8270 (microwave)	SW-846 8270C	1	17334SLE026	12/07/2017 21:07	Linda M Hartenstine	5
10814	BNA Soil Microwave PAH	SW-846 3546	1	17334SLE026	12/01/2017 09:00	Michelle A Newswanger	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173340027A	12/08/2017 14:53	Kirby B Turner	1
10738	Pesticides in Soil (microwave)	SW-846 8081A	1	173340026A	12/15/2017 02:25	Anita M Dale	5
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173340027A	12/01/2017 07:00	Joshua S Ruth	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	173340026A	12/01/2017 07:00	Joshua S Ruth	1
06944	Antimony	SW-846 6010B	1	173340570803	12/07/2017 07:03	Jonathan J Allen	1
06935	Arsenic	SW-846 6010B	1	173340570803	12/07/2017 07:03	Jonathan J Allen	1
06947	Beryllium	SW-846 6010B	1	173340570803	12/07/2017 07:03	Jonathan J Allen	1
06949	Cadmium	SW-846 6010B	1	173340570803	12/07/2017 07:03	Jonathan J Allen	1
06951	Chromium	SW-846 6010B	1	173340570803	12/07/2017 07:03	Jonathan J Allen	1
06953	Copper	SW-846 6010B	1	173340570803	12/07/2017 07:03	Jonathan J Allen	1
06955	Lead	SW-846 6010B	1	173340570803	12/07/2017 07:03	Jonathan J Allen	1
06961	Nickel	SW-846 6010B	1	173340570803	12/07/2017 07:03	Jonathan J Allen	1
06936	Selenium	SW-846 6010B	1	173340570803	12/07/2017 07:03	Jonathan J Allen	1
06966	Silver	SW-846 6010B	1	173340570803	12/07/2017 07:03	Jonathan J Allen	1
06925	Thallium	SW-846 6010B	1	173340570803	12/07/2017 07:03	Jonathan J Allen	1
06972	Zinc	SW-846 6010B	1	173340570803	12/07/2017 07:03	Jonathan J Allen	1
00159	Mercury	SW-846 7471A	1	173340571101	12/01/2017 08:01	Damary Valentin	1

*=This limit was used in the evaluation of the final result

Sample Description: **APS-GP09-S001 Grab Soil**
 APS Recycling

Brightfields, Inc.
ELLE Sample #: **SW 9339845**
ELLE Group #: **1880559**
Matrix: **Soil**

Project Name: **APS Recycling**

Submittal Date/Time: **11/29/2017 16:35**
Collection Date/Time: **11/28/2017 10:30**

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173340570803	12/01/2017 16:00	JoElla L Rice	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173340571101	12/01/2017 03:55	Denise L Trimby	1
00394	pH	SW-846 9045C modified	1	17338039402B	12/04/2017 19:40	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17339820005B	12/05/2017 21:06	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP09-S002 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339846
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 10:45

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D.	0.0006	0.006	1
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.006	1
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.006	1
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.006	1
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.006	1
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0006	0.006	1
10237	Naphthalene	91-20-3	N.D.	0.001	0.006	1
10237	Toluene	108-88-3	N.D.	0.001	0.006	1
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.006	1
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.006	1
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.006	1

The recovery for the sample internal standard is outside the QC acceptance limits. The following corrective action was taken:
The sample was re-analyzed and the QC is again outside of the acceptance limits, indicating a matrix effect. The data is reported from the initial trial.

GC/MS Semivolatiles	SW-846 8270C	ug/kg	ug/kg	ug/kg		
10724	Acenaphthene	83-32-9	N.D.	4	20	1
10724	Acenaphthylene	208-96-8	N.D.	4	20	1
10724	Anthracene	120-12-7	N.D.	4	20	1
10724	Benzo(a)anthracene	56-55-3	7 J	4	20	1
10724	Benzo(a)pyrene	50-32-8	N.D.	4	20	1
10724	Benzo(b)fluoranthene	205-99-2	8 J	4	20	1
10724	Benzo(g,h,i)perylene	191-24-2	N.D.	4	20	1
10724	Benzo(k)fluoranthene	207-08-9	4 J	4	20	1
10724	Chrysene	218-01-9	7 J	4	20	1
10724	Dibenz(a,h)anthracene	53-70-3	N.D.	4	20	1
10724	Fluoranthene	206-44-0	10 J	4	20	1
10724	Fluorene	86-73-7	N.D.	4	20	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	4	20	1
10724	Naphthalene	91-20-3	8 J	4	20	1
10724	Phenanthrene	85-01-8	9 J	4	20	1
10724	Pyrene	129-00-0	13 J	4	20	1

PCBs	SW-846 8082	ug/kg	ug/kg	ug/kg		
10736	PCB-1016	12674-11-2	N.D. D2 Q3	4.2	20	1
10736	PCB-1221	11104-28-2	N.D. D2	5.4	20	1
10736	PCB-1232	11141-16-5	N.D. D2	9.4	20	1
10736	PCB-1242	53469-21-9	N.D. D2	3.9	20	1
10736	PCB-1248	12672-29-6	6.3 JD2	3.9	20	1
10736	PCB-1254	11097-69-1	4.9 JD2	3.9	20	1
10736	PCB-1260	11096-82-5	N.D. D2	5.8	20	1

The % difference for the calibration verification standard is outside the

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP09-S002 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339846
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 10:45

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
+/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported. This applies to the TCX surrogate.						
Pesticides		SW-846 8081A	ug/kg	ug/kg	ug/kg	
10738	Aldrin	309-00-2	N.D. D2	0.20	0.98	1
10738	Alpha BHC	319-84-6	N.D. D2 Q2	0.20	0.98	1
10738	Beta BHC	319-85-7	N.D. D2	0.35	1.2	1
10738	Gamma BHC - Lindane	58-89-9	N.D. D2 Q2	0.20	0.98	1
10738	Alpha Chlordane	5103-71-9	N.D. D2	0.20	0.98	1
10738	Gamma Chlordane	5103-74-2	N.D. D2	0.29	0.98	1
10738	p,p-DDD	72-54-8	N.D. D2	0.39	2.0	1
10738	p,p-DDE	72-55-9	N.D. D2	0.39	2.0	1
10738	p,p-DDT	50-29-3	N.D. ZD2 Q3	0.42	2.0	1
10738	Delta BHC	319-86-8	N.D. D2 Q2Q9	0.53	1.1	1
10738	Dieldrin	60-57-1	N.D. D2	0.39	2.0	1
10738	Endosulfan I	959-98-8	N.D. D2 Q2	0.26	0.98	1
10738	Endosulfan II	33213-65-9	N.D. D2 Q2Q9	0.39	2.0	1
10738	Endosulfan Sulfate	1031-07-8	N.D. D2	0.39	2.0	1
10738	Endrin	72-20-8	N.D. D2	0.40	2.0	1
10738	Endrin Aldehyde	7421-93-4	N.D. D2	0.39	2.0	1
10738	Endrin Ketone	53494-70-5	N.D. D2	0.71	2.1	1
10738	Heptachlor	76-44-8	N.D. D2	0.20	0.98	1
10738	Heptachlor Epoxide	1024-57-3	N.D. D2	0.20	0.98	1
10738	Methoxychlor	72-43-5	N.D. D2	2.0	7.9	1
10738	Toxaphene	8001-35-2	N.D. D2	16	39	1

Z=The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported.

Metals		SW-846 6010B	mg/kg	mg/kg	mg/kg	
06944	Antimony	7440-36-0	N.D.	0.697	1.60	1
06935	Arsenic	7440-38-2	8.19	0.769	1.60	1
06947	Beryllium	7440-41-7	0.486 Q8	0.0633	0.401	1
06949	Cadmium	7440-43-9	N.D.	0.0433	0.401	1
06951	Chromium	7440-47-3	13.9	0.136	1.20	1
06953	Copper	7440-50-8	19.4	0.192	0.802	1
06955	Lead	7439-92-1	16.3 Q3Q2Q8Q9	0.481	1.20	1
06961	Nickel	7440-02-0	22.3	0.120	0.802	1
06936	Selenium	7782-49-2	N.D.	0.745	1.60	1
06966	Silver	7440-22-4	0.335 J Q8	0.192	0.401	1
06925	Thallium	7440-28-0	N.D.	1.10	2.40	1
06972	Zinc	7440-66-6	59.1 Q3Q9	0.192	1.60	1
		SW-846 7471A	mg/kg	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.0162 J Q8	0.0111	0.111	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP09-S002 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339846
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 10:45

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry						
	SW-846 9045C modified		Std. Units	Std. Units	Std. Units	
00394	pH	n.a.	7.63	0.0100	0.0100	1
	The pH was measured in water at 19.6 C.					
Wet Chemistry						
	SM 2540 G-1997		%	%	%	
	%Moisture Calc					
00111	Moisture	n.a.	15.7	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A173413AA	12/08/2017 03:34	Stephen C Nolte	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733448132	11/28/2017 10:45	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733448132	11/28/2017 10:45	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733448132	11/28/2017 10:45	Client Supplied	1
10724	PAH 8270 (microwave)	SW-846 8270C	1	17334SLE026	12/07/2017 21:31	Linda M Hartenstine	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	17334SLE026	12/01/2017 09:00	Michelle A Newswanger	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173340027A	12/08/2017 15:05	Kirby B Turner	1
10738	Pesticides in Soil (microwave)	SW-846 8081A	1	173340026A	12/15/2017 02:52	Anita M Dale	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173340027A	12/01/2017 07:00	Joshua S Ruth	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	173340026A	12/01/2017 07:00	Joshua S Ruth	1
06944	Antimony	SW-846 6010B	1	173340570803	12/07/2017 07:06	Jonathan J Allen	1
06935	Arsenic	SW-846 6010B	1	173340570803	12/07/2017 07:06	Jonathan J Allen	1
06947	Beryllium	SW-846 6010B	1	173340570803	12/07/2017 07:06	Jonathan J Allen	1
06949	Cadmium	SW-846 6010B	1	173340570803	12/07/2017 07:06	Jonathan J Allen	1
06951	Chromium	SW-846 6010B	1	173340570803	12/07/2017 07:06	Jonathan J Allen	1
06953	Copper	SW-846 6010B	1	173340570803	12/07/2017 07:06	Jonathan J Allen	1
06955	Lead	SW-846 6010B	1	173340570803	12/07/2017 07:06	Jonathan J Allen	1
06961	Nickel	SW-846 6010B	1	173340570803	12/07/2017 07:06	Jonathan J Allen	1
06936	Selenium	SW-846 6010B	1	173340570803	12/07/2017 07:06	Jonathan J Allen	1
06966	Silver	SW-846 6010B	1	173340570803	12/07/2017 07:06	Jonathan J Allen	1
06925	Thallium	SW-846 6010B	1	173340570803	12/07/2017 07:06	Jonathan J Allen	1
06972	Zinc	SW-846 6010B	1	173340570803	12/07/2017 07:06	Jonathan J Allen	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP09-S002 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339846
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submittal Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 10:45

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00159	Mercury	SW-846 7471A	1	173340571102	12/04/2017 07:16	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173340570803	12/01/2017 16:00	JoElla L Rice	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173340571102	12/01/2017 17:15	JoElla L Rice	1
00394	pH	SW-846 9045C modified	1	17338039402B	12/04/2017 19:40	Jeremy L Bolf	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17339820005B	12/05/2017 21:06	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP10-S001 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339847
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 11:20

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260B	mg/kg	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D.	0.0006	0.006	0.96
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.006	0.96
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.006	0.96
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.006	0.96
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.006	0.96
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0006	0.006	0.96
10237	Naphthalene	91-20-3	N.D.	0.001	0.006	0.96
10237	Toluene	108-88-3	N.D.	0.001	0.006	0.96
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.006	0.96
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.006	0.96
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.006	0.96

Wet Chemistry		SM 2540 G-1997	%	%	%	
		%Moisture Calc				
00111	Moisture	n.a.	13.7	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A173413AA	12/08/2017 03:57	Stephen C Nolte	0.96
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733448132	11/28/2017 11:20	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733448132	11/28/2017 11:20	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733448132	11/28/2017 11:20	Client Supplied	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17339820005B	12/05/2017 21:06	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP10-S002 Grab Soil
APS Recycling

Brightfields, Inc.
ELLE Sample #: SW 9339848
ELLE Group #: 1880559
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 11:40

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	mg/kg	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D.	0.0006	0.006	0.99
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.006	0.99
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.006	0.99
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.006	0.99
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.006	0.99
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0006	0.006	0.99
10237	Naphthalene	91-20-3	N.D.	0.001	0.006	0.99
10237	Toluene	108-88-3	N.D.	0.001	0.006	0.99
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.006	0.99
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.006	0.99
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.006	0.99

Wet Chemistry		SM 2540 G-1997	%	%	%	
		%Moisture Calc				
00111	Moisture	n.a.	16.2	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A173413AA	12/08/2017 04:20	Stephen C Nolte	0.99
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733448132	11/28/2017 11:40	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733448132	11/28/2017 11:40	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733448132	11/28/2017 11:40	Client Supplied	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17339820005B	12/05/2017 21:06	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP07-W001 Grab Groundwater
APS Recycling

Brightfields, Inc.
ELLE Sample #: WW 9339849
ELLE Group #: 1880559
Matrix: Groundwater

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 11:50

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	48	0.5	1	1
10945	Naphthalene	91-20-3	N.D.	1	4	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	2	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
Volatiles by Extraction		SW-846 8011	ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	N.D. D2	0.0094	0.028	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	D173412AA	12/07/2017 22:21	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D173412AA	12/07/2017 22:21	Hu Yang	1
10398	8011 Master Master	SW-846 8011	1	173350015A	12/05/2017 22:24	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	173350015A	12/03/2017 18:00	Edwin Ortiz	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP07-W101 Grab Groundwater
APS Recycling

Brightfields, Inc.
ELLE Sample #: WW 9339850
ELLE Group #: 1880559
Matrix: Groundwater

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 11:52

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	47	0.5	1	1
10945	Naphthalene	91-20-3	N.D.	1	4	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	2	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
Volatiles by Extraction		SW-846 8011	ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	N.D. D2	0.0093	0.028	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	D173412AA	12/07/2017 22:45	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D173412AA	12/07/2017 22:45	Hu Yang	1
10398	8011 Master Master	SW-846 8011	1	173350015A	12/05/2017 22:55	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	173350015A	12/03/2017 18:00	Edwin Ortiz	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP05-W001 Grab Groundwater
APS Recycling

Brightfields, Inc.
ELLE Sample #: WW 9339851
ELLE Group #: 1880559
Matrix: Groundwater

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 12:10

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10945	Naphthalene	91-20-3	N.D.	1	4	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	2	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
A preserved vial was submitted for analysis. However, the pH at the time of analysis was 7.						
GC/MS Semivolatiles		SW-846 8270C	ug/l	ug/l	ug/l	
14249	Acenaphthene	83-32-9	N.D.	0.1	0.5	1
14249	Acenaphthylene	208-96-8	N.D.	0.1	0.5	1
14249	Anthracene	120-12-7	N.D.	0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	N.D.	0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	N.D.	0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	0.5	1
14249	Benzo(k)fluoranthene	207-08-9	N.D.	0.1	0.5	1
14249	Chrysene	218-01-9	N.D.	0.1	0.5	1
14249	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	0.5	1
14249	Fluoranthene	206-44-0	N.D.	0.1	0.5	1
14249	Fluorene	86-73-7	N.D.	0.1	0.5	1
14249	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	0.5	1
14249	Naphthalene	91-20-3	N.D.	0.1	0.5	1
14249	Phenanthrene	85-01-8	N.D.	0.1	0.5	1
14249	Pyrene	129-00-0	N.D.	0.1	0.5	1
PCBs		SW-846 8082	ug/l	ug/l	ug/l	
10227	PCB-1016	12674-11-2	N.D. D1 Q2Q9	0.082	0.41	1
10227	PCB-1221	11104-28-2	N.D. D1	0.082	0.41	1
10227	PCB-1232	11141-16-5	N.D. D1	0.16	0.41	1
10227	PCB-1242	53469-21-9	N.D. D1	0.082	0.41	1
10227	PCB-1248	12672-29-6	N.D. D1	0.082	0.41	1
10227	PCB-1254	11097-69-1	N.D. D1	0.082	0.41	1
10227	PCB-1260	11096-82-5	N.D. D1 Q9	0.12	0.41	1
Pesticides		SW-846 8081A	ug/l	ug/l	ug/l	
00177	Aldrin	309-00-2	N.D. D2	0.0016	0.0082	1
00177	Alpha BHC	319-84-6	N.D. D2	0.0025	0.0082	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP05-W001 Grab Groundwater
APS Recycling

Brightfields, Inc.
ELLE Sample #: WW 9339851
ELLE Group #: 1880559
Matrix: Groundwater

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 12:10

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
Pesticides		SW-846 8081A	ug/l	ug/l	ug/l	
00177	Beta BHC	319-85-7	N.D. D2	0.0028	0.0082	1
00177	Gamma BHC - Lindane	58-89-9	N.D. D2	0.0016	0.0082	1
00177	Alpha Chlordane	5103-71-9	N.D. D2	0.0025	0.0082	1
00177	Gamma Chlordane	5103-74-2	N.D. D2	0.0058	0.016	1
00177	p,p-DDD	72-54-8	N.D. D2	0.0041	0.016	1
00177	p,p-DDE	72-55-9	N.D. D2	0.0041	0.016	1
00177	p,p-DDT	50-29-3	N.D. D2 Q3	0.0043	0.016	1
00177	Delta BHC	319-86-8	N.D. D2	0.0028	0.0082	1
00177	Dieldrin	60-57-1	N.D. D2	0.0044	0.016	1
00177	Endosulfan I	959-98-8	N.D. D2	0.0035	0.0082	1
00177	Endosulfan II	33213-65-9	N.D. D2	0.012	0.025	1
00177	Endosulfan Sulfate	1031-07-8	N.D. D2	0.0048	0.016	1
00177	Endrin	72-20-8	N.D. D2	0.0067	0.016	1
00177	Endrin Aldehyde	7421-93-4	N.D. D2	0.016	0.082	1
00177	Endrin Ketone	53494-70-5	N.D. D2	0.0041	0.016	1
00177	Heptachlor	76-44-8	N.D. D2	0.0016	0.0082	1
00177	Heptachlor Epoxide	1024-57-3	N.D. D2	0.0019	0.0082	1
00177	Methoxychlor	72-43-5	N.D. D2	0.025	0.082	1
00177	Toxaphene	8001-35-2	N.D. D2	0.25	0.82	1

The % difference for the calibration verification standard is outside the +/- 15% criteria for the analyte(s) listed below associated with the blank, laboratory control spike and the sample surrogate. Since the average of the % difference values meets the criteria, the results are reported. This applies to the following analyte(s): Endrin and Methoxychlor, Decachlorobiphenyl.

Volatiles by Extraction		SW-846 8011	ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	N.D. D1	0.0085	0.025	1

Metals		SW-846 6010B	mg/l	mg/l	mg/l	
07044	Antimony	7440-36-0	N.D.	0.0087	0.0200	1
07035	Arsenic	7440-38-2	N.D. Q3	0.0096	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.0020	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.0018	0.0050	1
07051	Chromium	7440-47-3	N.D.	0.0033	0.0150	1
07053	Copper	7440-50-8	N.D. Q3	0.0040	0.0100	1
07055	Lead	7439-92-1	0.0126 J Q3	0.0060	0.0150	1
07061	Nickel	7440-02-0	0.0054 J	0.0040	0.0100	1
07036	Selenium	7782-49-2	N.D. Q2Q9	0.0093	0.0200	1
07066	Silver	7440-22-4	N.D.	0.0024	0.0050	1
07022	Thallium	7440-28-0	N.D. Q2	0.0137	0.0300	1
07072	Zinc	7440-66-6	0.0220 Q3	0.0065	0.0200	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP05-W001 Grab Groundwater
APS Recycling

Brightfields, Inc.
ELLE Sample #: WW 9339851
ELLE Group #: 1880559
Matrix: Groundwater

Project Name: APS Recycling

Submittal Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 12:10

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
Metals						
		SW-846 7470A	mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	N.D. B	0.000050	0.00020	1
Wet Chemistry						
		EPA 170.1	Degrees C	Degrees C	Degrees C	
12151	Temperature of pH	n.a.	22.2	0.010	0.010	1
		SM 4500-H+ B-2000	Std. Units	Std. Units	Std. Units	
12152	pH	n.a.	6.7	0.010	0.010	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	D173412AA	12/07/2017 23:10	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D173412AA	12/07/2017 23:10	Hu Yang	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17335WAF026	12/08/2017 14:27	Kira N Klaassen	1
07807	BNA Water Extraction	SW-846 3510C	1	17335WAF026	12/01/2017 17:56	Kate E Lutte	1
10227	PCBs in Water	SW-846 8082	1	173340008A	12/03/2017 18:19	Kirby B Turner	1
00177	OC Pesticides in Water	SW-846 8081A	1	173340007A	12/14/2017 19:42	Heather E Williams	1
10398	8011 Master Master	SW-846 8011	1	173450002A	12/13/2017 09:31	Heather M Miller	1
11117	PCB Waters Extraction	SW-846 3510C	1	173340008A	11/30/2017 22:10	Karen L Beyer	1
11118	Pesticide Screen Waters Ext	SW-846 3510C	1	173340007A	11/30/2017 22:00	Karen L Beyer	1
07786	EDB Extraction (8011)	SW-846 8011	2	173450002A	12/11/2017 00:00	Edwin Ortiz	1
07044	Antimony	SW-846 6010B	1	173350184801	12/04/2017 12:36	Suzanne M Will	1
07035	Arsenic	SW-846 6010B	1	173350184801	12/04/2017 12:36	Suzanne M Will	1
07047	Beryllium	SW-846 6010B	1	173350184801	12/04/2017 12:36	Suzanne M Will	1
07049	Cadmium	SW-846 6010B	1	173350184801	12/04/2017 12:36	Suzanne M Will	1
07051	Chromium	SW-846 6010B	1	173350184801	12/04/2017 12:36	Suzanne M Will	1
07053	Copper	SW-846 6010B	1	173350184801	12/04/2017 12:36	Suzanne M Will	1
07055	Lead	SW-846 6010B	1	173350184801	12/04/2017 12:36	Suzanne M Will	1
07061	Nickel	SW-846 6010B	1	173350184801	12/04/2017 12:36	Suzanne M Will	1
07036	Selenium	SW-846 6010B	1	173350184801	12/04/2017 23:53	Cindy M Gehman	1
07066	Silver	SW-846 6010B	1	173350184801	12/04/2017 23:53	Cindy M Gehman	1
07022	Thallium	SW-846 6010B	1	173350184801	12/04/2017 12:36	Suzanne M Will	1
07072	Zinc	SW-846 6010B	1	173350184801	12/04/2017 12:36	Suzanne M Will	1
00259	Mercury	SW-846 7470A	1	173340571302	12/04/2017 07:16	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	173350184801	12/03/2017 20:53	Annamaria Kuhns	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	173340571302	12/01/2017 18:15	Barbara A Kane	1
12151	Temperature of pH	EPA 170.1	1	17334013202A	12/01/2017 00:31	Nathan T Morgan	1
12152	pH	SM 4500-H+ B-2000	1	17334013202A	12/01/2017 00:31	Nathan T Morgan	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP06-W001 Grab Groundwater
APS Recycling

Brightfields, Inc.
ELLE Sample #: WW 9339852
ELLE Group #: 1880559
Matrix: Groundwater

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 12:40

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10945	Naphthalene	91-20-3	N.D.	1	4	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	2	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
GC/MS Semivolatiles		SW-846 8270C	ug/l	ug/l	ug/l	
14249	Acenaphthene	83-32-9	N.D.	0.1	0.5	1
14249	Acenaphthylene	208-96-8	N.D.	0.1	0.5	1
14249	Anthracene	120-12-7	N.D.	0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	N.D.	0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	N.D.	0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	0.5	1
14249	Benzo(k)fluoranthene	207-08-9	N.D.	0.1	0.5	1
14249	Chrysene	218-01-9	N.D.	0.1	0.5	1
14249	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	0.5	1
14249	Fluoranthene	206-44-0	N.D.	0.1	0.5	1
14249	Fluorene	86-73-7	N.D.	0.1	0.5	1
14249	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	0.5	1
14249	Naphthalene	91-20-3	N.D.	0.1	0.5	1
14249	Phenanthrene	85-01-8	N.D.	0.1	0.5	1
14249	Pyrene	129-00-0	N.D.	0.1	0.5	1
PCBs		SW-846 8082	ug/l	ug/l	ug/l	
10227	PCB-1016	12674-11-2	N.D. D1 Q2Q9	0.084	0.42	1
10227	PCB-1221	11104-28-2	N.D. D1	0.084	0.42	1
10227	PCB-1232	11141-16-5	N.D. D1	0.17	0.42	1
10227	PCB-1242	53469-21-9	N.D. D1	0.084	0.42	1
10227	PCB-1248	12672-29-6	N.D. D1	0.084	0.42	1
10227	PCB-1254	11097-69-1	N.D. D1	0.084	0.42	1
10227	PCB-1260	11096-82-5	N.D. D1 Q9	0.13	0.42	1
Pesticides		SW-846 8081A	ug/l	ug/l	ug/l	
00177	Aldrin	309-00-2	N.D. D2	0.0017	0.0084	1
00177	Alpha BHC	319-84-6	N.D. D2	0.0025	0.0084	1
00177	Beta BHC	319-85-7	N.D. D2	0.0029	0.0084	1
00177	Gamma BHC - Lindane	58-89-9	N.D. D2	0.0017	0.0084	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP06-W001 Grab Groundwater
APS Recycling

Brightfields, Inc.
ELLE Sample #: WW 9339852
ELLE Group #: 1880559
Matrix: Groundwater

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 12:40

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
Pesticides		SW-846 8081A	ug/l	ug/l	ug/l	
00177	Alpha Chlordane	5103-71-9	N.D. D2	0.0025	0.0084	1
00177	Gamma Chlordane	5103-74-2	N.D. D2	0.0059	0.017	1
00177	p,p-DDD	72-54-8	N.D. D2	0.0042	0.017	1
00177	p,p-DDE	72-55-9	N.D. D2	0.0042	0.017	1
00177	p,p-DDT	50-29-3	N.D. D2 Q3	0.0044	0.017	1
00177	Delta BHC	319-86-8	N.D. D2	0.0029	0.0084	1
00177	Dieldrin	60-57-1	N.D. D2	0.0045	0.017	1
00177	Endosulfan I	959-98-8	N.D. D2	0.0036	0.0084	1
00177	Endosulfan II	33213-65-9	N.D. D2	0.013	0.025	1
00177	Endosulfan Sulfate	1031-07-8	N.D. D2	0.0049	0.017	1
00177	Endrin	72-20-8	N.D. D2	0.0068	0.017	1
00177	Endrin Aldehyde	7421-93-4	N.D. D2	0.017	0.084	1
00177	Endrin Ketone	53494-70-5	N.D. D2	0.0042	0.017	1
00177	Heptachlor	76-44-8	N.D. D2	0.0017	0.0084	1
00177	Heptachlor Epoxide	1024-57-3	N.D. D2	0.0019	0.0084	1
00177	Methoxychlor	72-43-5	N.D. D2	0.025	0.084	1
00177	Toxaphene	8001-35-2	N.D. D2	0.25	0.84	1

The % difference for the calibration verification standard is outside the +/- 15% criteria for the analyte(s) listed below associated with the blank, laboratory control spike and the sample surrogate. Since the average of the % difference values meets the criteria, the results are reported. This applies to the following analyte(s): Endrin and Methoxychlor, Decachlorobiphenyl.

Volatiles by Extraction		SW-846 8011	ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	N.D. D1	0.0094	0.028	1

Metals		SW-846 6010B	mg/l	mg/l	mg/l	
07044	Antimony	7440-36-0	N.D.	0.0087	0.0200	1
07035	Arsenic	7440-38-2	0.0118 J Q3	0.0096	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.0020	0.0050	1
07049	Cadmium	7440-43-9	0.0027 J	0.0018	0.0050	1
07051	Chromium	7440-47-3	0.0141 J	0.0033	0.0150	1
07053	Copper	7440-50-8	0.176 Q3	0.0040	0.0100	1
07055	Lead	7439-92-1	0.172 Q3	0.0060	0.0150	1
07061	Nickel	7440-02-0	0.0261	0.0040	0.0100	1
07036	Selenium	7782-49-2	N.D. Q2Q9	0.0093	0.0200	1
07066	Silver	7440-22-4	N.D.	0.0024	0.0050	1
07022	Thallium	7440-28-0	N.D. Q2	0.0137	0.0300	1
07072	Zinc	7440-66-6	0.393 Q3	0.0065	0.0200	1

		SW-846 7470A	mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	N.D. B	0.000050	0.00020	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP06-W001 Grab Groundwater
APS Recycling

Brightfields, Inc.
ELLE Sample #: WW 9339852
ELLE Group #: 1880559
Matrix: Groundwater

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 12:40

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
Wet Chemistry						
EPA 170.1			Degrees C	Degrees C	Degrees C	
12151	Temperature of pH	n.a.	22.4	0.010	0.010	1
SM 4500-H+ B-2000			Std. Units	Std. Units	Std. Units	
12152	pH	n.a.	6.9	0.010	0.010	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	D173412AA	12/07/2017 23:34	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D173412AA	12/07/2017 23:34	Hu Yang	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17335WAF026	12/08/2017 14:56	Kira N Klaassen	1
07807	BNA Water Extraction	SW-846 3510C	1	17335WAF026	12/01/2017 17:56	Kate E Lutte	1
10227	PCBs in Water	SW-846 8082	1	173340008A	12/03/2017 18:31	Kirby B Turner	1
00177	OC Pesticides in Water	SW-846 8081A	1	173340007A	12/14/2017 19:55	Heather E Williams	1
10398	8011 Master Master	SW-846 8011	1	173350015A	12/07/2017 15:03	Sarah Estes	1
11117	PCB Waters Extraction	SW-846 3510C	1	173340008A	11/30/2017 22:10	Karen L Beyer	1
11118	Pesticide Screen Waters Ext	SW-846 3510C	1	173340007A	11/30/2017 22:00	Karen L Beyer	1
07786	EDB Extraction (8011)	SW-846 8011	1	173350015A	12/03/2017 18:00	Edwin Ortiz	1
07044	Antimony	SW-846 6010B	1	173350184801	12/04/2017 12:40	Suzanne M Will	1
07035	Arsenic	SW-846 6010B	1	173350184801	12/04/2017 12:40	Suzanne M Will	1
07047	Beryllium	SW-846 6010B	1	173350184801	12/04/2017 12:40	Suzanne M Will	1
07049	Cadmium	SW-846 6010B	1	173350184801	12/04/2017 12:40	Suzanne M Will	1
07051	Chromium	SW-846 6010B	1	173350184801	12/04/2017 12:40	Suzanne M Will	1
07053	Copper	SW-846 6010B	1	173350184801	12/04/2017 12:40	Suzanne M Will	1
07055	Lead	SW-846 6010B	1	173350184801	12/04/2017 12:40	Suzanne M Will	1
07061	Nickel	SW-846 6010B	1	173350184801	12/04/2017 12:40	Suzanne M Will	1
07036	Selenium	SW-846 6010B	1	173350184801	12/04/2017 23:56	Cindy M Gehman	1
07066	Silver	SW-846 6010B	1	173350184801	12/04/2017 23:56	Cindy M Gehman	1
07022	Thallium	SW-846 6010B	1	173350184801	12/04/2017 12:40	Suzanne M Will	1
07072	Zinc	SW-846 6010B	1	173350184801	12/04/2017 12:40	Suzanne M Will	1
00259	Mercury	SW-846 7470A	1	173340571302	12/04/2017 07:18	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	173350184801	12/03/2017 20:53	Annamaria Kuhns	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	173340571302	12/01/2017 18:15	Barbara A Kane	1
12151	Temperature of pH	EPA 170.1	1	17334013202A	12/01/2017 01:01	Nathan T Morgan	1
12152	pH	SM 4500-H+ B-2000	1	17334013202A	12/01/2017 01:01	Nathan T Morgan	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP10-W001 Grab Groundwater
APS Recycling

Brightfields, Inc.
ELLE Sample #: WW 9339853
ELLE Group #: 1880559
Matrix: Groundwater

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 13:15

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10945	Naphthalene	91-20-3	N.D.	1	4	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	2	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
A preserved vial was submitted for analysis. However, the pH at the time of analysis was 3.						
PCBs		SW-846 8082	ug/l	ug/l	ug/l	
10227	PCB-1016	12674-11-2	N.D. D1 Q2Q9	0.11	0.53	1
10227	PCB-1221	11104-28-2	N.D. D1	0.11	0.53	1
10227	PCB-1232	11141-16-5	N.D. D1	0.21	0.53	1
10227	PCB-1242	53469-21-9	N.D. D1	0.11	0.53	1
10227	PCB-1248	12672-29-6	N.D. D1	0.11	0.53	1
10227	PCB-1254	11097-69-1	N.D. D1	0.11	0.53	1
10227	PCB-1260	11096-82-5	N.D. D1 Q9	0.16	0.53	1
Pesticides		SW-846 8081A	ug/l	ug/l	ug/l	
00177	Aldrin	309-00-2	N.D. D2	0.0021	0.011	1
00177	Alpha BHC	319-84-6	N.D. D2	0.0032	0.011	1
00177	Beta BHC	319-85-7	0.019 D2	0.0036	0.011	1
00177	Gamma BHC - Lindane	58-89-9	N.D. D2	0.0021	0.011	1
00177	Alpha Chlordane	5103-71-9	N.D. D2	0.0032	0.011	1
00177	Gamma Chlordane	5103-74-2	N.D. ED2	0.0074	0.021	1
00177	p,p-DDD	72-54-8	N.D. D2	0.0053	0.021	1
00177	p,p-DDE	72-55-9	N.D. D2	0.0053	0.021	1
00177	p,p-DDT	50-29-3	N.D. D2 Q3	0.0055	0.021	1
00177	Delta BHC	319-86-8	N.D. D2	0.0036	0.011	1
00177	Dieldrin	60-57-1	N.D. D2	0.0056	0.021	1
00177	Endosulfan I	959-98-8	N.D. D2	0.0045	0.011	1
00177	Endosulfan II	33213-65-9	N.D. D2	0.016	0.032	1
00177	Endosulfan Sulfate	1031-07-8	N.D. D2	0.0061	0.021	1
00177	Endrin	72-20-8	N.D. D2	0.0085	0.021	1
00177	Endrin Aldehyde	7421-93-4	N.D. D2	0.021	0.11	1
00177	Endrin Ketone	53494-70-5	N.D. D2	0.0053	0.021	1
00177	Heptachlor	76-44-8	0.0028 JD2	0.0021	0.011	1
00177	Heptachlor Epoxide	1024-57-3	N.D. D2	0.0024	0.011	1
00177	Methoxychlor	72-43-5	N.D. D2	0.032	0.11	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP10-W001 Grab Groundwater
APS Recycling

Brightfields, Inc.
ELLE Sample #: WW 9339853
ELLE Group #: 1880559
Matrix: Groundwater

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 13:15

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
Pesticides						
SW-846 8081A			ug/l	ug/l	ug/l	
00177	Toxaphene	8001-35-2	N.D. D2	0.32	1.1	1
<p>The % difference for the calibration verification standard is outside the +/- 15% criteria for the analyte(s) listed below associated with the blank, laboratory control spike and the sample surrogate. Since the average of the % difference values meets the criteria, the results are reported. This applies to the following analyte(s): Endrin and Methoxychlor, Decachlorobiphenyl.</p>						
Volatiles by Extraction						
SW-846 8011			ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	N.D. D1	0.0083	0.025	1
Metals						
SW-846 6010B			mg/l	mg/l	mg/l	
07044	Antimony	7440-36-0	N.D.	0.0435	0.100	5
07035	Arsenic	7440-38-2	0.328 Q3	0.0480	0.100	5
07047	Beryllium	7440-41-7	0.0263	0.0100	0.0250	5
07049	Cadmium	7440-43-9	0.0110 J	0.0090	0.0250	5
07051	Chromium	7440-47-3	0.565	0.0165	0.0750	5
07053	Copper	7440-50-8	1.85 Q3	0.0200	0.0500	5
07055	Lead	7439-92-1	1.14 Q3	0.0300	0.0750	5
07061	Nickel	7440-02-0	1.03	0.0200	0.0500	5
07036	Selenium	7782-49-2	0.0659 J Q2Q9	0.0465	0.100	5
07066	Silver	7440-22-4	N.D.	0.0120	0.0250	5
Reporting limits for metals were raised due to interference from the sample matrix.						
07022	Thallium	7440-28-0	N.D. Q2	0.0685	0.150	5
07072	Zinc	7440-66-6	2.73 Q3	0.0325	0.100	5
SW-846 7470A			mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	0.00044 B	0.000050	0.00020	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	D173412AA	12/07/2017 23:58	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D173412AA	12/07/2017 23:58	Hu Yang	1
10227	PCBs in Water	SW-846 8082	1	173340008A	12/03/2017 18:42	Kirby B Turner	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP10-W001 Grab Groundwater
APS Recycling

Brightfields, Inc.
ELLE Sample #: WW 9339853
ELLE Group #: 1880559
Matrix: Groundwater

Project Name: APS Recycling

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 13:15

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00177	OC Pesticides in Water	SW-846 8081A	1	173340007A	12/14/2017 20:08	Heather E Williams	1
10398	8011 Master Master	SW-846 8011	1	173350015A	12/07/2017 15:35	Sarah Estes	1
11117	PCB Waters Extraction	SW-846 3510C	1	173340008A	11/30/2017 22:10	Karen L Beyer	1
11118	Pesticide Screen Waters Ext	SW-846 3510C	1	173340007A	11/30/2017 22:00	Karen L Beyer	1
07786	EDB Extraction (8011)	SW-846 8011	1	173350015A	12/03/2017 18:00	Edwin Ortiz	1
07044	Antimony	SW-846 6010B	1	173350184801	12/05/2017 00:03	Cindy M Gehman	5
07035	Arsenic	SW-846 6010B	1	173350184801	12/05/2017 00:03	Cindy M Gehman	5
07047	Beryllium	SW-846 6010B	1	173350184801	12/05/2017 00:03	Cindy M Gehman	5
07049	Cadmium	SW-846 6010B	1	173350184801	12/05/2017 00:03	Cindy M Gehman	5
07051	Chromium	SW-846 6010B	1	173350184801	12/05/2017 00:03	Cindy M Gehman	5
07053	Copper	SW-846 6010B	1	173350184801	12/05/2017 00:03	Cindy M Gehman	5
07055	Lead	SW-846 6010B	1	173350184801	12/05/2017 00:03	Cindy M Gehman	5
07061	Nickel	SW-846 6010B	1	173350184801	12/05/2017 00:03	Cindy M Gehman	5
07036	Selenium	SW-846 6010B	1	173350184801	12/05/2017 00:03	Cindy M Gehman	5
07066	Silver	SW-846 6010B	1	173350184801	12/05/2017 00:03	Cindy M Gehman	5
07022	Thallium	SW-846 6010B	1	173350184801	12/05/2017 00:03	Cindy M Gehman	5
07072	Zinc	SW-846 6010B	1	173350184801	12/05/2017 00:03	Cindy M Gehman	5
00259	Mercury	SW-846 7470A	1	173340571302	12/04/2017 07:20	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	173350184801	12/03/2017 20:53	Annamaria Kuhns	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	173340571302	12/01/2017 18:15	Barbara A Kane	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP10-S301 MeOH
APS Recycling

Brightfields, Inc.
ELLE Sample #: G5 9339854
ELLE Group #: 1880559
Matrix: MeOH

Project Name: APS Recycling

Submittal Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 13:35

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D.	0.0005	0.005	1
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	1
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	1
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	1
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.005	1
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	1
10237	Naphthalene	91-20-3	N.D.	0.001	0.005	1
10237	Toluene	108-88-3	N.D.	0.001	0.005	1
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.005	1
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.005	1
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A173392AA	12/05/2017 20:32	Patrick T Herres	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733448132	11/28/2017 13:35	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733448132	11/28/2017 13:35	Client Supplied	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP10-W301 Water
APS Recycling

Brightfields, Inc.
ELLE Sample #: WW 9339855
ELLE Group #: 1880559
Matrix: Water

Project Name: APS Recycling

Submittal Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 13:40

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10945	Naphthalene	91-20-3	N.D.	1	4	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	2	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	D173412AA	12/07/2017 20:21	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D173412AA	12/07/2017 20:21	Hu Yang	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/29/2017 09:57

Group Number: 1880559

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	MDL**	LOQ
	mg/kg	mg/kg	mg/kg
Batch number: A173392AA	Sample number(s): 9339835,9339854		
Benzene	N.D.	0.0005	0.005
1,2-Dibromoethane	N.D.	0.001	0.005
1,2-Dichloroethane	N.D.	0.001	0.005
Ethylbenzene	N.D.	0.001	0.005
Isopropylbenzene	N.D.	0.001	0.005
Methyl Tertiary Butyl Ether	N.D.	0.0005	0.005
Naphthalene	N.D.	0.001	0.005
Toluene	N.D.	0.001	0.005
1,2,4-Trimethylbenzene	N.D.	0.001	0.005
1,3,5-Trimethylbenzene	N.D.	0.001	0.005
Xylene (Total)	N.D.	0.001	0.005
Batch number: A173413AA	Sample number(s): 9339834,9339836,9339839-9339840,9339843,9339846-9339848		
Benzene	N.D.	0.0005	0.005
1,2-Dibromoethane	N.D.	0.001	0.005
1,2-Dichloroethane	N.D.	0.001	0.005
Ethylbenzene	N.D.	0.001	0.005
Isopropylbenzene	N.D.	0.001	0.005
Methyl Tertiary Butyl Ether	N.D.	0.0005	0.005
Naphthalene	N.D.	0.001	0.005
Toluene	N.D.	0.001	0.005
1,2,4-Trimethylbenzene	N.D.	0.001	0.005
1,3,5-Trimethylbenzene	N.D.	0.001	0.005
Xylene (Total)	N.D.	0.001	0.005
Batch number: A173421AA	Sample number(s): 9339837,9339841-9339842,9339844		
Benzene	N.D.	0.0005	0.005
1,2-Dibromoethane	N.D.	0.001	0.005
1,2-Dichloroethane	N.D.	0.001	0.005
Ethylbenzene	N.D.	0.001	0.005
Isopropylbenzene	N.D.	0.001	0.005
Methyl Tertiary Butyl Ether	N.D.	0.0005	0.005
Naphthalene	N.D.	0.001	0.005
Toluene	N.D.	0.001	0.005
1,2,4-Trimethylbenzene	N.D.	0.001	0.005
1,3,5-Trimethylbenzene	N.D.	0.001	0.005
Xylene (Total)	N.D.	0.001	0.005
Batch number: Q173403AA	Sample number(s): 9339838,9339845		
Benzene	N.D.	0.025	0.25

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/29/2017 09:57

Group Number: 1880559

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	mg/kg	mg/kg	mg/kg
1,2-Dibromoethane	N.D.	0.050	0.25
1,2-Dichloroethane	N.D.	0.050	0.25
Ethylbenzene	N.D.	0.050	0.25
Isopropylbenzene	N.D.	0.050	0.25
Methyl Tertiary Butyl Ether	N.D.	0.025	0.25
Naphthalene	N.D.	0.050	0.25
Toluene	N.D.	0.050	0.25
1,2,4-Trimethylbenzene	N.D.	0.050	0.25
1,3,5-Trimethylbenzene	N.D.	0.050	0.25
Xylene (Total)	N.D.	0.050	0.25
	ug/l	ug/l	ug/l
Batch number: D173412AA	Sample number(s): 9339849-9339853,9339855		
Benzene	N.D.	0.5	1
1,2-Dichloroethane	N.D.	0.5	1
Ethylbenzene	N.D.	0.5	1
Isopropylbenzene	N.D.	0.5	2
Methyl Tertiary Butyl Ether	N.D.	0.5	1
Naphthalene	N.D.	1	4
Toluene	N.D.	0.5	1
1,2,4-Trimethylbenzene	N.D.	0.5	2
1,3,5-Trimethylbenzene	N.D.	0.5	2
Xylene (Total)	N.D.	0.5	1
	ug/kg	ug/kg	ug/kg
Batch number: 17334SLE026	Sample number(s): 9339834-9339846		
Acenaphthene	N.D.	3	17
Acenaphthylene	N.D.	3	17
Anthracene	N.D.	3	17
Benzo(a)anthracene	N.D.	3	17
Benzo(a)pyrene	N.D.	3	17
Benzo(b)fluoranthene	N.D.	3	17
Benzo(g,h,i)perylene	N.D.	3	17
Benzo(k)fluoranthene	N.D.	3	17
Chrysene	N.D.	3	17
Dibenz(a,h)anthracene	N.D.	3	17
Fluoranthene	N.D.	3	17
Fluorene	N.D.	3	17
Indeno(1,2,3-cd)pyrene	N.D.	3	17
Naphthalene	N.D.	3	17
Phenanthrene	N.D.	3	17
Pyrene	N.D.	3	17
	ug/l	ug/l	ug/l
Batch number: 17335WAF026	Sample number(s): 9339851-9339852		
Acenaphthene	N.D.	0.1	0.5

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/29/2017 09:57

Group Number: 1880559

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	ug/l	ug/l	ug/l
Acenaphthylene	N.D.	0.1	0.5
Anthracene	N.D.	0.1	0.5
Benzo(a)anthracene	N.D.	0.1	0.5
Benzo(a)pyrene	N.D.	0.1	0.5
Benzo(b)fluoranthene	N.D.	0.1	0.5
Benzo(g,h,i)perylene	N.D.	0.1	0.5
Benzo(k)fluoranthene	N.D.	0.1	0.5
Chrysene	N.D.	0.1	0.5
Dibenz(a,h)anthracene	N.D.	0.1	0.5
Fluoranthene	N.D.	0.1	0.5
Fluorene	N.D.	0.1	0.5
Indeno(1,2,3-cd)pyrene	N.D.	0.1	0.5
Naphthalene	N.D.	0.1	0.5
Phenanthrene	N.D.	0.1	0.5
Pyrene	N.D.	0.1	0.5
	ug/kg	ug/kg	ug/kg
Batch number: 173340027A	Sample number(s): 9339834-9339846		
PCB-1016	N.D.	3.6	17
PCB-1221	N.D.	4.6	17
PCB-1232	N.D.	8.0	17
PCB-1242	N.D.	3.3	17
PCB-1248	N.D.	3.3	17
PCB-1254	N.D.	3.3	17
PCB-1260	N.D.	4.9	17
	ug/l	ug/l	ug/l
Batch number: 173340008A	Sample number(s): 9339851-9339853		
PCB-1016	N.D.	0.080	0.40
PCB-1221	N.D.	0.080	0.40
PCB-1232	N.D.	0.16	0.40
PCB-1242	N.D.	0.080	0.40
PCB-1248	N.D.	0.080	0.40
PCB-1254	N.D.	0.080	0.40
PCB-1260	N.D.	0.12	0.40
	ug/kg	ug/kg	ug/kg
Batch number: 173340026A	Sample number(s): 9339834-9339846		
Aldrin	N.D.	0.17	0.83
Alpha BHC	N.D.	0.17	0.83
Beta BHC	N.D.	0.30	1.0
Gamma BHC - Lindane	N.D.	0.17	0.83
Alpha Chlordane	N.D.	0.17	0.83
Gamma Chlordane	N.D.	0.25	0.83
p,p-DDD	N.D.	0.33	1.7
p,p-DDE	N.D.	0.33	1.7

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/29/2017 09:57

Group Number: 1880559

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	ug/kg	ug/kg	ug/kg
p,p-DDT	N.D.	0.36	1.7
Delta BHC	N.D.	0.45	0.90
Dieldrin	N.D.	0.33	1.7
Endosulfan I	N.D.	0.22	0.83
Endosulfan II	N.D.	0.33	1.7
Endosulfan Sulfate	N.D.	0.33	1.7
Endrin	N.D.	0.34	1.7
Endrin Aldehyde	N.D.	0.33	1.7
Endrin Ketone	N.D.	0.60	1.8
Heptachlor	N.D.	0.17	0.83
Heptachlor Epoxide	N.D.	0.17	0.83
Methoxychlor	N.D.	1.7	6.7
Toxaphene	N.D.	14	33
	ug/l	ug/l	ug/l
Batch number: 173340007A	Sample number(s): 9339851-9339853		
Aldrin	N.D.	0.0016	0.0080
Alpha BHC	N.D.	0.0024	0.0080
Beta BHC	N.D.	0.0027	0.0080
Gamma BHC - Lindane	N.D.	0.0016	0.0080
Alpha Chlordane	N.D.	0.0024	0.0080
Gamma Chlordane	N.D.	0.0056	0.016
p,p-DDD	N.D.	0.0040	0.016
p,p-DDE	N.D.	0.0040	0.016
p,p-DDT	N.D.	0.0042	0.016
Delta BHC	N.D.	0.0027	0.0080
Dieldrin	N.D.	0.0042	0.016
Endosulfan I	N.D.	0.0034	0.0080
Endosulfan II	N.D.	0.012	0.024
Endosulfan Sulfate	N.D.	0.0046	0.016
Endrin	N.D.	0.0065	0.016
Endrin Aldehyde	N.D.	0.016	0.080
Endrin Ketone	N.D.	0.0040	0.016
Heptachlor	N.D.	0.0016	0.0080
Heptachlor Epoxide	N.D.	0.0018	0.0080
Methoxychlor	N.D.	0.024	0.080
Toxaphene	N.D.	0.24	0.80
Batch number: 173350015A	Sample number(s): 9339849-9339850,9339852-9339853		
Ethylene dibromide	N.D.	0.010	0.030
Batch number: 173450002A	Sample number(s): 9339851		
Ethylene dibromide	N.D.	0.010	0.030
	mg/kg	mg/kg	mg/kg
Batch number: 173340570802	Sample number(s): 9339834-9339844		

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/29/2017 09:57

Group Number: 1880559

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	mg/kg	mg/kg	mg/kg
Antimony	N.D.	0.870	2.00
Arsenic	N.D.	0.960	2.00
Beryllium	N.D.	0.0790	0.500
Cadmium	N.D.	0.0540	0.500
Chromium	N.D.	0.170	1.50
Copper	0.242 J	0.240	1.00
Lead	N.D.	0.600	1.50
Nickel	N.D.	0.150	1.00
Selenium	N.D.	0.930	2.00
Silver	N.D.	0.240	0.500
Thallium	N.D.	1.37	3.00
Zinc	N.D.	0.240	2.00
Batch number: 173340570803	Sample number(s): 9339845-9339846		
Antimony	N.D.	0.870	2.00
Arsenic	N.D.	0.960	2.00
Beryllium	N.D.	0.0790	0.500
Cadmium	N.D.	0.0540	0.500
Chromium	N.D.	0.170	1.50
Copper	N.D.	0.240	1.00
Lead	N.D.	0.600	1.50
Nickel	N.D.	0.150	1.00
Selenium	N.D.	0.930	2.00
Silver	N.D.	0.240	0.500
Thallium	N.D.	1.37	3.00
Zinc	N.D.	0.240	2.00
Batch number: 173340571101	Sample number(s): 9339834,9339839-9339842,9339844-9339845		
Mercury	N.D.	0.0100	0.100
Batch number: 173340571102	Sample number(s): 9339835-9339838,9339843,9339846		
Mercury	N.D.	0.0100	0.100
	mg/l	mg/l	mg/l
Batch number: 173340571302	Sample number(s): 9339851-9339853		
Mercury	0.000051 J	0.000050	0.00020
Batch number: 173350184801	Sample number(s): 9339851-9339853		
Antimony	N.D.	0.0087	0.0200
Arsenic	N.D.	0.0096	0.0200
Beryllium	N.D.	0.0020	0.0050
Cadmium	N.D.	0.0018	0.0050
Chromium	N.D.	0.0033	0.0150
Copper	N.D.	0.0040	0.0100
Lead	N.D.	0.0060	0.0150
Nickel	N.D.	0.0040	0.0100
Selenium	N.D.	0.0093	0.0200

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/29/2017 09:57

Group Number: 1880559

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	mg/l	mg/l	mg/l
Silver	N.D.	0.0024	0.0050
Thallium	N.D.	0.0137	0.0300
Zinc	N.D.	0.0065	0.0200

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: A173392AA									
Sample number(s): 9339835,9339854									
Benzene	0.0200	0.0191	0.0200	0.0190	95	95	80-120	1	30
1,2-Dibromoethane	0.0200	0.0163	0.0200	0.0173	81	86	74-120	6	30
1,2-Dichloroethane	0.0200	0.0173	0.0200	0.0174	86	87	71-128	1	30
Ethylbenzene	0.0200	0.0175	0.0200	0.0183	88	92	80-120	4	30
Isopropylbenzene	0.0200	0.0179	0.0200	0.0178	89	89	76-120	0	30
Methyl Tertiary Butyl Ether	0.0200	0.0159	0.0200	0.0176	79	88	66-123	10	30
Naphthalene	0.0200	0.0148	0.0200	0.0151	74	75	54-132	2	30
Toluene	0.0200	0.0194	0.0200	0.0192	97	96	80-120	1	30
1,2,4-Trimethylbenzene	0.0200	0.0181	0.0200	0.0179	91	89	74-120	1	30
1,3,5-Trimethylbenzene	0.0200	0.0169	0.0200	0.0171	85	86	73-120	1	30
Xylene (Total)	0.0600	0.0512	0.0600	0.0512	85	85	80-120	0	30
Batch number: A173413AA									
Sample number(s): 9339834,9339836,9339839-9339840,9339843,9339846-9339848									
Benzene	0.0200	0.0178	0.0200	0.0173	89	86	80-120	3	30
1,2-Dibromoethane	0.0200	0.0178	0.0200	0.0174	89	87	74-120	2	30
1,2-Dichloroethane	0.0200	0.0176	0.0200	0.0173	88	87	71-128	2	30
Ethylbenzene	0.0200	0.0169	0.0200	0.0162	84	81	80-120	4	30
Isopropylbenzene	0.0200	0.0176	0.0200	0.0171	88	86	76-120	3	30
Methyl Tertiary Butyl Ether	0.0200	0.0161	0.0200	0.0162	80	81	66-123	1	30
Naphthalene	0.0200	0.0146	0.0200	0.0147	73	73	54-132	0	30
Toluene	0.0200	0.0192	0.0200	0.0185	96	92	80-120	4	30
1,2,4-Trimethylbenzene	0.0200	0.0166	0.0200	0.0164	83	82	74-120	1	30
1,3,5-Trimethylbenzene	0.0200	0.0150	0.0200	0.0160	75	80	73-120	7	30
Xylene (Total)	0.0600	0.0517	0.0600	0.0499	86	83	80-120	3	30
Batch number: A173421AA									
Sample number(s): 9339837,9339841-9339842,9339844									
Benzene	0.0200	0.0182	0.0200	0.0180	91	90	80-120	1	30
1,2-Dibromoethane	0.0200	0.0162	0.0200	0.0167	81	83	74-120	3	30
1,2-Dichloroethane	0.0200	0.0172	0.0200	0.0173	86	87	71-128	1	30
Ethylbenzene	0.0200	0.0175	0.0200	0.0177	87	89	80-120	1	30
Isopropylbenzene	0.0200	0.0185	0.0200	0.0180	93	90	76-120	3	30
Methyl Tertiary Butyl Ether	0.0200	0.0144	0.0200	0.0167	72	84	66-123	15	30
Naphthalene	0.0200	0.0136	0.0200	0.0141	68	70	54-132	4	30

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/29/2017 09:57

Group Number: 1880559

LCS/LCSD (continued)

Analysis Name	LCS Spike Added mg/kg	LCS Conc mg/kg	LCSD Spike Added mg/kg	LCSD Conc mg/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Toluene	0.0200	0.0199	0.0200	0.0188	99	94	80-120	5	30
1,2,4-Trimethylbenzene	0.0200	0.0173	0.0200	0.0167	87	84	74-120	3	30
1,3,5-Trimethylbenzene	0.0200	0.0172	0.0200	0.0167	86	84	73-120	3	30
Xylene (Total)	0.0600	0.0531	0.0600	0.0522	88	87	80-120	2	30
Batch number: Q173403AA	Sample number(s): 9339838,9339845								
Benzene	1.00	1.08	1.00	1.08	108	108	80-120	0	30
1,2-Dibromoethane	1.00	0.935	1.00	0.936	94	94	74-120	0	30
1,2-Dichloroethane	1.00	1.05	1.00	1.05	105	105	71-128	0	30
Ethylbenzene	1.00	0.966	1.00	0.944	97	94	80-120	2	30
Isopropylbenzene	1.00	0.942	1.00	0.926	94	93	76-120	2	30
Methyl Tertiary Butyl Ether	1.00	1.04	1.00	1.01	104	101	66-123	2	30
Naphthalene	1.00	0.916	1.00	0.755	92	76	54-132	19	30
Toluene	1.00	1.00	1.00	0.995	100	100	80-120	1	30
1,2,4-Trimethylbenzene	1.00	0.991	1.00	0.946	99	95	74-120	5	30
1,3,5-Trimethylbenzene	1.00	0.972	1.00	0.920	97	92	73-120	6	30
Xylene (Total)	3.00	2.88	3.00	2.84	96	95	80-120	2	30
	ug/l	ug/l	ug/l	ug/l					
Batch number: D173412AA	Sample number(s): 9339849-9339853,9339855								
Benzene	20	18.57			93		78-120		
1,2-Dichloroethane	20	17.59			88		73-124		
Ethylbenzene	20	19.02			95		78-120		
Isopropylbenzene	20	19.71			99		80-120		
Methyl Tertiary Butyl Ether	20	16.79			84		75-120		
Naphthalene	20	16.16			81		59-120		
Toluene	20	19.09			95		80-120		
1,2,4-Trimethylbenzene	20	19.23			96		75-120		
1,3,5-Trimethylbenzene	20	19.28			96		75-120		
Xylene (Total)	60	57.98			97		80-120		
	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 17334SLE026	Sample number(s): 9339834-9339846								
Acenaphthene	1666.67	1604.78			96		78-119		
Acenaphthylene	1666.67	1848.29			111		76-119		
Anthracene	1666.67	1641.55			98		82-118		
Benzo(a)anthracene	1666.67	1550.9			93		76-119		
Benzo(a)pyrene	1666.67	1423.27			85		78-117		
Benzo(b)fluoranthene	1666.67	1373.15			82		74-127		
Benzo(g,h,i)perylene	1666.67	1392.63			84		72-118		
Benzo(k)fluoranthene	1666.67	1483.22			89		71-123		
Chrysene	1666.67	1595.2			96		72-121		
Dibenz(a,h)anthracene	1666.67	1527.87			92		72-129		
Fluoranthene	1666.67	1556.24			93		72-120		

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/29/2017 09:57

Group Number: 1880559

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Fluorene	1666.67	1517.72			91		75-118		
Indeno(1,2,3-cd)pyrene	1666.67	1509.27			91		69-125		
Naphthalene	1666.67	1631.91			98		75-113		
Phenanthrene	1666.67	1598.11			96		74-114		
Pyrene	1666.67	1586			95		74-112		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 17335WAF026	Sample number(s): 9339851-9339852								
Acenaphthene	50	45.63	50	43.13	91	86	68-112	6	30
Acenaphthylene	50	53.22	50	52.05	106	104	67-111	2	30
Anthracene	50	49.36	50	47.77	99	96	73-113	3	30
Benzo(a)anthracene	50	49.92	50	50.67	100	101	74-124	1	30
Benzo(a)pyrene	50	49.19	50	47.72	98	95	70-113	3	30
Benzo(b)fluoranthene	50	51.25	50	51.05	102	102	72-117	0	30
Benzo(g,h,i)perylene	50	39.77	50	36.25	80	72	64-117	9	30
Benzo(k)fluoranthene	50	50.86	50	51.56	102	103	73-121	1	30
Chrysene	50	51.82	50	52.23	104	104	75-120	1	30
Dibenz(a,h)anthracene	50	44.3	50	41.45	89	83	68-121	7	30
Fluoranthene	50	44.01	50	44.8	88	90	75-117	2	30
Fluorene	50	39.89	50	37.56	80	75	68-112	6	30
Indeno(1,2,3-cd)pyrene	50	42.4	50	38.83	85	78	67-117	9	30
Naphthalene	50	41.71	50	40.6	83	81	54-109	3	30
Phenanthrene	50	46.67	50	47.76	93	96	72-110	2	30
Pyrene	50	49.05	50	48.8	98	98	72-109	1	30
	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 173340027A	Sample number(s): 9339834-9339846								
PCB-1016	167	187.97			113		76-121		
PCB-1260	167	179.45			107		79-130		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 173340008A	Sample number(s): 9339851-9339853								
PCB-1016	5.01	4.42			88		60-117		
PCB-1260	5.01	5.09			102		57-134		
	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 173340026A	Sample number(s): 9339834-9339846								
Aldrin	3.33	2.59			78		60-117		
Alpha BHC	3.27	2.72			83		65-124		
Beta BHC	3.27	3.16			97		68-129		
Gamma BHC - Lindane	3.27	2.78			85		47-140		
Alpha Chlordane	3.33	2.81			84		73-131		
Gamma Chlordane	3.33	2.94			88		76-134		
p,p-DDD	6.53	6.83			105		69-138		

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/29/2017 09:57

Group Number: 1880559

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
p,p-DDE	6.60	6.03			91		68-146		
p,p-DDT	6.53	5.63			86		67-135		
Delta BHC	3.27	2.74			84		45-151		
Dieldrin	6.47	6.02			93		63-126		
Endosulfan I	3.27	2.77			85		62-119		
Endosulfan II	6.67	6.35			95		65-126		
Endosulfan Sulfate	6.60	7.04			107		71-132		
Endrin	6.53	6.74			103		65-125		
Endrin Aldehyde	6.60	5.76			87		59-122		
Endrin Ketone	6.60	6.68			101		64-121		
Heptachlor	3.27	2.82			86		66-118		
Heptachlor Epoxide	3.33	2.80			84		74-128		
Methoxychlor	32.8	34.23			104		65-131		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 173340007A	Sample number(s): 9339851-9339853								
Aldrin	0.100	0.0571			57		28-119		
Alpha BHC	0.0980	0.0654			67		47-132		
Beta BHC	0.0980	0.0790			81		56-125		
Gamma BHC - Lindane	0.0980	0.0691			70		51-132		
Alpha Chlordane	0.100	0.0637			64		53-126		
Gamma Chlordane	0.100	0.0673			67		53-130		
p,p-DDD	0.196	0.135			69		42-148		
p,p-DDE	0.198	0.124			63		51-129		
p,p-DDT	0.196	0.149			76		40-145		
Delta BHC	0.0980	0.0689			70		49-140		
Dieldrin	0.194	0.136			70		54-126		
Endosulfan I	0.0980	0.0634			65		40-138		
Endosulfan II	0.200	0.139			69		54-124		
Endosulfan Sulfate	0.198	0.139			70		41-133		
Endrin	0.196	0.135			69		35-143		
Endrin Aldehyde	0.198	0.128			64		40-135		
Endrin Ketone	0.198	0.140			71		44-136		
Heptachlor	0.0980	0.0632			65		38-135		
Heptachlor Epoxide	0.100	0.0673			67		56-132		
Methoxychlor	0.984	0.801			81		39-143		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 173350015A	Sample number(s): 9339849-9339850,9339852-9339853								
Ethylene dibromide	0.128	0.110	0.128	0.108	86	84	60-140	2	20
Batch number: 173450002A	Sample number(s): 9339851								
Ethylene dibromide	0.128	0.125	0.128	0.131	98	102	60-140	5	20

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/29/2017 09:57

Group Number: 1880559

LCS/LCSD (continued)

Analysis Name	LCS Spike Added mg/kg	LCS Conc mg/kg	LCSD Spike Added mg/kg	LCSD Conc mg/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 173340570802	Sample number(s): 9339834-9339844								
Antimony	50	52.39			105		80-120		
Arsenic	15	13.67			91		80-120		
Beryllium	5.00	4.75			95		80-120		
Cadmium	5.00	4.83			97		80-120		
Chromium	20	19.1			95		80-120		
Copper	25	24.8			99		80-120		
Lead	15	14.38			96		80-120		
Nickel	50	49.51			99		80-120		
Selenium	15	14.72			98		80-120		
Silver	5.00	4.33			87		80-120		
Thallium	15	13.67			91		80-120		
Zinc	50	48.82			98		80-120		
Batch number: 173340570803	Sample number(s): 9339845-9339846								
Antimony	50	50.98			102		80-120		
Arsenic	15	14.45			96		80-120		
Beryllium	5.00	4.89			98		80-120		
Cadmium	5.00	5.02			100		80-120		
Chromium	20	18.9			95		80-120		
Copper	25	24.75			99		80-120		
Lead	15	15			100		80-120		
Nickel	50	51.17			102		80-120		
Selenium	15	15.47			103		80-120		
Silver	5.00	4.79			96		80-120		
Thallium	15	13.79			92		80-120		
Zinc	50	50.6			101		80-120		
Batch number: 173340571101	Sample number(s): 9339834,9339839-9339842,9339844-9339845								
Mercury	0.100	0.0836			84		80-120		
Batch number: 173340571102	Sample number(s): 9339835-9339838,9339843,9339846								
Mercury	0.100	0.0910			91		80-120		
	mg/l	mg/l	mg/l	mg/l					
Batch number: 173340571302	Sample number(s): 9339851-9339853								
Mercury	0.00100	0.000847			85		80-120		
Batch number: 173350184801	Sample number(s): 9339851-9339853								
Antimony	0.500	0.511			102		80-120		
Arsenic	0.150	0.154			102		80-120		
Beryllium	0.0500	0.0478			96		80-120		
Cadmium	0.0500	0.0499			100		80-120		
Chromium	0.200	0.197			98		80-120		
Copper	0.250	0.250			100		80-120		

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/29/2017 09:57

Group Number: 1880559

LCS/LCSD (continued)

Analysis Name	LCS Spike Added mg/l	LCS Conc mg/l	LCSD Spike Added mg/l	LCSD Conc mg/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Lead	0.150	0.150			100		80-120		
Nickel	0.500	0.512			102		80-120		
Selenium	0.150	0.139			93		80-120		
Silver	0.0500	0.0468			94		80-120		
Thallium	0.150	0.132			88		80-120		
Zinc	0.500	0.492			98		80-120		
	Std. Units	Std. Units	Std. Units	Std. Units					
Batch number: 17334013202A	Sample number(s): 9339851-9339852								
pH	7.00	6.99			100		95-105		
Batch number: 17338039401B	Sample number(s): 9339834								
pH	7.00	6.94			99		95-105		
Batch number: 17338039402A	Sample number(s): 9339835-9339843								
pH	7.00	7.00			100		95-105		
Batch number: 17338039402B	Sample number(s): 9339844-9339846								
pH	7.00	7.00			100		95-105		
	%	%	%	%					
Batch number: 17339820005A	Sample number(s): 9339834-9339835,9339837-9339842								
Moisture	89.5	89.41			100		99-101		
Batch number: 17339820005B	Sample number(s): 9339843-9339848								
Moisture	89.5	89.41			100		99-101		
Batch number: 17340820011A	Sample number(s): 9339836								
Moisture	89.5	89.43			100		99-101		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: A173421AA	Sample number(s): 9339837,9339841-9339842,9339844 UNSPK: P339820									
Benzene	N.D.	0.0195	0.0202	0.0200	0.0207	103	103	80-120	2	30
1,2-Dibromoethane	N.D.	0.0195	0.0195	0.0200	0.0192	100	96	74-120	1	30
1,2-Dichloroethane	N.D.	0.0195	0.0198	0.0200	0.0207	101	103	71-128	5	30
Ethylbenzene	N.D.	0.0195	0.0192	0.0200	0.0186	98	93	80-120	3	30
Isopropylbenzene	N.D.	0.0195	0.0200	0.0200	0.0194	102	97	76-120	3	30

*- Outside of specification

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(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/29/2017 09:57

Group Number: 1880559

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Methyl Tertiary Butyl Ether	N.D.	0.0195	0.0193	0.0200	0.0199	99	100	66-123	3	30
Naphthalene	N.D.	0.0195	0.0104	0.0200	0.0110	53*	55	54-132	5	30
Toluene	N.D.	0.0195	0.0222	0.0200	0.0218	114	109	80-120	2	30
1,2,4-Trimethylbenzene	N.D.	0.0195	0.0207	0.0200	0.0208	106	104	74-120	0	30
1,3,5-Trimethylbenzene	N.D.	0.0195	0.0206	0.0200	0.0209	106	104	73-120	1	30
Xylene (Total)	N.D.	0.0586	0.0577	0.0600	0.0567	98	94	80-120	2	30
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: D173412AA	Sample number(s): 9339849-9339853,9339855 UNSPK: P346138									
Benzene	N.D.	20	20.08	20	20.32	100	102	78-120	1	30
1,2-Dichloroethane	N.D.	20	17.95	20	18.16	90	91	73-124	1	30
Ethylbenzene	4.14	20	24.8	20	25.45	103	107	78-120	3	30
Isopropylbenzene	N.D.	20	21.51	20	21.64	108	108	80-120	1	30
Methyl Tertiary Butyl Ether	N.D.	20	16.9	20	16.9	84	85	75-120	0	30
Naphthalene	N.D.	20	16.07	20	16.76	80	84	59-120	4	30
Toluene	2.36	20	22.6	20	23.09	101	104	80-120	2	30
1,2,4-Trimethylbenzene	3.53	20	23.97	20	24.89	102	107	75-120	4	30
1,3,5-Trimethylbenzene	1.16	20	22.08	20	22.38	105	106	75-120	1	30
Xylene (Total)	13.96	60	76.2	60	78.56	104	108	80-120	3	30
	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 17334SLE026	Sample number(s): 9339834-9339846 UNSPK: P337645									
Acenaphthene	N.D.	1655.63	1663.6	1666.67	1605	100	96	78-119	4	30
Acenaphthylene	N.D.	1655.63	1969.47	1666.67	1830.02	119	110	76-119	7	30
Anthracene	N.D.	1655.63	1641.86	1666.67	1550.8	99	93	82-118	6	30
Benzo(a)anthracene	N.D.	1655.63	1408.16	1666.67	1407.32	85	84	76-119	0	30
Benzo(a)pyrene	N.D.	1655.63	1309.42	1666.67	1297.83	79	78	78-117	1	30
Benzo(b)fluoranthene	N.D.	1655.63	1308.65	1666.67	1246.89	79	75	74-127	5	30
Benzo(g,h,i)perylene	N.D.	1655.63	1209.98	1666.67	1219.2	73	73	72-118	1	30
Benzo(k)fluoranthene	N.D.	1655.63	1317.98	1666.67	1271.87	80	76	71-123	4	30
Chrysene	N.D.	1655.63	1474.6	1666.67	1444.03	89	87	72-121	2	30
Dibenz(a,h)anthracene	N.D.	1655.63	1350.13	1666.67	1346.16	82	81	72-129	0	30
Fluoranthene	N.D.	1655.63	1355.24	1666.67	1317.68	82	79	72-120	3	30
Fluorene	N.D.	1655.63	1536.03	1666.67	1480.83	93	89	75-118	4	30
Indeno(1,2,3-cd)pyrene	N.D.	1655.63	1331.82	1666.67	1327.87	80	80	69-125	0	30
Naphthalene	N.D.	1655.63	1522.88	1666.67	1504.44	92	90	75-113	1	30
Phenanthrene	3.71	1655.63	1585.69	1666.67	1531.96	96	92	74-114	3	30
Pyrene	N.D.	1655.63	1447.5	1666.67	1458.04	87	87	74-112	1	30
	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 173340027A	Sample number(s): 9339834-9339846 UNSPK: 9339842									
PCB-1016	N.D.	167	209.6	166	210.94	126*	127*	76-121	1	50

*- Outside of specification

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(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/29/2017 09:57

Group Number: 1880559

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
PCB-1260	N.D.	167	194.46	166	174.5	116	105	79-130	11	50
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: 173340008A	Sample number(s): 9339851-9339853 UNSPK: P337639									
PCB-1016	N.D.	5.18	4.18	5.40	2.66	81	49*	60-117	45*	30
PCB-1260	N.D.	5.18	4.86	5.40	3.12	94	58	57-134	44*	30
	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 173340026A	Sample number(s): 9339834-9339846 UNSPK: 9339834									
Aldrin	N.D.	3.32	2.50	3.33	2.64	75	79	60-117	5	50
Alpha BHC	N.D.	3.26	1.42	3.26	1.95	44*	60*	65-124	31	50
Beta BHC	N.D.	3.26	2.82	3.26	3.23	86	99	68-129	14	50
Gamma BHC - Lindane	N.D.	3.26	1.42	3.26	2.19	44*	67	47-140	43	50
Alpha Chlordane	N.D.	3.32	3.07	3.33	3.16	92	95	73-131	3	50
Gamma Chlordane	N.D.	3.32	3.32	3.33	3.02	100	91	76-134	9	50
p,p-DDD	N.D.	6.52	5.90	6.52	6.12	90	94	69-138	4	50
p,p-DDE	N.D.	6.58	7.16	6.59	8.13	109	123	68-146	13	50
p,p-DDT	N.D.	6.52	6.61	6.52	9.57	101	147*	67-135	37	50
Delta BHC	N.D.	3.26	0.810	3.26	1.60	25*	49	45-151	65*	50
Dieldrin	N.D.	6.45	5.86	6.46	6.27	91	97	63-126	7	50
Endosulfan I	N.D.	3.26	0.990	3.26	1.51	30*	46*	62-119	42	50
Endosulfan II	N.D.	6.65	2.59	6.66	4.55	39*	68	65-126	55*	50
Endosulfan Sulfate	N.D.	6.58	4.85	6.59	5.70	74	86	71-132	16	50
Endrin	N.D.	6.52	6.32	6.52	6.68	97	103	65-125	6	50
Endrin Aldehyde	N.D.	6.58	4.73	6.59	6.24	72	95	59-122	27	35
Endrin Ketone	N.D.	6.58	5.93	6.59	6.13	90	93	64-121	3	50
Heptachlor	N.D.	3.26	2.85	3.26	2.92	87	90	66-118	2	50
Heptachlor Epoxide	N.D.	3.32	3.34	3.33	3.07	101	92	74-128	8	50
Methoxychlor	N.D.	32.7	32.67	32.8	33.86	100	103	65-131	4	50
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: 173340007A	Sample number(s): 9339851-9339853 UNSPK: P337639									
Aldrin	N.D.	0.105	0.0995	0.111	0.0836	95	75	28-119	17	30
Alpha BHC	N.D.	0.102	0.110	0.108	0.0899	108	83	47-132	21	30
Beta BHC	N.D.	0.102	0.0975	0.108	0.124	96	114	56-125	24	30
Gamma BHC - Lindane	N.D.	0.102	0.110	0.108	0.0925	108	86	51-132	18	30
Alpha Chlordane	N.D.	0.105	0.103	0.111	0.0917	98	83	53-126	11	30
Gamma Chlordane	N.D.	0.105	0.119	0.111	0.0976	113	88	53-130	20	30
p,p-DDD	N.D.	0.205	0.219	0.217	0.191	107	88	67-123	14	30
p,p-DDE	N.D.	0.207	0.216	0.219	0.188	104	86	51-129	14	30
p,p-DDT	N.D.	0.205	0.254	0.217	0.221	124*	102	66-119	14	30
Delta BHC	N.D.	0.102	0.111	0.108	0.0921	109	85	76-126	19	30

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(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/29/2017 09:57

Group Number: 1880559

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Dieldrin	N.D.	0.203	0.219	0.215	0.189	108	88	54-126	15	30
Endosulfan I	N.D.	0.102	0.103	0.108	0.0885	101	82	40-138	15	30
Endosulfan II	N.D.	0.209	0.220	0.221	0.193	105	87	54-124	13	30
Endosulfan Sulfate	N.D.	0.207	0.232	0.219	0.203	112	93	41-133	14	30
Endrin	N.D.	0.205	0.218	0.217	0.189	106	87	35-143	14	30
Endrin Aldehyde	N.D.	0.207	0.200	0.219	0.177	97	81	40-135	12	20
Endrin Ketone	N.D.	0.207	0.227	0.219	0.198	110	90	44-136	14	30
Heptachlor	N.D.	0.102	0.106	0.108	0.0902	104	84	38-135	16	30
Heptachlor Epoxide	N.D.	0.105	0.107	0.111	0.0912	101	82	56-132	15	30
Methoxychlor	N.D.	1.03	1.27	1.09	1.10	123	101	39-143	14	30
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: 173350015A	Sample number(s): 9339849-9339850,9339852-9339853 UNSPK: 9339849									
Ethylene dibromide	N.D.	0.123	0.0996			81		60-140		
Batch number: 173450002A	Sample number(s): 9339851 UNSPK: P352692									
Ethylene dibromide	N.D.	0.121	0.113	0.120	0.118	94	99	60-140	4	20
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 173340570802	Sample number(s): 9339834-9339844 UNSPK: P339820									
Antimony	N.D.	48.08	38.95	45.45	35.16	81	77	75-125	10	20
Arsenic	8.37	14.42	22.36	13.64	20.58	97	89	75-125	8	20
Beryllium	0.590	4.81	5.28	4.55	4.95	97	96	75-125	6	20
Cadmium	0.0964	4.81	4.60	4.55	4.19	94	90	75-125	9	20
Chromium	16.47	19.23	40	18.18	37.57	122	116	75-125	6	20
Copper	15.12	24.04	41.64	22.73	39.57	110	108	75-125	5	20
Lead	21.26	14.42	38.25	13.64	40.52	118	141*	75-125	6	20
Nickel	22.85	48.08	70.28	45.45	68.51	99	100	75-125	3	20
Selenium	N.D.	14.42	13.82	13.64	12.29	96	90	75-125	12	20
Silver	N.D.	4.81	4.07	4.55	3.74	85	82	75-125	9	20
Thallium	N.D.	14.42	14.16	13.64	13.16	98	97	75-125	7	20
Zinc	68.45	48.08	113.65	45.45	119.45	94	112	75-125	5	20
Batch number: 173340570803	Sample number(s): 9339845-9339846 UNSPK: P339165									
Antimony	N.D.	45.87	37.66	46.3	37.73	82	82	75-125	0	20
Arsenic	2.67	13.76	17.09	13.89	17.5	105	107	75-125	2	20
Beryllium	0.309	4.59	4.78	4.63	4.75	97	96	75-125	1	20
Cadmium	N.D.	4.59	4.30	4.63	4.32	94	93	75-125	0	20
Chromium	10.32	18.35	31.29	18.52	31.58	114	115	75-125	1	20
Copper	11.9	22.94	35.33	23.15	40.39	102	123	75-125	13	20
Lead	62.08	13.76	115.39	13.89	55.98	387 (2)	-44 (2)	75-125	69*	20
Nickel	9.52	45.87	53.39	46.3	55.9	96	100	75-125	5	20
Selenium	N.D.	13.76	14.18	13.89	13.27	103	96	75-125	7	20

*- Outside of specification

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(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/29/2017 09:57

Group Number: 1880559

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Silver	0.259	4.59	4.54	4.63	4.53	93	92	75-125	0	20
Thallium	N.D.	13.76	11.77	13.89	11.74	86	85	75-125	0	20
Zinc	69.82	45.87	113.62	46.3	147.65	95	168*	75-125	26*	20
Batch number: 173340571101	Sample number(s): 9339834,9339839-9339842,9339844-9339845 UNSPK: P337632									
Mercury	0.0492	0.167	0.194	0.154	0.171	87	79*	80-120	12	20
Batch number: 173340571102	Sample number(s): 9339835-9339838,9339843,9339846 UNSPK: P339174									
Mercury	0.00942	0.156	0.153	0.159	0.157	92	93	80-120	2	20
	mg/l	mg/l	mg/l	mg/l	mg/l					
Batch number: 173340571302	Sample number(s): 9339851-9339853 UNSPK: P337639									
Mercury	N.D.	0.00100	0.000906	0.00100	0.000878	91	88	80-120	3	20
Batch number: 173350184801	Sample number(s): 9339851-9339853 UNSPK: P342587									
Antimony	N.D.	0.500	0.450	0.500	0.482	90	96	75-125	7	20
Arsenic	0.141	0.150	0.367	0.150	0.324	151*	122	75-125	13	20
Beryllium	0.0198	0.0500	0.0716	0.0500	0.0685	104	97	75-125	4	20
Cadmium	N.D.	0.0500	0.0490	0.0500	0.0499	98	100	75-125	2	20
Chromium	0.0684	0.200	0.233	0.200	0.235	82	83	75-125	1	20
Copper	2.29	0.250	3.32	0.250	2.96	410 (2)	269 (2)	75-125	11	20
Lead	0.501	0.150	0.720	0.150	0.679	146*	118	75-125	6	20
Nickel	0.145	0.500	0.644	0.500	0.616	100	94	75-125	4	20
Selenium	N.D.	0.150	0.141	0.150	0.0897	94	60*	75-125	44*	20
Silver	N.D.	0.0500	0.0420	0.0500	0.0423	84	85	75-125	1	20
Thallium	N.D.	0.150	0.0943	0.150	0.109	63*	72*	75-125	14	20
Zinc	0.659	0.500	1.39	0.500	1.23	147*	113	75-125	13	20

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc ug/l	DUP Conc ug/l	DUP RPD	DUP RPD Max
Batch number: 173350015A	Sample number(s): 9339849-9339850,9339852-9339853 BKG: 9339852			
Ethylene dibromide	N.D.	N.D.	0 (1)	30
	mg/kg	mg/kg		
Batch number: 173340570802	Sample number(s): 9339834-9339844 BKG: P339820			
Antimony	N.D.	N.D.	0 (1)	20
Arsenic	8.37	8.73	4 (1)	20

*- Outside of specification

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P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/29/2017 09:57

Group Number: 1880559

Laboratory Duplicate (continued)

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/kg	DUP Conc mg/kg	DUP RPD	DUP RPD Max
Beryllium	0.590	0.603	2 (1)	20
Cadmium	0.0964	N.D.	200* (1)	20
Chromium	16.47	16.7	1	20
Copper	15.12	14.99	1	20
Lead	21.26	21.19	0	20
Nickel	22.85	22.11	3	20
Selenium	N.D.	N.D.	0 (1)	20
Silver	N.D.	N.D.	0 (1)	20
Thallium	N.D.	N.D.	0 (1)	20
Zinc	68.45	59.81	13	20
Batch number: 173340570803 Sample number(s): 9339845-9339846 BKG: P339165				
Antimony	N.D.	N.D.	0 (1)	20
Arsenic	2.67	3.09	15 (1)	20
Beryllium	0.309	0.486	45* (1)	20
Cadmium	N.D.	N.D.	0 (1)	20
Chromium	10.32	9.50	8	20
Copper	11.9	10.87	9	20
Lead	62.08	42.39	38*	20
Nickel	9.52	8.71	9	20
Selenium	N.D.	N.D.	0 (1)	20
Silver	0.259	N.D.	200* (1)	20
Thallium	N.D.	N.D.	0 (1)	20
Zinc	69.82	80.68	14	20
Batch number: 173340571101 Sample number(s): 9339834,9339839-9339842,9339844-9339845 BKG: P337632				
Mercury	0.0492	0.0588	18 (1)	20
Batch number: 173340571102 Sample number(s): 9339835-9339838,9339843,9339846 BKG: P339174				
Mercury	0.00942	N.D.	200* (1)	20
Batch number: 173340571302 Sample number(s): 9339851-9339853 BKG: P337639				
Mercury	N.D.	N.D.	0 (1)	20
Batch number: 173350184801 Sample number(s): 9339851-9339853 BKG: P342587				
Antimony	N.D.	N.D.	0 (1)	20
Arsenic	0.141	0.136	3 (1)	20
Beryllium	0.0198	0.0181	9 (1)	20
Cadmium	N.D.	N.D.	0 (1)	20
Chromium	0.0684	0.0604	12 (1)	20
Copper	2.29	2.07	10	20
Lead	0.501	0.450	11	20
Nickel	0.145	0.137	6 (1)	20
Selenium	N.D.	N.D.	0 (1)	20

*- Outside of specification

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/29/2017 09:57

Group Number: 1880559

Laboratory Duplicate (continued)

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/l	DUP Conc mg/l	DUP RPD	DUP RPD Max
Silver	N.D.	N.D.	0 (1)	20
Thallium	N.D.	N.D.	0 (1)	20
Zinc	0.659	0.626	5	20
	Degrees C	Degrees C		
Batch number: 17334013202A Temperature of pH	Sample number(s): 9339851-9339852 BKG: P333714 21.74	21.69	0	5
	Std. Units	Std. Units		
Batch number: 17334013202A pH	Sample number(s): 9339851-9339852 BKG: P333714 6.71	6.73	0	4
Batch number: 17338039401B pH	Sample number(s): 9339834 BKG: P337632 8.03	7.96	1	3
Batch number: 17338039402A pH	Sample number(s): 9339835-9339843 BKG: P337644 7.76	7.75	0	3
Batch number: 17338039402B pH	Sample number(s): 9339844-9339846 BKG: 9339845 7.56	7.59	0	3
	%	%		
Batch number: 17339820005A Moisture	Sample number(s): 9339834-9339835,9339837-9339842 BKG: P339836 14.23	10.5	30*	5
Batch number: 17339820005B Moisture	Sample number(s): 9339843-9339848 BKG: 9339843 6.87	6.78	1	5
Batch number: 17340820011A Moisture	Sample number(s): 9339836 BKG: 9339836 12.49	11.4	9*	5

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report. For dual column analyses, the surrogate (at least one surrogate for multi-surrogate tests) must be within the acceptance limits on at least one of the two columns.

Analysis Name: PA UST Leaded/Unleaded VOCs
Batch number: A173392AA

*- Outside of specification

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/29/2017 09:57

Group Number: 1880559

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report. For dual column analyses, the surrogate (at least one surrogate for multi-surrogate tests) must be within the acceptance limits on at least one of the two columns.

Analysis Name: PA UST Leaded/Unleaded VOCs
Batch number: A173392AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9339835	104	107	111	97
9339854	102	108	103	91
Blank	103	102	111	98
LCS	102	102	105	98
LCSD	102	101	105	98
Limits:	50-141	54-135	52-141	50-131

Analysis Name: PA UST Leaded/Unleaded VOCs
Batch number: A173413AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9339834	101	107	107	97
9339836	106	105	134	72
9339839	100	107	138	78
9339840	102	97	128	83
9339843	104	104	115	84
9339846	105	103	120	77
9339847	104	108	111	88
9339848	103	98	110	95
Blank	100	98	108	100
LCS	102	101	111	106
LCSD	101	100	111	102
Limits:	50-141	54-135	52-141	50-131

Analysis Name: PA UST Leaded/Unleaded VOCs
Batch number: A173421AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9339837	108	104	108	96
9339841	106	103	118	88
9339842	108	105	110	100
9339844	107	103	106	93
Blank	103	101	108	102
LCS	101	99	111	101
LCSD	103	99	111	109
MS	105	103	113	99
MSD	102	103	109	96
Limits:	50-141	54-135	52-141	50-131

*- Outside of specification

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/29/2017 09:57

Group Number: 1880559

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report. For dual column analyses, the surrogate (at least one surrogate for multi-surrogate tests) must be within the acceptance limits on at least one of the two columns.

Analysis Name: VOCs- 5ml Water by 8260B UST
Batch number: D173412AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9339849	98	98	100	91
9339850	97	97	99	91
9339851	97	95	99	91
9339852	97	96	99	91
9339853	98	96	99	91
9339855	97	96	100	92
Blank	96	96	100	91
LCS	94	97	100	97
MS	94	97	101	97
MSD	95	97	100	97
Limits:	80-120	80-120	80-120	80-120

Analysis Name: PA UST Leaded/Unleaded VOCs
Batch number: Q173403AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9339838	78	85	75	63
9339845	84	92	82	71
Blank	111	121	110	99
LCS	104	111	101	91
LCSD	104	111	102	90
Limits:	50-141	54-135	52-141	50-131

Analysis Name: PAH 8270 (microwave)
Batch number: 17334SLE026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
9339834	67	96	97
9339835	67	99	96
9339836	63	91	86
9339837	66	98	96
9339838	65	91	94
9339839	58	86	81
9339840	68	102	100
9339841	49	101	95
9339842	69	97	98
9339843	70	102	97
9339844	72	92	96
9339845	70	100	96

*- Outside of specification

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/29/2017 09:57

Group Number: 1880559

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report. For dual column analyses, the surrogate (at least one surrogate for multi-surrogate tests) must be within the acceptance limits on at least one of the two columns.

Analysis Name: PAH 8270 (microwave)
Batch number: 17334SLE026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
9339846	63	84	69
Blank	76	96	97
LCS	74	92	98
MS	67	104	98
MSD	65	99	95
Limits:	49-118	57-116	55-118

Analysis Name: PAHs 8270C MINI
Batch number: 17335WAF026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
9339851	64	91	47
9339852	55	77	48
Blank	48	72	64
LCS	68	95	81
LCSD	67	94	81
Limits:	40-113	46-104	35-119

Analysis Name: OC Pesticides in Water
Batch number: 173340007A

	Tetrachloro-m-xylene-D1	Decachlorobiphenyl-D1	Tetrachloro-m-xylene-D2	Decachlorobiphenyl-D2
9339851	65	76	61	79
9339852	79	56	76	50
9339853	50	35	51	33
Blank	62	57	53	52
LCS	60	39	53	29*
MS	95	102	87	90
MSD	75	84	66	71
Limits:	29-129	32-149	29-129	32-149

Analysis Name: PCBs in Water
Batch number: 173340008A

	Tetrachloro-m-xylene-D1	Decachlorobiphenyl-D1	Tetrachloro-m-xylene-D2	Decachlorobiphenyl-D2
9339851	78	68	78	69
9339852	59	33	61	35
9339853	91	50	91	54
Blank	41	32	41	33

*- Outside of specification

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/29/2017 09:57

Group Number: 1880559

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report. For dual column analyses, the surrogate (at least one surrogate for multi-surrogate tests) must be within the acceptance limits on at least one of the two columns.

Analysis Name: PCBs in Water
Batch number: 173340008A

	Tetrachloro-m-xylene-D1	Decachlorobiphenyl-D1	Tetrachloro-m-xylene-D2	Decachlorobiphenyl-D2
LCS	84	79	87	84
MS	79	81	81	84
MSD	48	51	47	56
Limits:	33-137	10-148	33-137	10-148

Analysis Name: Pesticides in Soil (microwave)
Batch number: 173340026A

	Tetrachloro-m-xylene-D1	Decachlorobiphenyl-D1	Tetrachloro-m-xylene-D2	Decachlorobiphenyl-D2
9339834	82	101	68	100
9339835	71	107	59	90
9339836	93	142	83	115
9339837	63	128	54	104
9339838	81	105	75	110
9339839	165*	114	73	136
9339840	79	98	65	90
9339841	68	90	67	98
9339842	90	107	77	94
9339843	65	105	55	91
9339844	76	123	64	102
9339845	110	262*	90	286*
9339846	43	80	37	70
Blank	54	101	47	107
LCS	57	98	47	84
MS	73	91	59	78
MSD	77	88	63	79
Limits:	26-145	39-152	26-145	39-152

Analysis Name: PCBs in Soil (microwave)
Batch number: 173340027A

	Tetrachloro-m-xylene-D1	Decachlorobiphenyl-D1	Tetrachloro-m-xylene-D2	Decachlorobiphenyl-D2
9339834	120	101	112	92
9339835	119	95	111	87
9339836	97	99	94	117
9339837	97	89	95	77
9339838	79	96	81	209*
9339839	64	77	62	179*
9339840	85	77	85	94

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/29/2017 09:57

Group Number: 1880559

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report. For dual column analyses, the surrogate (at least one surrogate for multi-surrogate tests) must be within the acceptance limits on at least one of the two columns.

Analysis Name: PCBs in Soil (microwave)
Batch number: 173340027A

	Tetrachloro-m-xylene-D1	Decachlorobiphenyl-D1	Tetrachloro-m-xylene-D2	Decachlorobiphenyl-D2
9339841	99	88	96	129
9339842	113	90	104	89
9339843	110	102	104	91
9339844	120	94	115	91
9339845	66	56	66	53
9339846	83	71	83	65
Blank	117	87	111	85
LCS	117	94	113	88
MS	111	100	109	94
MSD	103	94	101	94
Limits:	53-140	45-143	53-140	45-143

Analysis Name: 8011 Master Master
Batch number: 173350015A

	1,1,2,2-Tetrachloroethane-D1	1,1,2,2-Tetrachloroethane-D2
9339849	80	80
9339850	82	81
9339852	121	104
9339853	116	125
Blank	78	79
DUP	113	101
LCS	81	83
LCSD	81	79
MS	78	78
Limits:	46-136	46-136

Analysis Name: 8011 Master Master
Batch number: 173450002A

	1,1,2,2-Tetrachloroethane-D1	1,1,2,2-Tetrachloroethane-D2
9339851	95	102
Blank	99	102
LCS	100	101
LCSD	102	101
MS	97	100
MSD	103	102
Limits:	46-136	46-136

*- Outside of specification

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/29/2017 09:57

Group Number: 1880559

*- Outside of specification

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Environmental Analysis Request/Chain of Custody



Lancaster Laboratories Environmental

For Eurofins Lancaster Laboratories Environmental use only

Acct. # 4549 Group # 1880559 Sample # 9339834-57

COC # 539466

Client Information				Matrix				Analysis Requested										For Lab Use Only														
Client: <u>Brightfields, Inc.</u>		Acct. #:		<input type="checkbox"/> Potable	<input type="checkbox"/> Sediment	<input type="checkbox"/> Tissue	<input type="checkbox"/> Ground	<input type="checkbox"/> Surface	Preservation Codes										FSC: _____	SCR#: <u>216063</u>												
Project Name/#: <u>APS Recycling</u>		PWSID #:							<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>PADEP Petroleum Short List</td> <td>PAHs</td> <td>pH</td> <td>PPL Metals</td> <td>Asbestos</td> <td>TCC Pesticides</td> <td>PbBs</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>										PADEP Petroleum Short List	PAHs	pH	PPL Metals	Asbestos	TCC Pesticides	PbBs							
PADEP Petroleum Short List	PAHs	pH	PPL Metals	Asbestos	TCC Pesticides	PbBs																										
Project Manager: <u>Victoria Bisbing</u>		P.O. #:		<input type="checkbox"/> Water	<input type="checkbox"/> NPDES	Other:	Total # of Containers											Remarks														
Sampler: <u>James Thompson</u>		Quote #:																<u>1 of 3</u>														
State where samples were collected: <u>Pennsylvania</u>		For Compliance: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		Grab	Composite	Sample Identification		Collected																								
						Date	Time																									
<u>APS-6P04-5001</u>		<u>11/27/17</u>	<u>1615</u>	X		X	3	X	X	X	X	X	X	X	X																	
<u>APS-6P04-5002</u>		<u>11/27/17</u>	<u>1625</u>	X		X	3	X	X	X	X	X	X	X	X																	
<u>APS-6P05-5001</u>		<u>11/28/17</u>	<u>0815</u>	X		X	3	X	X	X	X	X	X	X	X																	
<u>APS-6P05-5002</u>		<u>11/28/17</u>	<u>0830</u>	X		X	3	X	X	X	X	X	X	X	X																	
<u>APS-6P06-5001</u>		<u>11/28/17</u>	<u>0845</u>	X		X	3	X	X	X	X	X	X	X	X																	
<u>APS-6P06-5002</u> ⁵¹⁰¹		<u>11/28/17</u>	<u>0847</u>	X		X	3	X	X	X	X	X	X	X	X																	
<u>APS-6P06-5007</u>		<u>11/28/17</u>	<u>0930</u>	X		X	3	X	X	X	X	X	X	X	X																	
<u>APS-6P08-5001</u>		<u>11/28/17</u>	<u>0940</u>	X		X	3	X	X	X	X	X	X	X	X																	
<u>APS-6P08-5002</u>		<u>11/28/17</u>	<u>0950</u>	X		X	3	X	X	X	X	X	X	X	X																	
<u>APS-6P08-5001</u>		<u>11/28/17</u>	<u>1000</u>	X		X	3	X	X	X	X	X	X	X	X																	

Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: _____

E-mail address: _____

Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP)	Type VI (Raw Data Only)
Type III (Reduced non-CLP)	NJ DKQP TX TRRP-13
NYSDEC Category A or B	MA MCP CT RCP

Relinquished by: <u>Bottle Storage</u>	Date: <u>11-29-17</u>	Time: <u>1230</u>	Received by: <u>Jacob</u>	Date: <u>11/29/17</u>	Time: <u>1230</u>
Relinquished by: <u>[Signature]</u>	Date: <u>11/29/17</u>	Time: <u>1257</u>	Received by: <u>[Signature]</u>	Date: <u>11/29/17</u>	Time: <u>1257</u>
Relinquished by: _____	Date: _____	Time: _____	Received by: _____	Date: _____	Time: _____
Relinquished by: _____	Date: _____	Time: _____	Received by: _____	Date: _____	Time: _____
Relinquished by: <u>[Signature]</u>	Date: <u>11/29/17</u>	Time: <u>1635</u>	Received by: <u>[Signature]</u>	Date: <u>11/29/17</u>	Time: <u>1635</u>

EDD Required? Yes No

If yes, format: _____

Relinquished by Commercial Carrier: UPS _____ FedEx _____ Other _____

Site-Specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate sample volume.)

Temperature upon receipt: 0.3-1.5 °C

Environmental Analysis Request/Chain of Custody



Lancaster Laboratories Environmental

For Eurofins Lancaster Laboratories Environmental use only

Acct. # 4549 Group # 1880559 Sample # 9339834-57

COC # 539467

Client Information				Matrix				Analysis Requested										For Lab Use Only							
Client: <u>Brightfields, Inc.</u>		Acct. #:		<input type="checkbox"/> Tissue <input checked="" type="checkbox"/> Ground <input type="checkbox"/> Surface		<input type="checkbox"/> Potable <input type="checkbox"/> NPDES <input type="checkbox"/> Water		<input type="checkbox"/> Sediment <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Other:		Total # of Containers		Preservation Codes										FSC: _____	SCR#: _____		
Project Name/#: <u>APS Recycling</u>		PWSID #:										PAHs PH PPL Metals Asbestos TCLL Pesticides PCBs										Preservation Codes H=HCl T=Thiosulfate N=HNO ₃ B=NaOH S=H ₂ SO ₄ O=Other			
Project Manager: <u>Victoria Bishop</u>		P.O. #:		Remarks <div style="font-size: 2em; text-align: center;">2 of 3</div>																					
Sampler: <u>James Thompson</u>		Quote #:																							
State where samples were collected: <u>Pennsylvania</u>		For Compliance: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		Sample Identification																					
Date		Time																							
Sample Identification		Collected		Grab		Composite		Soil		Water		Other:		Total # of Containers		PAHs PH PPL Metals Asbestos TCLL Pesticides PCBs									
<u>APS-6108-5002</u>		<u>11/28/17 1015</u>		<u>X</u>				<u>X</u>				<u>3</u>		<u>X X X X X X X</u>											
<u>APS-6109-5001</u>		<u>11/28/17 1030</u>		<u>X</u>				<u>X</u>				<u>3</u>		<u>X X X X X X X</u>											
<u>APS-6109-5002</u>		<u>11/28/17 1045</u>		<u>X</u>				<u>X</u>				<u>3</u>		<u>X X X X X X X</u>											
<u>APS-6110-5001</u>		<u>11/28/17 1120</u>		<u>X</u>				<u>X</u>				<u>3</u>		<u>X</u>											
<u>APS-6110-5002</u>		<u>11/29/17 1140</u>		<u>X</u>				<u>X</u>				<u>3</u>		<u>X</u>											
<u>APS-6107-1001</u>		<u>11/28/17 1150</u>		<u>X</u>						<u>X</u>		<u>5</u>		<u>X</u>											
<u>APS-6107-1101</u>		<u>11/28/17 1152</u>		<u>X</u>						<u>X</u>		<u>5</u>		<u>X</u>											
<u>APS-6105-1001</u>		<u>11/28/17 1210</u>		<u>X</u>						<u>X</u>		<u>12</u>		<u>X X X X X X X</u>											
<u>APS-6106-1001</u>		<u>11/28/17 1240</u>		<u>X</u>						<u>X</u>		<u>12</u>		<u>X X X X X X X</u>											
<u>APS-6110-1001</u>		<u>11/28/17 1315</u>		<u>X</u>						<u>X</u>		<u>7</u>		<u>X X X X X X X</u>											
Turnaround Time (TAT) Requested (please circle) <input checked="" type="radio"/> Standard <input type="radio"/> Rush (Rush TAT is subject to laboratory approval and surcharge.)				Relinquished by: <u>[Signature]</u>		Date: <u>11/29/17</u>		Time: <u>1257</u>		Received by: <u>[Signature]</u>		Date: <u>11/29/17</u>		Time: <u>1257</u>											
Date results are needed: _____				Relinquished by: _____		Date: _____		Time: _____		Received by: _____		Date: _____		Time: _____											
E-mail address: _____				Relinquished by: _____		Date: _____		Time: _____		Received by: _____		Date: _____		Time: _____											
Data Package Options (circle if required)				Relinquished by: <u>[Signature]</u>		Date: <u>11/29/17</u>		Time: <u>1635</u>		Received by: <u>[Signature]</u>		Date: <u>11/29/17</u>		Time: <u>1635</u>											
Type I (EPA Level 3 Equivalent/non-CLP)		Type VI (Raw Data Only)		EDD Required? Yes No				Relinquished by Commercial Carrier:																	
Type III (Reduced non-CLP)		NJ DKQP TX TRRP-13		If yes, format: _____				UPS _____ FedEx _____ Other _____																	
NYSDEC Category A or B		MA MCP CT RCP		Site-Specific QC (MS/MSD/Dup)? Yes No				Temperature upon receipt: <u>0.3-1.5</u> °C																	
				(If yes, indicate QC sample and submit triplicate sample volume.)																					



Client: Brightfields, Inc

Delivery and Receipt Information

Delivery Method: ELLE Courier Arrival Timestamp: 11/29/2017 16:35
 Number of Packages: 3 Number of Projects: 3
 State/Province of Origin: PA

Arrival Condition Summary

Shipping Container Sealed:	No	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	No	Sample Date/Times match COC:	Yes
Samples Chilled:	Yes	VOA Vial Headspace ≥ 6mm:	No
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	10
Samples Intact:	Yes	Trip Blank Type:	See Below
Missing Samples:	No	Air Quality Samples Present:	No
Extra Samples:	No		
Discrepancy in Container Qty on COC:	Yes		

Trip Blank Type(s): 1-MeOH, 1-NaHSO4, 8 HCl

Unpacked by Cory Jeremiah (10469) at 18:29 on 11/29/2017

Samples Chilled Details

Thermometer Types: *DT = Digital (Temp. Bottle)* *IR = Infrared (Surface Temp)* All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT146	0.3	DT	Wet	Y	Bagged	N
2	DT146	1.5	DT	Wet	Y	Bagged	N
3	DT146	1.4	DT	Wet	Y	Bagged	N

Container Quantity Discrepancy Details

Sample ID on COC	Container Qty. Received	Container Qty. on COC	Comments
APS-GP10-W301	5	2	
APS-GP10-S301	2	5	

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	mg	milligram(s)
C	degrees Celsius	mL	milliliter(s)
cfu	colony forming units	MPN	Most Probable Number
CP Units	cobalt-chloroplatinate units	N.D.	non-detect
F	degrees Fahrenheit	ng	nanogram(s)
g	gram(s)	NTU	nephelometric turbidity units
IU	International Units	pg/L	picogram/liter
kg	kilogram(s)	RL	Reporting Limit
L	liter(s)	TNTC	Too Numerous To Count
lb.	pound(s)	µg	microgram(s)
m3	cubic meter(s)	µL	microliter(s)
meq	milliequivalents	umhos/cm	micromhos/cm
<	less than		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
J (or G, I, X)	Estimated value \geq the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report
B	Detection in the Blank
Q0	LCS/LCSD Low
Q1	LCS/LCSD High
Q2	MS/MSD Low
Q3	MS/MSD High
Q7	LCS/LCSD RPD
Q8	DUP RPD
Q9	MS/MSD RPD

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.



ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Brightfields, Inc.
801 Industrial St.
Suite 1
Wilmington DE 19801

Report Date: January 05, 2018 13:50

Project: APS Recycling

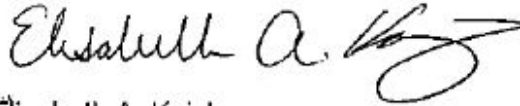
Account #: 04549
Group Number: 1880592
PO Number: 14726

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/>. To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To Brightfields, Inc.
Electronic Copy To Brightfields, Inc.

Attn: James Thompson
Attn: Victoria Bisbing

Respectfully Submitted,



Elisabeth A. Knisley
Project Manager

(717) 556-7262



SAMPLE INFORMATION

<u>Client Sample Description</u>	<u>Sample Collection Date/Time</u>	<u>ELLE#</u>
APS-GP04-S001 Grab Soil	11/27/2017 16:15	9339951
APS-GP04-S002 Grab Soil	11/27/2017 16:25	9339952
APS-GP05-S001 Grab Soil	11/28/2017 08:15	9339953
APS-GP05-S002 Grab Soil	11/28/2017 08:30	9339954
APS-GP06-S001 Grab Soil	11/28/2017 08:45	9339955
APS-GP06-S101 Grab Soil	11/28/2017 08:47	9339956
APS-GP06-S002 Grab Soil	11/28/2017 09:30	9339957
APS-GP07-S001 Grab Soil	11/28/2017 09:40	9339958
APS-GP07-S002 Grab Soil	11/28/2017 09:50	9339959
APS-GP08-S001 Grab Soil	11/28/2017 10:00	9339960
APS-GP08-S002 Grab Soil	11/28/2017 10:15	9339961
APS-GP09-S001 Grab Soil	11/28/2017 10:30	9339962
APS-GP09-S002 Grab Soil	11/28/2017 10:45	9339963
APS-GP10-S001 Grab Soil	11/28/2017 11:20	9339964
APS-GP10-S002 Grab Soil	11/28/2017 11:40	9339965
APS-GP05-W001 Grab Groundwater	11/28/2017 12:10	9339966
APS-GP06-W001 Grab Groundwater	11/28/2017 12:40	9339967

Sample Description: **APS-GP04-S001 Grab Soil**
 APS Recycling

Brightfields, Inc.
ELLE Sample #: **SW 9339951**
ELLE Group #: **1880592**

Project Name: **APS Recycling**

Submittal Date/Time: 11/29/2017 16:35

Collection Date/Time: 11/27/2017 16:15

Sample Comments

The analysis for Asbestos was subcontracted to EMSL Analytical, Inc. in Westmont, NJ.
See Attached Report.

Sample Description: **APS-GP04-S002 Grab Soil**
 APS Recycling

Brightfields, Inc.
ELLE Sample #: **SW 9339952**
ELLE Group #: **1880592**

Project Name: **APS Recycling**

Submittal Date/Time: 11/29/2017 16:35

Collection Date/Time: 11/27/2017 16:25

Sample Comments

The analysis for Asbestos was subcontracted to EMSL Analytical, Inc. in Westmont, NJ.
See Attached Report.

Sample Description: **APS-GP05-S001 Grab Soil**
 APS Recycling

Brightfields, Inc.
ELLE Sample #: **SW 9339953**
ELLE Group #: **1880592**

Project Name: **APS Recycling**

Submittal Date/Time: **11/29/2017 16:35**

Collection Date/Time: **11/28/2017 08:15**

Sample Comments

The analysis for Asbestos was subcontracted to EMSL Analytical, Inc. in Westmont, NJ.
See Attached Report.

Sample Description: **APS-GP05-S002 Grab Soil**
 APS Recycling

Brightfields, Inc.
ELLE Sample #: **SW 9339954**
ELLE Group #: **1880592**

Project Name: **APS Recycling**

Submittal Date/Time: **11/29/2017 16:35**

Collection Date/Time: **11/28/2017 08:30**

Sample Comments

The analysis for Asbestos was subcontracted to EMSL Analytical, Inc. in Westmont, NJ.
See Attached Report.

Sample Description: **APS-GP06-S001 Grab Soil**
 APS Recycling

Brightfields, Inc.
ELLE Sample #: **SW 9339955**
ELLE Group #: **1880592**

Project Name: **APS Recycling**

Submittal Date/Time: **11/29/2017 16:35**
Collection Date/Time: **11/28/2017 08:45**

Sample Comments

The analysis for Asbestos was subcontracted to EMSL Analytical, Inc. in Westmont, NJ.
See Attached Report.

Sample Description: **APS-GP06-S101 Grab Soil**
 APS Recycling

Brightfields, Inc.
ELLE Sample #: **SW 9339956**
ELLE Group #: **1880592**

Project Name: **APS Recycling**

Submittal Date/Time: **11/29/2017 16:35**
Collection Date/Time: **11/28/2017 08:47**

Sample Comments

The analysis for Asbestos was subcontracted to EMSL Analytical, Inc. in Westmont, NJ.
See Attached Report.

Sample Description: **APS-GP06-S002 Grab Soil**
 APS Recycling

Brightfields, Inc.
ELLE Sample #: **SW 9339957**
ELLE Group #: **1880592**

Project Name: **APS Recycling**

Submittal Date/Time: **11/29/2017 16:35**

Collection Date/Time: **11/28/2017 09:30**

Sample Comments

The analysis for Asbestos was subcontracted to EMSL Analytical, Inc. in Westmont, NJ.
See Attached Report.

Sample Description: **APS-GP07-S001 Grab Soil**
 APS Recycling

Brightfields, Inc.
ELLE Sample #: **SW 9339958**
ELLE Group #: **1880592**

Project Name: **APS Recycling**

Submittal Date/Time: **11/29/2017 16:35**
Collection Date/Time: **11/28/2017 09:40**

Sample Comments

The analysis for Asbestos was subcontracted to EMSL Analytical, Inc. in Westmont, NJ.
See Attached Report.

Sample Description: **APS-GP07-S002 Grab Soil**
 APS Recycling

Brightfields, Inc.
ELLE Sample #: **SW 9339959**
ELLE Group #: **1880592**

Project Name: **APS Recycling**

Submittal Date/Time: **11/29/2017 16:35**

Collection Date/Time: **11/28/2017 09:50**

Sample Comments

The analysis for Asbestos was subcontracted to EMSL Analytical, Inc. in Westmont, NJ.
See Attached Report.

Sample Description: **APS-GP08-S001 Grab Soil**
 APS Recycling

Brightfields, Inc.
ELLE Sample #: **SW 9339960**
ELLE Group #: **1880592**

Project Name: **APS Recycling**

Submittal Date/Time: **11/29/2017 16:35**

Collection Date/Time: **11/28/2017 10:00**

Sample Comments

The analysis for Asbestos was subcontracted to EMSL Analytical, Inc. in Westmont, NJ.
See Attached Report.

Sample Description: **APS-GP08-S002 Grab Soil**
 APS Recycling

Brightfields, Inc.
ELLE Sample #: **SW 9339961**
ELLE Group #: **1880592**

Project Name: **APS Recycling**

Submittal Date/Time: **11/29/2017 16:35**
Collection Date/Time: **11/28/2017 10:15**

Sample Comments

The analysis for Asbestos was subcontracted to EMSL Analytical, Inc. in Westmont, NJ.
See Attached Report.

Sample Description: **APS-GP09-S001 Grab Soil**
 APS Recycling

Brightfields, Inc.
ELLE Sample #: **SW 9339962**
ELLE Group #: **1880592**

Project Name: **APS Recycling**

Submittal Date/Time: 11/29/2017 16:35

Collection Date/Time: 11/28/2017 10:30

Sample Comments

The analysis for Asbestos was subcontracted to EMSL Analytical, Inc. in Westmont, NJ.
See Attached Report.

Sample Description: **APS-GP09-S002 Grab Soil**
 APS Recycling

Brightfields, Inc.
ELLE Sample #: **SW 9339963**
ELLE Group #: **1880592**

Project Name: **APS Recycling**

Submittal Date/Time: **11/29/2017 16:35**

Collection Date/Time: **11/28/2017 10:45**

Sample Comments

The analysis for Asbestos was subcontracted to EMSL Analytical, Inc. in Westmont, NJ.
See Attached Report.

Sample Description: **APS-GP10-S001 Grab Soil**
 APS Recycling

Brightfields, Inc.
ELLE Sample #: **SW 9339964**
ELLE Group #: **1880592**

Project Name: **APS Recycling**

Submittal Date/Time: **11/29/2017 16:35**

Collection Date/Time: **11/28/2017 11:20**

Sample Comments

The analysis for Asbestos was subcontracted to EMSL Analytical, Inc. in Westmont, NJ.
See Attached Report.

Sample Description: **APS-GP10-S002 Grab Soil**
 APS Recycling

Brightfields, Inc.
ELLE Sample #: **SW 9339965**
ELLE Group #: **1880592**

Project Name: **APS Recycling**

Submittal Date/Time: **11/29/2017 16:35**

Collection Date/Time: **11/28/2017 11:40**

Sample Comments

The analysis for Asbestos was subcontracted to EMSL Analytical, Inc. in Westmont, NJ.
See Attached Report.

Sample Description: **APS-GP05-W001 Grab Groundwater**
 APS Recycling

Brightfields, Inc.
ELLE Sample #: **WW 9339966**
ELLE Group #: **1880592**

Project Name: **APS Recycling**

Submittal Date/Time: 11/29/2017 16:35

Collection Date/Time: 11/28/2017 12:10

Sample Comments

The analysis for Asbestos was subcontracted to EMSL Analytical, Inc. in Westmont, NJ.
See Attached Report.

Sample Description: **APS-GP06-W001 Grab Groundwater**
 APS Recycling

Brightfields, Inc.
ELLE Sample #: **WW 9339967**
ELLE Group #: **1880592**

Project Name: **APS Recycling**

Submittal Date/Time: 11/29/2017 16:35

Collection Date/Time: 11/28/2017 12:40

Sample Comments

The analysis for Asbestos was subcontracted to EMSL Analytical, Inc. in Westmont, NJ.
See Attached Report.

Quality Control Summary

Client Name: Brightfields, Inc.

Group Number: 1880592

Reported: 01/05/2018 13:50

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Environmental Analysis Request/Chain of Custody



Lancaster Laboratories Environmental

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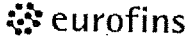
Acct. # 4549 Group # 1880592 Sample # 9339951-67

COC # 539466

Client Information				Matrix			Analysis Requested										For Lab Use Only						
Client: <u>Brightfields, Inc.</u>		Acct. #:		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Preservation Codes										FSC: _____	SCR#: <u>216063</u>					
Project Name/ #: <u>APS Recycling</u>		PWSID #:		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>											Preservation Codes						
Project Manager: <u>Victoria Bisbing</u>		P.O. #:		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>											H=HCl T=Thiosulfate						
Sampler: <u>James Thompson</u>		Quote #:		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>											N=HNO ₃ B=NaOH						
State where samples were collected: <u>Pennsylvania</u>		For Compliance: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>											S=H ₂ SO ₄ O=Other						
Sample Identification		Collected		Grab	Composite	Soil <input checked="" type="checkbox"/>	Sediment <input type="checkbox"/>	Tissue <input type="checkbox"/>	Potable <input type="checkbox"/>	Ground <input type="checkbox"/>	Surface <input type="checkbox"/>	Water <input type="checkbox"/>	NPDES <input type="checkbox"/>	Other: _____	Total # of Containers	PAHs	PH	PPL Metals	Asbestos	TCC Pesticides	PCBs	Remarks	
Date	Time	PAHs	PH																				PPL Metals
APS-6P04-5001	11/27/17	1615	X		X										3	X	X	X	X	X	X	X	
APS-6P04-5002	11/27/17	1625	X		X										3	X	X	X	X	X	X	X	
APS-6P05-5001	11/28/17	0815	X		X										3	X	X	X	X	X	X	X	
APS-6P05-5002	11/28/17	0830	X		X										3	X	X	X	X	X	X	X	
APS-6P06-5001	11/28/17	0845	X		X										3	X	X	X	X	X	X	X	
APS-6P06-5002 ⁵¹⁰¹	11/28/17	0847	X		X										3	X	X	X	X	X	X	X	
APS-6P06-5002	11/28/17	0930	X		X										3	X	X	X	X	X	X	X	
APS-6P082 5001	11/28/17	0940	X		X										3	X	X	X	X	X	X	X	
APS-6P082 5002	11/28/17	0950	X		X										3	X	X	X	X	X	X	X	
APS-6P08-5001	11/28/17	1000	X		X										3	X	X	X	X	X	X	X	

Turnaround Time (TAT) Requested (please circle)		Relinquished by	Date	Time	Received by	Date	Time
Standard <u>Standard</u> Rush		<u>Bottle Storage</u>	<u>11/29/17</u>	<u>1230</u>	<u>Jacob</u>	<u>11/29/17</u>	<u>1730</u>
(Rush TAT is subject to laboratory approval and surcharge.)		<u>Jacob</u>	<u>11/29/17</u>	<u>1257</u>	<u>Cash</u>	<u>11/29/17</u>	<u>1257</u>
Date results are needed: _____		Relinquished by	Date	Time	Received by	Date	Time
E-mail address: _____		Relinquished by	Date	Time	Received by	Date	Time
Data Package Options (circle if required)		Relinquished by	Date	Time	Received by	Date	Time
Type I (EPA Level 3 Equivalent/non-CLP)	Type VI (Raw Data Only)	<u>Cash</u>	<u>11/29/17</u>	<u>1635</u>	<u>Jacob</u>	<u>11/29/17</u>	<u>1635</u>
Type III (Reduced non-CLP)	NJ DKQP TX TRRP-13	EDD Required? Yes No		Relinquished by Commercial Carrier:			
NYSDEC Category A or B	MA MCP CT RCP	If yes, format: _____		UPS _____ FedEx _____ Other _____			
		Site-Specific QC (MS/MSD/Dup)? Yes No		Temperature upon receipt: <u>0.3-1.5</u> °C			
		(If yes, indicate QC sample and submit triplicate sample volume.)					

Environmental Analysis Request/Chain of Custody



Lancaster Laboratories Environmental

For Eurofins Lancaster Laboratories Environmental use only

Acct. # 4549 Group # 1880592 Sample # 9339951-67

COC # 539467

Client Information				Matrix				Analysis Requested										For Lab Use Only		
Client: <u>Brightfields, Inc.</u>		Acct. #:		<input type="checkbox"/> Sediment <input type="checkbox"/> Tissue		<input checked="" type="checkbox"/> Ground <input type="checkbox"/> Surface		Preservation Codes										FSC: _____		
Project Name/#: <u>APS Recycling</u>		PWSID #:		<input type="checkbox"/> Potable <input type="checkbox"/> NPDES		<input type="checkbox"/> Water <input type="checkbox"/> Other:												SCR#: _____		
Project Manager: <u>Victoria Bishop</u>		P.O. #:		<input type="checkbox"/> Soil <input checked="" type="checkbox"/> Sediment		<input type="checkbox"/> Potable <input type="checkbox"/> NPDES												Preservation Codes H=HCl T=Thiosulfate N=HNO ₃ B=NaOH S=H ₂ SO ₄ O=Other		
Sampler: <u>James Thompson</u>		Quote #:		<input type="checkbox"/> Water <input type="checkbox"/> NPDES		<input type="checkbox"/> Other:												Remarks		
State where samples were collected: <u>Pennsylvania</u>		For Compliance: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		<input checked="" type="checkbox"/> Soil <input checked="" type="checkbox"/> Sediment		<input type="checkbox"/> Potable <input type="checkbox"/> NPDES												2 of 3		
Sample Identification		Collected		Grab	Composite	Water	Other:	Total # of Containers	PAPER? Petroleum Sheethist											
Date	Time								PAHS	AH	PPL Metals	Asbestos	TLL Pesticides	PCBs						
APS-6P08-5002	11/28/17 1015	X		X				3	X	X	X	X	X	X						
APS-6P09-5001	11/28/17 1030	X		X				3	X	X	X	X	X	X						
APS-6P09-5002	11/28/17 1045	X		X				3	X	X	X	X	X	X						
APS-6P10-5001	11/28/17 1120	X		X				3	X											
APS-6P10-5002	11/29/17 1140	X		X				3	X											
APS-6P07-1001	11/28/17 1150	X				X		5	X											
APS-6P07-1101	11/28/17 1152	X				X		5	X											
APS-6P05-1001	11/28/17 1210	X				X		12	X	X	X	X	X	X						
APS-6P06-1001	11/28/17 1240	X				X		12	X	X	X	X	X	X						
APS-6P10-1001	11/28/17 1315	X				X		7	X	X	X	X	X	X						

Limited Volume

Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: _____

E-mail address: _____

Relinquished by: <u>[Signature]</u>	Date: <u>11/29/17</u>	Time: <u>1257</u>	Received by: <u>[Signature]</u>	Date: <u>11/29/17</u>	Time: <u>1257</u>
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by: <u>[Signature]</u>	Date: <u>11/29/17</u>	Time: <u>1635</u>	Received by: <u>[Signature]</u>	Date: <u>11/29/17</u>	Time: <u>1635</u>

Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)

Type III (Reduced non-CLP) NJ-DKQP TX TRRP-13

NYSDEC Category A or B MA MCP CT RCP

EDD Required? Yes No

If yes, format: _____

Site-Specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier: UPS _____ FedEx _____ Other _____

Temperature upon receipt 0-3-15 °C

Environmental Analysis Request/Chain of Custody



Lancaster Laboratories
Environmental

For Eurofins Lancaster Laboratories Environmental use only

Acct. # 4549 Group # 1880592 Sample # 9339951-67

COC # 539468

Client Information				Matrix			Analysis Requested										For Lab Use Only				
Client: <u>Brightfields, Inc</u>		Acct. #:		<input type="checkbox"/> Sediment <input type="checkbox"/> Tissue <input checked="" type="checkbox"/> Potable Ground <input type="checkbox"/> Surface <input type="checkbox"/> Water <input type="checkbox"/> NPDES <input type="checkbox"/> Other:	Total # of Containers	Preservation Codes										FSC: _____					
Project Name/#: <u>APS Recycling</u>		PWSID #:				PAD EP Petroleum Skat 1.5H										SCR#: _____					
Project Manager: <u>Victoria Bisbany</u>		P.O. #:																			
Sample #: <u>James Thompson</u>		Quote #:																			
State where samples were collected: <u>Pennsylvania</u>		For Compliance: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>														Preservation Codes H=HCl T=Thiosulfate N=HNO ₃ B=NaOH S=H ₂ SO ₄ O=Other					
Sample Identification		Collected		Grab	Composite	Soil	Water	Other:	Total # of Containers											Remarks	
Date	Time																				
<u>APS-6P10-5301</u>	<u>11/28/17</u>	<u>1335</u>	<u>X</u>			<u>X</u>			<u>5</u>	<u>X</u>											<u>3 of 3</u>
<u>APS-6P10-W301</u>	<u>11/28/17</u>	<u>1340</u>	<u>X</u>				<u>X</u>		<u>2</u>	<u>X</u>											

Turnaround Time (TAT) Requested (please circle) Standard <u>Standard</u> Rush (Rush TAT is subject to laboratory approval and surcharge.)		Relinquished by <u>[Signature]</u>	Date <u>11/29/17</u>	Time <u>1257</u>	Received by <u>[Signature]</u>	Date <u>11/29/17</u>	Time <u>1257</u>
Date results are needed: _____		Relinquished by	Date	Time	Received by	Date	Time
E-mail address: _____		Relinquished by	Date	Time	Received by	Date	Time
Data Package Options (circle if required) Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only) Type III (Reduced non-CLP) NJ DKQP TX TRRP-13 NYSDEC Category A or B MA MCP CT RCP		Relinquished by <u>[Signature]</u>	Date <u>11/29/17</u>	Time <u>1635</u>	Received by <u>[Signature]</u>	Date <u>11/29/17</u>	Time <u>1635</u>
EDD Required? Yes No				Relinquished by Commercial Carrier:			
If yes, format: _____				UPS _____ FedEx _____ Other _____			
Site-Specific QC (MS/MSD/Dup)? Yes No				Temperature upon receipt <u>0.3-1.5</u> °C			
(If yes, indicate QC sample and submit triplicate sample volume.)							



Client: Brightfields, Inc

Delivery and Receipt Information

Delivery Method: ELLE Courier Arrival Timestamp: 11/29/2017 16:35
 Number of Packages: 3 Number of Projects: 3
 State/Province of Origin: PA

Arrival Condition Summary

Shipping Container Sealed:	No	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	No	Sample Date/Times match COC:	Yes
Samples Chilled:	Yes	VOA Vial Headspace ≥ 6mm:	No
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	10
Samples Intact:	Yes	Trip Blank Type:	See Below
Missing Samples:	No	Air Quality Samples Present:	No
Extra Samples:	No		
Discrepancy in Container Qty on COC:	Yes		

Trip Blank Type(s): 1-MeOH, 1-NaHSO4, 8 HCl

Unpacked by Cory Jeremiah (10469) at 18:29 on 11/29/2017

Samples Chilled Details

Thermometer Types: *DT = Digital (Temp. Bottle)* *IR = Infrared (Surface Temp)* All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT146	0.3	DT	Wet	Y	Bagged	N
2	DT146	1.5	DT	Wet	Y	Bagged	N
3	DT146	1.4	DT	Wet	Y	Bagged	N

Container Quantity Discrepancy Details

Sample ID on COC	Container Qty. Received	Container Qty. on COC	Comments
APS-GP10-W301	5	2	
APS-GP10-S301	2	5	



EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077
Phone/Fax: (800) 220-3675 / (856) 786-5974
<http://www.EMSL.com> / cinnaslab@EMSL.com

EMSL Order: 041735866
Customer ID: LANC55
Customer PO:
Project ID:

Attention: Kathy Binkley
Eurofins Lancaster Laboratories, Inc.
2425 New Holland Pike
Lancaster, PA 17601

Phone:
Fax: (717) 656-2681
Received: 12/16/2017 11:00 AM
Analysis Date: 01/03/2018
Collected: 11/27/2017 - 11/28/2017

Project: Group 1880592

Test Report: PLM Analysis of Bulk Samples for Asbestos via EPA 600/R-93/116 Method with CARB 435 Prep (Milling) Level A for 0.25% Target Analytical Sensitivity

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
9339951 041735866-0001		Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
9339952 041735866-0002		Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
9339953 041735866-0003		Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
9339954 041735866-0004		Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
9339955 041735866-0005		Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
9339956 041735866-0006		Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
9339957 041735866-0007		Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
9339958 041735866-0008		Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
9339959 041735866-0009		Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
9339960 041735866-0010		Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

This report relates only to the samples listed above and may not be reproduced except in full, without EMSL's written approval. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. EMSL is not responsible for sample collection activities or method limitations. Some samples may contain asbestos fibers below the resolution limit of PLM. EMSL recommends that samples reported as none detected or less than the limit of detection undergo additional analysis via TEM. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ

Report amended: 01/05/2018 07:35:11 Replaces initial report from: 01/03/2018 12:47:02 Reason Code: Client-Change to Appearance



EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077
Phone/Fax: (800) 220-3675 / (856) 786-5974
<http://www.EMSL.com> / cinnaslab@EMSL.com

EMSL Order: 041735866
Customer ID: LANC55
Customer PO:
Project ID:

Attention: Kathy Binkley
Eurofins Lancaster Laboratories, Inc.
2425 New Holland Pike
Lancaster, PA 17601
Phone:
Fax: (717) 656-2681
Received: 12/16/2017 11:00 AM
Analysis Date: 01/03/2018
Collected: 11/27/2017 - 11/28/2017
Project: Group 1880592

Test Report: PLM Analysis of Bulk Samples for Asbestos via EPA 600/R-93/116 Method with CARB 435 Prep (Milling) Level A for 0.25% Target Analytical Sensitivity

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
9339961 041735866-0011		Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
9339962 041735866-0012		Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
9339963 041735866-0013		Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
9339964 041735866-0014		Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
9339965 041735866-0015		Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Analyst(s)

Garret Vliet (15)

Benjamin Ellis, Laboratory Manager
or other approved signatory

This report relates only to the samples listed above and may not be reproduced except in full, without EMSL's written approval. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. EMSL is not responsible for sample collection activities or method limitations. Some samples may contain asbestos fibers below the resolution limit of PLM. EMSL recommends that samples reported as none detected or less than the limit of detection undergo additional analysis via TEM. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ

Report amended: 01/05/2018 07:35:11 Replaces initial report from: 01/03/2018 12:47:02 Reason Code: Client-Change to Appearance



EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077
Phone/Fax: (800) 220-3675 / (856) 786-5974
<http://www.EMSL.com> / cinnasblab@EMSL.com

EMSL Order ID: 041735866
Customer ID: LANC55
Customer PO:
Project ID:


Attn: Kathy Binkley
Eurofins Lancaster Laboratories, Inc.
2425 New Holland Pike
Lancaster, PA 17601
Phone: (717) 656-2300
Fax: (717) 656-2681
Collected: 11/28/2017
Received: 12/16/2017
Analyzed: 01/02/2018
Proj: Group 1880592

Test Report: Determination of Asbestos Structures >10µm in Drinking Water Performed by the 100.2 Method (EPA 600/R-94/134)

Sample ID Client / EMSL	Sample Filtration Date/Time	Original Sample Vol. Filtered (ml)	Effective Filter Area (mm ²)	Area Analyzed (mm ²)	ASBESTOS				
					Asbestos Types	Fibers Detected	Analytical Sensitivity	Concentration MFL (million fibers per liter)	Confidence Limits
9339966 041735866-0016	12/18/2017 08:30 AM	100	1387	0.0774	None Detected	ND	0.18	<0.18	0.00 - 0.66
9339967 041735866-0017	12/18/2017 08:30 AM	1	1387	0.2580	None Detected	ND	5.40	<5.40	0.00 - 20.00

Due to excessive particulate the analytical sensitivity of 0.2 MFL as required by the method was not reached.

Analyst(s)
Sarah Richey (2)


Benjamin Ellis, Laboratory Manager
or Other Approved Signatory

Report amended: 01/05/2018 07:35:11 Replaces initial report from:01/03/2018 00:04:23 Reason Code: Client-Change to Appearance

Sample collection and containers provided by the client, acceptable bottle blank level is defined as ≤0.01MFL>10µm. ND=None Detected. This report may not be reproduced, except in full, without written permission by EMSL Analytical, Inc. The test results contained within this report meet the requirements of NELAC unless otherwise noted. This report relates only to the samples reported above. Samples received in good condition unless otherwise noted.
Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NELAC NYS ELAP 10872, NJ DEP 03036, FL DOH E87975, PA ID# 68-00367





EMSL ANALYTICAL, INC.
LABORATORY PRODUCTS TRAINING

Asbestos Chain of Custody

EMSL Order Number (Lab Use Only):

041735866

EMSL ANALYTICAL, INC.
200 ROUTE 130 NORTH
CINNAMINSON, NJ 08077
PHONE: (856) 858-4800
FAX: (856) 858-4960

Company : Eurofins Lancaster Laboratories Environmental		EMSL-Bill to: <input checked="" type="checkbox"/> Same <input type="checkbox"/> Different <small>If Bill to Is Different note instructions in Comments**</small>	
Street: 2425 New Holland Pike		<i>Third Party Billing requires written authorization from third party</i>	
City: Lancaster	State/Province: PA	Zip/Postal Code: 17601	Country: USA
Report To (Name): Kathy Binkley		Fax #: 717-656-6766	
Telephone #: 656-2300 x1393		Email Address: KathyBinkley@eurofinsUS.com	
Project Name/Number: Group 1880592		U.S. State Samples Taken: PA	
Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email		Purchase Order:	
Turnaround Time (TAT) Options* - Please Check			
<input type="checkbox"/> 3 Hour <input type="checkbox"/> 6 Hour <input type="checkbox"/> 24 Hour <input type="checkbox"/> 48 Hour <input type="checkbox"/> 72 Hour <input type="checkbox"/> 96 Hour <input type="checkbox"/> 1 Week <input checked="" type="checkbox"/> 2 Week			
<small>*For TEM Air 3 hr through 6 hr, please call ahead to schedule. *There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.</small>			
PCM - Air <input type="checkbox"/> NIOSH 7400 <input type="checkbox"/> w/ OSHA 8hr. TWA PLM - Bulk (reporting limit) <input type="checkbox"/> PLM EPA 600/R-93/116 (<1%) <input type="checkbox"/> PLM EPA NOB (<1%) Point Count <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) Point Count w/Gravimetric <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) <input type="checkbox"/> NYS 198.1 (friable in NY) <input type="checkbox"/> NYS 198.6 NOB (non-friable-NY) <input type="checkbox"/> NIOSH 9002 (<1%)	TEM - Air <input type="checkbox"/> 4-4.5hr TAT (AHERA only) <input type="checkbox"/> AHERA 40 CFR, Part 763 <input type="checkbox"/> NIOSH 7402 <input type="checkbox"/> EPA Level II <input type="checkbox"/> ISO 10312 TEM - Bulk <input type="checkbox"/> TEM EPA NOB <input type="checkbox"/> NYS NOB 198.4 (non-friable-NY) <input type="checkbox"/> Chatfield SOP <input type="checkbox"/> TEM Mass Analysis-EPA 600 sec. 2.5 TEM - Water: EPA 100.2 Fibers >10µm <input type="checkbox"/> Waste <input type="checkbox"/> Drinking All Fiber Sizes <input type="checkbox"/> Waste <input type="checkbox"/> Drinking	TEM- Dust: <input type="checkbox"/> Microvac - ASTM D 665 <input type="checkbox"/> Wipe - ASTM D6480 <input type="checkbox"/> Carpet Sonication (EPA 600/3-93/167) Soil/Rock/Vermiculite <input checked="" type="checkbox"/> PLM CARB 435 - A (0.25% sensitivity) <input type="checkbox"/> PLM CARB 435 - B (0.1% sensitivity) <input type="checkbox"/> TEM CARB 435 - B (0.1% sensitivity) <input type="checkbox"/> TEM CARB 435 - C (0.01% sensitivity) <input type="checkbox"/> EPA Protocol (Semi-Quantitative) <input type="checkbox"/> EPA Protocol (Quantitative) Other:	11/28/17 11:50 12:30 12:30 12:30 12:30 12:30
<input type="checkbox"/> Check For Positive Stop - Clearly Identify Homogenous Group			
Samplers Name: N/A		Samplers Signature:	
Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
9339951	APS GP01 S001 Grab Soil		11/28/2017 11:50
9339952	APS GP04 S002 Grab Soil		11/28/2017 11:50
9339953	APS GP05 S001 Grab Soil		11/28/2017 11:50
9339954	APS GP05 S002 Grab Soil		11/28/2017 12:30
9339955	APS GP06 S001 Grab Soil		11/28/2017 12:30
9339956	APS GP06 S101 Grab Soil		11/28/2017 12:30
9339957	APS GP06 S002 Grab Soil		11/28/2017 12:30
9339958	APS GP07 S001 Grab Soil		11/28/2017 12:30
Client Sample # (s):	9339951 - 9339967	Total # of Samples:	17
Relinquished (Client):	<i>Liz Bauer</i>	Date:	11/30/17
Received (Lab):	<i>MB-FX</i>	Date:	12-16-17
Comments/Special Instructions: Soil (RL<0.25%), Water (>10 microns)			



EMSL ANALYTICAL, INC.
LABORATORY PRODUCTS TRAINING

Asbestos Chain of Custody

EMSL Order Number (Lab Use Only):

041735866

EMSL ANALYTICAL, INC.
200 ROUTE 130 NORTH
CINNAMINSON, NJ 08077

PHONE: (856) 858-4800
FAX: (856) 858-4960

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
9339959	APS GP07 S002 Grab Soil		11/28/2017 12:30
9339960	APS GP08 S001 Grab Soil		11/28/2017 12:30
9339961	APS GP08 S002 Grab Soil		11/28/2017 12:30
9339962	APS GP09 S001 Grab Soil		11/28/2017 12:30
9339963	APS GP09 S002 Grab Soil		11/28/2017 12:30
9339964	APS GP10 S001 Grab Soil		11/28/2017 12:30
9339965	APS GP10 S002 Grab Soil		11/28/2017 12:30
9339966	APS GP05 W001 Grab Groundwater		11/28/2017 12:30
9339967	APS GP06 W001 Grab Groundwater		11/28/2017 12:30
<p>*Comments/Special Instructions: Soil (RL<0.25%), Water (>10 microns)</p>			

RECEIVED
 EMSL
 CINNAMINSON, N.J.
 2017 DEC 16 P 2: 15

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	mg	milligram(s)
C	degrees Celsius	mL	milliliter(s)
cfu	colony forming units	MPN	Most Probable Number
CP Units	cobalt-chloroplatinate units	N.D.	non-detect
F	degrees Fahrenheit	ng	nanogram(s)
g	gram(s)	NTU	nephelometric turbidity units
IU	International Units	pg/L	picogram/liter
kg	kilogram(s)	RL	Reporting Limit
L	liter(s)	TNTC	Too Numerous To Count
lb.	pound(s)	µg	microgram(s)
m3	cubic meter(s)	µL	microliter(s)
meq	milliequivalents	umhos/cm	micromhos/cm
<	less than		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
J (or G, I, X)	Estimated value \geq the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.



ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Brightfields, Inc.
801 Industrial St.
Suite 1
Wilmington DE 19801

Report Date: February 09, 2018 16:13

Project: APS Recycling

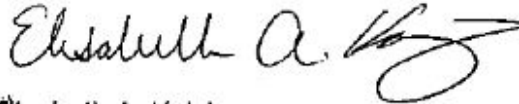
Account #: 04549
Group Number: 1901013
PO Number: 14726
State of Sample Origin: PA

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/> . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To Brightfields, Inc.
Electronic Copy To Brightfields, Inc.

Attn: James Thompson
Attn: Victoria Bisbing

Respectfully Submitted,



Elisabeth A. Knisley
Project Manager

(717) 556-7262



SAMPLE INFORMATION

<u>Client Sample Description</u>	<u>Sample Collection Date/Time</u>	<u>ELLE#</u>
APS-GP10-S002 Grab Soil	11/28/2017 11:40	9424001

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Sample Description: APS-GP10-S002 Grab Soil
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: SW 9424001
ELLE Group #: 1901013
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 01/25/2018 12:55
Collection Date/Time: 11/28/2017 11:40

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles		SW-846 8270C	ug/kg	ug/kg	ug/kg	
10724	Acenaphthene	83-32-9	N.D.	4	20	1
10724	Acenaphthylene	208-96-8	4 J	4	20	1
10724	Anthracene	120-12-7	5 J	4	20	1
10724	Benzo(a)anthracene	56-55-3	15 J	4	20	1
10724	Benzo(a)pyrene	50-32-8	16 J	4	20	1
10724	Benzo(b)fluoranthene	205-99-2	23	4	20	1
10724	Benzo(g,h,i)perylene	191-24-2	13 J	4	20	1
10724	Benzo(k)fluoranthene	207-08-9	8 J	4	20	1
10724	Chrysene	218-01-9	21	4	20	1
10724	Dibenz(a,h)anthracene	53-70-3	4 J	4	20	1
10724	Fluoranthene	206-44-0	28	4	20	1
10724	Fluorene	86-73-7	N.D.	4	20	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	14 J	4	20	1
10724	Naphthalene	91-20-3	N.D.	4	20	1
10724	Phenanthrene	85-01-8	14 J	4	20	1
10724	Pyrene	129-00-0	26	4	20	1
PCBs		SW-846 8082	ug/kg	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D. D1	4.3	20	1
10736	PCB-1221	11104-28-2	N.D. D1	5.5	20	1
10736	PCB-1232	11141-16-5	N.D. D1	9.5	20	1
10736	PCB-1242	53469-21-9	N.D. D1	3.9	20	1
10736	PCB-1248	12672-29-6	N.D. D1	3.9	20	1
10736	PCB-1254	11097-69-1	N.D. D1	3.9	20	1
10736	PCB-1260	11096-82-5	N.D. D2	5.8	20	1
Pesticides		SW-846 8081A	ug/kg	ug/kg	ug/kg	
10738	Aldrin	309-00-2	N.D. D1	0.20	0.98	1
10738	Alpha BHC	319-84-6	N.D. D2	0.20	0.98	1
10738	Beta BHC	319-85-7	N.D. D2	0.36	1.2	1
10738	Gamma BHC - Lindane	58-89-9	N.D. D1	0.20	0.98	1
10738	Alpha Chlordane	5103-71-9	N.D. D2 Q2	0.20	0.98	1
10738	Gamma Chlordane	5103-74-2	N.D. D1 Q2Q9	0.30	0.98	1
10738	p,p-DDD	72-54-8	N.D. D1 Q2	0.39	2.0	1
10738	p,p-DDE	72-55-9	N.D. D1 Q2	0.39	2.0	1
10738	p,p-DDT	50-29-3	N.D. D2 Q2	0.43	2.0	1
10738	Delta BHC	319-86-8	N.D. D1	0.53	1.1	1
10738	Dieldrin	60-57-1	N.D. D1 Q2	0.39	2.0	1
10738	Endosulfan I	959-98-8	N.D. D1 Q2	0.26	0.98	1
10738	Endosulfan II	33213-65-9	N.D. D1 Q2	0.39	2.0	1
10738	Endosulfan Sulfate	1031-07-8	N.D. D1 Q2	0.39	2.0	1
10738	Endrin	72-20-8	N.D. D2 Q2	0.40	2.0	1
10738	Endrin Aldehyde	7421-93-4	N.D. D2 Q2Q9	0.39	2.0	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP10-S002 Grab Soil
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: SW 9424001
ELLE Group #: 1901013
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 01/25/2018 12:55
Collection Date/Time: 11/28/2017 11:40

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Pesticides		SW-846 8081A	ug/kg	ug/kg	ug/kg	
10738	Endrin Ketone	53494-70-5	N.D. D2 Q2	0.71	2.1	1
10738	Heptachlor	76-44-8	N.D. D1 Q2	0.20	0.98	1
10738	Heptachlor Epoxide	1024-57-3	N.D. D1 Q2	0.20	0.98	1
10738	Methoxychlor	72-43-5	N.D. D1 Q2	2.0	7.9	1
10738	Toxaphene	8001-35-2	N.D. D1	17	39	1

The holding time was not met. The client was notified and the data reported.

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Metals		SW-846 6010B	mg/kg	mg/kg	mg/kg	
06944	Antimony	7440-36-0	N.D. Q2	0.811	1.86	1
06935	Arsenic	7440-38-2	5.07 Q3Q8	0.895	1.86	1
06947	Beryllium	7440-41-7	0.471 BQ8	0.0737	0.466	1
06949	Cadmium	7440-43-9	0.340 J Q8	0.0503	0.466	1
06951	Chromium	7440-47-3	15.0 Q3Q8Q9	0.158	1.40	1
06953	Copper	7440-50-8	13.3 Q3Q8Q9	0.224	0.932	1
06955	Lead	7439-92-1	9.50 Q3Q8Q9	0.559	1.40	1
06961	Nickel	7440-02-0	21.7 Q8	0.140	0.932	1
06936	Selenium	7782-49-2	2.10 Q8	0.867	1.86	1
06966	Silver	7440-22-4	0.431 J	0.224	0.466	1
06925	Thallium	7440-28-0	N.D.	1.28	2.80	1
06972	Zinc	7440-66-6	47.1 Q3Q8	0.224	1.86	1

00159	Mercury	7439-97-6	N.D. Q2Q8	0.0115	0.115	1
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CAT No.	Analysis Name	Method	Std. Units	Std. Units	Std. Units	Dilution Factor
00394	pH	n.a.	8.19	0.0100	0.0100	1

The pH was measured in water at 20.4 C.

CAT No.	Analysis Name	Method	%	%	%	Dilution Factor
07801	Moisture (Re-Entry)	n.a.	16.2	0.50	0.50	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10724	PAH 8270 (microwave)	SW-846 8270C	1	18025SLH026	01/30/2018 02:08	Anthony P Bauer	1

*=This limit was used in the evaluation of the final result

Sample Description: APS-GP10-S002 Grab Soil
I-80 Phase III ESA's

Brightfields, Inc.
ELLE Sample #: SW 9424001
ELLE Group #: 1901013
Matrix: Soil

Project Name: APS Recycling

Submission Date/Time: 01/25/2018 12:55
Collection Date/Time: 11/28/2017 11:40

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10814	BNA Soil Microwave PAH	SW-846 3546	1	18025SLH026	01/26/2018 07:00	Joshua S Ruth	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	180310024A	02/06/2018 17:11	Kirby B Turner	1
10738	Pesticides in Soil (microwave)	SW-846 8081A	1	180310023A	02/01/2018 20:30	Anita M Dale	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	180310024A	02/01/2018 07:00	Joshua S Ruth	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	180310023A	02/01/2018 07:00	Joshua S Ruth	1
06944	Antimony	SW-846 6010B	1	180260570802	01/29/2018 21:24	Cindy M Gehman	1
06935	Arsenic	SW-846 6010B	1	180260570802	01/29/2018 21:24	Cindy M Gehman	1
06947	Beryllium	SW-846 6010B	1	180260570802	01/29/2018 21:24	Cindy M Gehman	1
06949	Cadmium	SW-846 6010B	1	180260570802	01/29/2018 21:24	Cindy M Gehman	1
06951	Chromium	SW-846 6010B	1	180260570802	01/29/2018 21:24	Cindy M Gehman	1
06953	Copper	SW-846 6010B	1	180260570802	01/29/2018 21:24	Cindy M Gehman	1
06955	Lead	SW-846 6010B	1	180260570802	01/29/2018 21:24	Cindy M Gehman	1
06961	Nickel	SW-846 6010B	1	180260570802	01/29/2018 21:24	Cindy M Gehman	1
06936	Selenium	SW-846 6010B	1	180260570802	01/29/2018 21:24	Cindy M Gehman	1
06966	Silver	SW-846 6010B	1	180260570802	01/29/2018 21:24	Cindy M Gehman	1
06925	Thallium	SW-846 6010B	1	180260570802	01/29/2018 21:24	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	180260570802	01/29/2018 21:24	Cindy M Gehman	1
00159	Mercury	SW-846 7471A	1	180310571103	02/01/2018 08:59	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	180260570802	01/29/2018 07:45	Nicholas W Shroyer	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	180290571101	01/30/2018 02:00	Annamaria Kuhns	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	2	180310571103	02/01/2018 01:50	Denise L Trimby	1
00394	pH	SW-846 9045C modified	1	18031039401A	01/31/2018 16:10	Luz M Groff	1
07801	Moisture (Re-Entry)	SM 2540 G-1997 %Moisture Calc	1	17339820005B	12/05/2017 21:06	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 02/09/2018 16:13

Group Number: 1901013

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	MDL**	LOQ
	ug/kg	ug/kg	ug/kg
Batch number: 18025SLH026	Sample number(s): 9424001		
Acenaphthene	N.D.	3	17
Acenaphthylene	N.D.	3	17
Anthracene	N.D.	3	17
Benzo(a)anthracene	N.D.	3	17
Benzo(a)pyrene	N.D.	3	17
Benzo(b)fluoranthene	N.D.	3	17
Benzo(g,h,i)perylene	N.D.	3	17
Benzo(k)fluoranthene	N.D.	3	17
Chrysene	N.D.	3	17
Dibenz(a,h)anthracene	N.D.	3	17
Fluoranthene	N.D.	3	17
Fluorene	N.D.	3	17
Indeno(1,2,3-cd)pyrene	N.D.	3	17
Naphthalene	N.D.	3	17
Phenanthrene	N.D.	3	17
Pyrene	N.D.	3	17
Batch number: 180310024A	Sample number(s): 9424001		
PCB-1016	N.D.	3.6	17
PCB-1221	N.D.	4.6	17
PCB-1232	N.D.	8.0	17
PCB-1242	N.D.	3.3	17
PCB-1248	N.D.	3.3	17
PCB-1254	N.D.	3.3	17
PCB-1260	N.D.	4.9	17
Batch number: 180310023A	Sample number(s): 9424001		
Aldrin	N.D.	0.17	0.83
Alpha BHC	N.D.	0.17	0.83
Beta BHC	N.D.	0.30	1.0
Gamma BHC - Lindane	N.D.	0.17	0.83
Alpha Chlordane	N.D.	0.17	0.83
Gamma Chlordane	N.D.	0.25	0.83
p,p-DDD	N.D.	0.33	1.7
p,p-DDE	N.D.	0.33	1.7
p,p-DDT	N.D.	0.36	1.7
Delta BHC	N.D.	0.45	0.90
Dieldrin	N.D.	0.33	1.7
Endosulfan I	N.D.	0.22	0.83
Endosulfan II	N.D.	0.33	1.7

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 02/09/2018 16:13

Group Number: 1901013

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	ug/kg	ug/kg	ug/kg
Endosulfan Sulfate	N.D.	0.33	1.7
Endrin	N.D.	0.34	1.7
Endrin Aldehyde	N.D.	0.33	1.7
Endrin Ketone	N.D.	0.60	1.8
Heptachlor	N.D.	0.17	0.83
Heptachlor Epoxide	N.D.	0.17	0.83
Methoxychlor	N.D.	1.7	6.7
Toxaphene	N.D.	14	33
	mg/kg	mg/kg	mg/kg
Batch number: 180260570802	Sample number(s): 9424001		
Antimony	N.D.	0.870	2.00
Arsenic	N.D.	0.960	2.00
Beryllium	0.0970 J	0.0790	0.500
Cadmium	N.D.	0.0540	0.500
Chromium	N.D.	0.170	1.50
Copper	N.D.	0.240	1.00
Lead	N.D.	0.600	1.50
Nickel	N.D.	0.150	1.00
Selenium	N.D.	0.930	2.00
Silver	N.D.	0.240	0.500
Thallium	N.D.	1.37	3.00
Zinc	N.D.	0.240	2.00
Batch number: 180310571103	Sample number(s): 9424001		
Mercury	N.D.	0.0100	0.100

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 18025SLH026	Sample number(s): 9424001								
Acenaphthene	1666.67	1738.31			104		78-119		
Acenaphthylene	1666.67	1765.91			106		76-119		
Anthracene	1666.67	1671.17			100		82-118		
Benzo(a)anthracene	1666.67	1586.49			95		76-119		
Benzo(a)pyrene	1666.67	1601.3			96		78-117		
Benzo(b)fluoranthene	1666.67	1485.68			89		74-127		
Benzo(g,h,i)perylene	1666.67	1502.64			90		72-118		
Benzo(k)fluoranthene	1666.67	1735.35			104		71-123		
Chrysene	1666.67	1605.01			96		72-121		
Dibenz(a,h)anthracene	1666.67	1623.69			97		72-129		

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 02/09/2018 16:13

Group Number: 1901013

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Fluoranthene	1666.67	1585.74			95		72-120		
Fluorene	1666.67	1634.9			98		75-118		
Indeno(1,2,3-cd)pyrene	1666.67	1559.05			94		69-125		
Naphthalene	1666.67	1618.24			97		75-113		
Phenanthrene	1666.67	1663.93			100		74-114		
Pyrene	1666.67	1697.62			102		74-112		
	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 180310024A	Sample number(s): 9424001								
PCB-1016	167	188.13			113		76-121		
PCB-1260	167	206.02			123		79-130		
	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 180310023A	Sample number(s): 9424001								
Aldrin	3.33	3.22			97		60-117		
Alpha BHC	3.27	3.17			97		65-124		
Beta BHC	3.33	3.40			102		68-129		
Gamma BHC - Lindane	3.27	3.36			103		47-140		
Alpha Chlordane	3.33	3.32			100		73-131		
Gamma Chlordane	3.33	3.46			104		76-134		
p,p-DDD	6.53	7.83			120		69-138		
p,p-DDE	6.67	6.70			100		68-146		
p,p-DDT	6.53	7.16			110		67-135		
Delta BHC	3.33	3.27			98		45-151		
Dieldrin	6.47	6.85			106		63-126		
Endosulfan I	3.27	3.29			100		62-119		
Endosulfan II	6.67	7.06			106		65-126		
Endosulfan Sulfate	6.73	7.11			106		71-132		
Endrin	6.53	7.24			111		65-125		
Endrin Aldehyde	6.73	5.61			83		59-122		
Endrin Ketone	6.67	7.80			117		64-121		
Heptachlor	3.27	3.15			96		66-118		
Heptachlor Epoxide	3.33	3.34			100		74-128		
Methoxychlor	32.8	35.42			108		65-131		
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 180260570802	Sample number(s): 9424001								
Antimony	50	48.52			97		80-120		
Arsenic	15	14.28			95		80-120		
Beryllium	5.00	4.87			97		80-120		
Cadmium	5.00	4.89			98		80-120		
Chromium	20	18.39			92		80-120		
Copper	25	25.23			101		80-120		
Lead	15	15.19			101		80-120		

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 02/09/2018 16:13

Group Number: 1901013

LCS/LCSD (continued)

Analysis Name	LCS Spike Added mg/kg	LCS Conc mg/kg	LCSD Spike Added mg/kg	LCSD Conc mg/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Nickel	50	50.87			102		80-120		
Selenium	15	14.5			97		80-120		
Silver	5.00	5.05			101		80-120		
Thallium	15	13.73			92		80-120		
Zinc	50	48.9			98		80-120		
Batch number: 180310571103 Mercury	Sample number(s): 9424001 0.100	0.0902			90		80-120		
	Std. Units	Std. Units	Std. Units	Std. Units					
Batch number: 18031039401A pH	Sample number(s): 9424001 7.00	6.98			100		95-105		
	%	%	%	%					
Batch number: 17339820005B Moisture (Re-Entry)	Sample number(s): 9424001 89.5	89.41			100		99-101		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 18025SLH026	Sample number(s): 9424001 UNSPK: 9424001									
Acenaphthene	N.D.	1644.74	1644.65	1644.74	1705.75	100	104	78-119	4	30
Acenaphthylene	3.50	1644.74	1672.45	1644.74	1714.11	101	104	76-119	2	30
Anthracene	3.87	1644.74	1547.55	1644.74	1582.54	94	96	82-118	2	30
Benzo(a)anthracene	12.29	1644.74	1500.06	1644.74	1542.84	90	93	76-119	3	30
Benzo(a)pyrene	13.24	1644.74	1471.1	1644.74	1500.85	89	90	78-117	2	30
Benzo(b)fluoranthene	19.21	1644.74	1445.54	1644.74	1471.18	87	88	74-127	2	30
Benzo(g,h,i)perylene	11.23	1644.74	1532.3	1644.74	1585.95	92	96	72-118	3	30
Benzo(k)fluoranthene	6.90	1644.74	1437.18	1644.74	1502.23	87	91	71-123	4	30
Chrysene	17.53	1644.74	1478.78	1644.74	1544.74	89	93	72-121	4	30
Dibenz(a,h)anthracene	3.61	1644.74	1602.11	1644.74	1631.83	97	99	72-129	2	30
Fluoranthene	23.15	1644.74	1394.05	1644.74	1458.91	83	87	72-120	5	30
Fluorene	N.D.	1644.74	1494.1	1644.74	1545.03	91	94	75-118	3	30
Indeno(1,2,3-cd)pyrene	11.37	1644.74	1544.55	1644.74	1583.45	93	96	69-125	2	30
Naphthalene	N.D.	1644.74	1526.34	1644.74	1580.55	93	96	75-113	3	30
Phenanthrene	11.4	1644.74	1543.59	1644.74	1597.31	93	96	74-114	3	30
Pyrene	22.05	1644.74	1607.43	1644.74	1641.6	96	98	74-112	2	30

*- Outside of specification

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(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 02/09/2018 16:13

Group Number: 1901013

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 180310024A	Sample number(s): 9424001 UNSPK: P429919									
PCB-1016	N.D.	166	134.37	165	136.11	81	82	76-121	1	50
PCB-1260	N.D.	166	155.01	165	160.34	93	97	79-130	3	50
	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 180310023A	Sample number(s): 9424001 UNSPK: 9424001									
Aldrin	N.D.	3.31	2.68	3.30	2.06	81	62	60-117	26	50
Alpha BHC	N.D.	3.25	2.78	3.24	2.18	86	67	65-124	24	50
Beta BHC	N.D.	3.31	3.13	3.30	2.24	94	68	68-129	33	50
Gamma BHC - Lindane	N.D.	3.25	2.89	3.24	2.11	89	65	47-140	31	50
Alpha Chlordane	N.D.	3.31	2.62	3.30	1.87	79	57*	73-131	33	50
Gamma Chlordane	N.D.	3.31	3.79	3.30	2.07	115	63*	76-134	59*	50
p,p-DDD	N.D.	6.49	6.26	6.48	4.13	96	64*	69-138	41	50
p,p-DDE	N.D.	6.63	5.50	6.61	3.75	83	57*	68-146	38	50
p,p-DDT	N.D.	6.49	5.32	6.48	3.55	82	55*	67-135	40	50
Delta BHC	N.D.	3.31	2.73	3.30	1.81	82	55	45-151	40	50
Dieldrin	N.D.	6.43	5.35	6.41	3.75	83	58*	63-126	35	50
Endosulfan I	N.D.	3.25	2.47	3.24	1.63	76	50*	62-119	41	50
Endosulfan II	N.D.	6.63	5.28	6.61	3.36	80	51*	65-126	44	50
Endosulfan Sulfate	N.D.	6.69	5.44	6.68	3.61	81	54*	71-132	41	50
Endrin	N.D.	6.49	5.68	6.48	3.91	88	60*	65-125	37	50
Endrin Aldehyde	N.D.	6.69	4.26	6.68	2.94	64	44*	59-122	37*	35
Endrin Ketone	N.D.	6.63	5.68	6.61	3.81	86	58*	64-121	39	50
Heptachlor	N.D.	3.25	2.83	3.24	2.08	87	64*	66-118	31	50
Heptachlor Epoxide	N.D.	3.31	2.75	3.30	1.95	83	59*	74-128	34	50
Methoxychlor	N.D.	32.6	28.1	32.5	17.68	86	54*	65-131	46	50
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 180260570802	Sample number(s): 9424001 UNSPK: P424971									
Antimony	1.54	43.48	32.79	40.65	31.29	72*	73*	75-125	5	20
Arsenic	2.26	13.04	18.78	12.2	15.32	127*	107	75-125	20	20
Beryllium	0.161	4.35	4.48	4.07	4.14	99	98	75-125	8	20
Cadmium	0.126	4.35	4.90	4.07	4.28	110	102	75-125	14	20
Chromium	6.05	17.39	37.22	16.26	29.74	179*	146*	75-125	22*	20
Copper	35.73	21.74	148.15	20.33	117.92	517*	404*	75-125	23*	20
Lead	233.25	13.04	597.64	12.2	1031.93	2794 (2)	6549 (2)	75-125	53*	20
Nickel	4.03	43.48	56.22	40.65	48.52	120	109	75-125	15	20
Selenium	1.03	13.04	13.6	12.2	13.12	96	99	75-125	4	20
Silver	N.D.	4.35	4.81	4.07	4.32	111	106	75-125	11	20
Thallium	N.D.	13.04	13.05	12.2	11.03	100	90	75-125	17	20
Zinc	49.18	43.48	207.52	40.65	168.95	364*	295*	75-125	20	20
Batch number: 180310571103	Sample number(s): 9424001 UNSPK: P424036									

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 02/09/2018 16:13

Group Number: 1901013

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Mercury	1.06	0.159	1.17	0.159	1.14	69 (2)	54 (2)	80-120	2	20

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/kg	DUP Conc mg/kg	DUP RPD	DUP RPD Max
Batch number: 180260570802 Sample number(s): 9424001 BKG: P424971				
Antimony	1.54	1.39	10 (1)	20
Arsenic	2.26	5.09	77* (1)	20
Beryllium	0.161	0.304	62* (1)	20
Cadmium	0.126	0.429	109* (1)	20
Chromium	6.05	15.99	90*	20
Copper	35.73	99.3	94*	20
Lead	233.25	521.85	76*	20
Nickel	4.03	10.05	86*	20
Selenium	1.03	N.D.	200* (1)	20
Silver	N.D.	N.D.	0 (1)	20
Thallium	N.D.	N.D.	0 (1)	20
Zinc	49.18	130.02	90*	20
Batch number: 180310571103 Sample number(s): 9424001 BKG: P424036				
Mercury	1.06	2.18	69* (1)	20
Batch number: 18031039401A Sample number(s): 9424001 BKG: P427635				
pH	8.27	8.33	1	3
Batch number: 17339820005B Sample number(s): 9424001 BKG: P339843				
Moisture (Re-Entry)	6.87	6.78	1	15

Surrogate Quality Control

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 02/09/2018 16:13

Group Number: 1901013

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report. For dual column analyses, the surrogate (at least one surrogate for multi-surrogate tests) must be within the acceptance limits on at least one of the two columns.

Analysis Name: PAH 8270 (microwave)

Batch number: 18025SLH026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
9424001	79	95	89
Blank	79	90	87
LCS	82	92	92
MS	80	95	89
MSD	83	96	90
Limits:	49-118	57-116	55-118

Analysis Name: Pesticides in Soil (microwave)

Batch number: 180310023A

	Tetrachloro-m-xylene-D1	Decachlorobiphenyl-D1	Tetrachloro-m-xylene-D2	Decachlorobiphenyl-D2
9424001	85	79	71	72
Blank	49	102	42	106
LCS	62	109	52	110
MS	80	76	69	69
MSD	78	60	65	54
Limits:	26-145	39-152	26-145	39-152

Analysis Name: PCBs in Soil (microwave)

Batch number: 180310024A

	Tetrachloro-m-xylene-D1	Decachlorobiphenyl-D1	Tetrachloro-m-xylene-D2	Decachlorobiphenyl-D2
9424001	95	89	95	75
Blank	131	128	128	125
LCS	126	129	130	127
MS	97	96	96	83
MSD	99	107	99	88
Limits:	53-140	45-143	53-140	45-143

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Environmental Analysis Request/Chain of Custody



Lancaster Laboratories Environmental

For Eurofins Lancaster Laboratories Environmental use only

Acct. # 4549

Group # 1800559

Sample # 9339837-57

COC # 539467

Client Information				Matrix				Analysis Requested										For Lab Use Only	
Client: <u>Brightfields, Inc.</u>		Acct. #:		<input type="checkbox"/> Tissue	<input checked="" type="checkbox"/> Ground	<input type="checkbox"/> Surface	Total # of Containers	Preservation Codes										FSC: _____	
Project Name/ #: <u>APS Recycling</u>		PWSID #:						<input type="checkbox"/> Potable	<input type="checkbox"/> NPDES	Other:									
Project Manager: <u>Victoria Bishop</u>		P.O. #:		<input type="checkbox"/> Sediment	<input type="checkbox"/> Water												Preservation Codes		
Sampler: <u>James Thompson</u>		Quote #:															H=HCl T=Thiosulfate		
State where samples were collected: <u>Pennsylvania</u>		For Compliance: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>												N=HNO ₃ B=NaOH					
														S=H ₂ SO ₄ O=Other					
Sample Identification		Collected		Grab	Composite	Soil	Water	Other:	Total # of Containers	PAHs	PH	PPL metals	Asbestos	TLL Pesticides	PCBs	Remarks			
Date	Time	Grab	Composite																
APS-6P08-5002	11/28/17	1015	X		X				3	X	X	X	X	X	X				
APS-6P09-5001	11/28/17	1030	X		X				3	X	X	X	X	X	X				
APS-6P09-5002	11/28/17	1045	X		X				3	X	X	X	X	X	X				
APS-6P10-5001	11/28/17	1120	X		X				3	X									
APS-6P10-5002	11/29/17	1140	X		X				3	X	X	X		X	X				
APS-6P07-5001	11/28/17	1150	X				X		5	X							Additional analyses requested 1/24/18 per J. Thompson EV 1/25/18		
APS-6P07-5002	11/28/17	1152	X				X		5	X									
APS-6P05-5001	11/28/17	1210	X				X		12	X	X	X	X	X	X				
APS-6P06-5001	11/28/17	1240	X				X		12	X	X	X	X	X	X				
APS-6P10-5001	11/23/17	1315	X				X		7	X	X	X		X	X		Limited Volume		

Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: _____

E-mail address: _____

Data Package Options (circle if required)

- Type I (EPA Level 3 Equivalent/non-CLP)
- Type II (Reduced non-CLP)
- Type III (Reduced non-CLP)
- NYSDEC Category A or B
- Type VI (Raw Data Only)
- NJ DKQP
- TX TRRP-13
- MA MCP
- CT RCP

Relinquished by: <u>[Signature]</u>	Date: 11/29/17	Time: 1257	Received by: <u>[Signature]</u>	Date: 11/29/17	Time: 1257
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by: <u>[Signature]</u>	Date: 11/29/17	Time: 1635	Received by: <u>[Signature]</u>	Date: 11/29/17	Time: 1635

EDD Required? Yes No

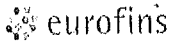
If yes, format: _____

Site-Specific QC (MS/MSD/Dup)? Yes No
(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:

UPS _____ FedEx _____ Other _____

Temperature upon receipt: 0-3-15 °C



Lancaster Laboratories
Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 202358



Group Number(s): 1880559 ^{3 kmz}
1901013 ^{11/25/18}

Client: Brightfields, Inc

Delivery and Receipt Information

Delivery Method: ELLE Courier Arrival Timestamp: 11/29/2017 16:35
 Number of Packages: 3 Number of Projects: 3
 State/Province of Origin: PA

Arrival Condition Summary

Shipping Container Sealed:	No	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	No	Sample Date/Times match COC:	Yes
Samples Chilled:	Yes	VOA Vial Headspace ≥ 6mm:	No
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	10
Samples Intact:	Yes	Trip Blank Type:	See Below
Missing Samples:	No	Air Quality Samples Present:	No
Extra Samples:	No		
Discrepancy in Container Qty on COC:	Yes		

Trip Blank Type(s): 1-MeOH, 1-NaHSO4, 8 HCl

Unpacked by Cory Jeremiah (10469) at 18:29 on 11/29/2017

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT146	0.3	DT	Wet	Y	Bagged	N
2	DT146	1.5	DT	Wet	Y	Bagged	N
3	DT146	1.4	DT	Wet	Y	Bagged	N

Container Quantity Discrepancy Details

Sample ID on COC	Container Qty. Received	Container Qty. on COC	Comments
APS-GP10-W301	5	2	
APS-GP10-S301	2	5	

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	mg	milligram(s)
C	degrees Celsius	mL	milliliter(s)
cfu	colony forming units	MPN	Most Probable Number
CP Units	cobalt-chloroplatinate units	N.D.	non-detect
F	degrees Fahrenheit	ng	nanogram(s)
g	gram(s)	NTU	nephelometric turbidity units
IU	International Units	pg/L	picogram/liter
kg	kilogram(s)	RL	Reporting Limit
L	liter(s)	TNTC	Too Numerous To Count
lb.	pound(s)	µg	microgram(s)
m3	cubic meter(s)	µL	microliter(s)
meq	milliequivalents	umhos/cm	micromhos/cm
<	less than		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
J (or G, I, X)	Estimated value \geq the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report
B	Detection in the Blank
Q0	LCS/LCSD Low
Q1	LCS/LCSD High
Q2	MS/MSD Low
Q3	MS/MSD High
Q7	LCS/LCSD RPD
Q8	DUP RPD
Q9	MS/MSD RPD

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Appendix E.2

Eurofins Analytical Data Packages

BioBuffer Solutions, Inc. / Pocono Foundry



ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Brightfields, Inc.
801 Industrial St.
Suite 1
Wilmington DE 19801

Report Date: December 18, 2017 22:02

Project: Biobuffers Solutions, Inc. / Pocono Foundry

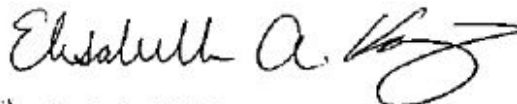
Account #: 04549
Group Number: 1881211
PO Number: 14726
State of Sample Origin: PA

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/>. To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To Brightfields, Inc.
Electronic Copy To Brightfields, Inc.

Attn: James Thompson
Attn: Victoria Bisbing

Respectfully Submitted,



Elisabeth A. Knisley
Project Manager

(717) 556-7262



SAMPLE INFORMATION

<u>Client Sample Description</u>	<u>Sample Collection Date/Time</u>	<u>ELLE#</u>
BIO-GP01-S001 Grab Soil	11/28/2017 14:55	9342584
BIO-GP01-S101 Grab Soil	11/28/2017 14:57	9342585
BIO-GP01-S002 Grab Soil	11/28/2017 15:10	9342586
BIO-GP01-W001 Grab Groundwater	11/28/2017 15:40	9342587
BIO-GP01-W001 MS Grab Groundwater	11/28/2017 15:40	9342588
BIO-GP01-W001 MSD Grab Groundwater	11/28/2017 15:40	9342589
BIO-GP01-W001 DUP Grab Groundwater	11/28/2017 15:40	9342590
BIO-GP02-S001 Grab Soil	11/28/2017 16:10	9342591
BIO-GP02-S002 Grab Soil	11/28/2017 16:20	9342592
BIO-GP03-S001 Grab Soil	11/28/2017 16:30	9342593
BIO-GP03-S002 Grab Soil	11/28/2017 16:40	9342594
BIO-GP03-W001 Grab Groundwater	11/28/2017 17:00	9342595
BIO-GP03-W101 Grab Groundwater	11/28/2017 17:02	9342596
BIO-GP04-S001 Grab Soil	11/28/2017 17:30	9342597
BIO-GP04-S001 MS Grab Soil	11/28/2017 17:30	9342598
BIO-GP04-S001 MSD Grab Soil	11/28/2017 17:30	9342599
BIO-GP04-S001 DUP Grab Soil	11/28/2017 17:30	9342600
BIO-GP04-S002 Grab Soil	11/28/2017 17:45	9342601
BIO-GP04-S301 NaHSO ₄ /MeOH	11/28/2017 17:50	9342602
BIO-GP04-W301 Water	11/28/2017 17:55	9342603

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Sample Description: BIO-GP01-S001 Grab Soil
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: SW 9342584
ELLE Group #: 1881211
Matrix: Soil

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submittal Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 14:55

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Benzene	71-43-2	N.D.	0.0006	0.006	1.02
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.006	1.02
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.006	1.02
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0006	0.006	1.02
10237	Naphthalene	91-20-3	N.D. Q2	0.001	0.006	1.02
10237	Toluene	108-88-3	N.D.	0.001	0.006	1.02
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.006	1.02
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.006	1.02
10237	Xylene (Total)	1330-20-7	0.001 J	0.001	0.006	1.02

The recovery for the sample internal standard is outside the QC acceptance limits. The following corrective action was taken:
The sample was re-analyzed and the QC is again outside of the acceptance limits, indicating a matrix effect. The data is reported from the initial trial.

GC/MS Semivolatiles	SW-846 8270C	ug/kg	ug/kg	ug/kg		
10724	Acenaphthene	83-32-9	N.D.	19	97	5
10724	Acenaphthylene	208-96-8	74 J	19	97	5
10724	Anthracene	120-12-7	83 J	19	97	5
10724	Benzo(a)anthracene	56-55-3	140	19	97	5
10724	Benzo(a)pyrene	50-32-8	140	19	97	5
10724	Benzo(b)fluoranthene	205-99-2	250 Q2	19	97	5
10724	Benzo(g,h,i)perylene	191-24-2	140	19	97	5
10724	Benzo(k)fluoranthene	207-08-9	140	19	97	5
10724	Chrysene	218-01-9	240	19	97	5
10724	Dibenz(a,h)anthracene	53-70-3	60 J	19	97	5
10724	Fluoranthene	206-44-0	250	19	97	5
10724	Fluorene	86-73-7	N.D.	19	97	5
10724	Indeno(1,2,3-cd)pyrene	193-39-5	140	19	97	5
10724	Naphthalene	91-20-3	94 J	19	97	5
10724	Phenanthrene	85-01-8	190	19	97	5
10724	Pyrene	129-00-0	210	19	97	5

PCBs	SW-846 8082	ug/kg	ug/kg	ug/kg		
10736	PCB-1016	12674-11-2	N.D. D1	4.2	20	1
10736	PCB-1221	11104-28-2	N.D. D1	5.3	20	1
10736	PCB-1232	11141-16-5	N.D. D1	9.2	20	1
10736	PCB-1242	53469-21-9	N.D. D1	3.8	20	1
10736	PCB-1248	12672-29-6	N.D. D1	3.8	20	1
10736	PCB-1254	11097-69-1	N.D. D1	3.8	20	1
10736	PCB-1260	11096-82-5	16 JD1	5.7	20	1

The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported. This applies to the TCX and DCB surrogates.

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP01-S001 Grab Soil
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: SW 9342584
ELLE Group #: 1881211
Matrix: Soil

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submittal Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 14:55

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Metals		SW-846 6010B	mg/kg	mg/kg	mg/kg	
06944	Antimony	7440-36-0	1.36 J	0.687	1.58	1
06935	Arsenic	7440-38-2	13.5 Q2	0.758	1.58	1
06947	Beryllium	7440-41-7	0.361 J	0.0623	0.395	1
06949	Cadmium	7440-43-9	0.409 Q8	0.0426	0.395	1
06951	Chromium	7440-47-3	14.7 Q8	0.134	1.18	1
06953	Copper	7440-50-8	54.1 Q2	0.189	0.789	1
06955	Lead	7439-92-1	181 Q2	0.474	1.18	1
06961	Nickel	7440-02-0	19.6	0.118	0.789	1
06936	Selenium	7782-49-2	N.D. Q8	0.734	1.58	1
06966	Silver	7440-22-4	0.678	0.189	0.395	1
06925	Thallium	7440-28-0	N.D.	1.08	2.37	1
06972	Zinc	7440-66-6	96.7 Q2	0.189	1.58	1
		SW-846 7471A	mg/kg	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.0701 J Q8	0.0110	0.110	1
Wet Chemistry		SM 2540 G-1997	%	%	%	
		%Moisture Calc				
00111	Moisture	n.a.	13.8 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTEX/MTBE/Cumene/Naph/TMBs	SW-846 8260B	1	A173421AA	12/08/2017 17:07	Jennifer K Howe	1.02
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733548152	11/28/2017 14:55	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733548152	11/28/2017 14:55	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733548152	11/28/2017 14:55	Client Supplied	1
10724	PAH 8270 (microwave)	SW-846 8270C	1	17335SLA026	12/05/2017 12:41	Anthony P Bauer	5
10814	BNA Soil Microwave PAH	SW-846 3546	1	17335SLA026	12/03/2017 17:00	Ashley R Transue	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173390024A	12/08/2017 07:39	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173390024A	12/05/2017 21:05	Karen L Beyer	1

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP01-S001 Grab Soil
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: SW 9342584
ELLE Group #: 1881211
Matrix: Soil

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 14:55

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06944	Antimony	SW-846 6010B	1	173350570804	12/14/2017 01:39	Jonathan J Allen	1
06935	Arsenic	SW-846 6010B	1	173350570804	12/14/2017 01:39	Jonathan J Allen	1
06947	Beryllium	SW-846 6010B	1	173350570804	12/11/2017 15:29	Cindy M Gehman	1
06949	Cadmium	SW-846 6010B	1	173350570804	12/11/2017 15:29	Cindy M Gehman	1
06951	Chromium	SW-846 6010B	1	173350570804	12/11/2017 15:29	Cindy M Gehman	1
06953	Copper	SW-846 6010B	1	173350570804	12/11/2017 15:29	Cindy M Gehman	1
06955	Lead	SW-846 6010B	1	173350570804	12/11/2017 15:29	Cindy M Gehman	1
06961	Nickel	SW-846 6010B	1	173350570804	12/11/2017 15:29	Cindy M Gehman	1
06936	Selenium	SW-846 6010B	1	173350570804	12/11/2017 15:29	Cindy M Gehman	1
06966	Silver	SW-846 6010B	1	173350570804	12/11/2017 15:29	Cindy M Gehman	1
06925	Thallium	SW-846 6010B	1	173350570804	12/11/2017 15:29	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173350570804	12/11/2017 15:29	Cindy M Gehman	1
00159	Mercury	SW-846 7471A	1	173350571102	12/05/2017 06:36	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173350570804	12/04/2017 16:45	Barbara A Kane	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173350571102	12/04/2017 18:00	Barbara A Kane	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17340820003A	12/06/2017 08:58	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP01-S101 Grab Soil
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: SW 9342585
ELLE Group #: 1881211
Matrix: Soil

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submittal Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 14:57

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Benzene	71-43-2	N.D.	0.0006	0.006	1.01
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.006	1.01
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.006	1.01
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0006	0.006	1.01
10237	Naphthalene	91-20-3	N.D. Q2	0.001	0.006	1.01
10237	Toluene	108-88-3	N.D.	0.001	0.006	1.01
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.006	1.01
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.006	1.01
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.006	1.01

The recovery for the sample internal standard is outside the QC acceptance limits. The following corrective action was taken:
The secondary vial was analyzed and no valid data was collected during re-analysis. Therefore the matrix effects observed in the initial analysis could not be confirmed. The values reported here are from the initial analysis.

GC/MS Semivolatiles	SW-846 8270C	ug/kg	ug/kg	ug/kg
10724	Acenaphthene	83-32-9	26 J	19
10724	Acenaphthylene	208-96-8	86 J	19
10724	Anthracene	120-12-7	80 J	19
10724	Benzo(a)anthracene	56-55-3	150	19
10724	Benzo(a)pyrene	50-32-8	140	19
10724	Benzo(b)fluoranthene	205-99-2	280 Q2	19
10724	Benzo(g,h,i)perylene	191-24-2	180	19
10724	Benzo(k)fluoranthene	207-08-9	90 J	19
10724	Chrysene	218-01-9	300	19
10724	Dibenz(a,h)anthracene	53-70-3	N.D.	19
10724	Fluoranthene	206-44-0	260	19
10724	Fluorene	86-73-7	N.D.	19
10724	Indeno(1,2,3-cd)pyrene	193-39-5	160	19
10724	Naphthalene	91-20-3	110	19
10724	Phenanthrene	85-01-8	210	19
10724	Pyrene	129-00-0	230	19

PCBs	SW-846 8082	ug/kg	ug/kg	ug/kg
10736	PCB-1016	12674-11-2	N.D. D1	4.0
10736	PCB-1221	11104-28-2	N.D. D1	5.1
10736	PCB-1232	11141-16-5	N.D. D1	8.9
10736	PCB-1242	53469-21-9	N.D. D1	3.7
10736	PCB-1248	12672-29-6	N.D. D1	3.7
10736	PCB-1254	11097-69-1	10 JD1	3.7
10736	PCB-1260	11096-82-5	N.D. D1	5.5

The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP01-S101 Grab Soil
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: SW 9342585
ELLE Group #: 1881211
Matrix: Soil

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 14:57

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
criteria, the results are reported. This applies to the TCX and DCB surrogates.						
Metals		SW-846 6010B	mg/kg	mg/kg	mg/kg	
06944	Antimony	7440-36-0	0.837 J	0.779	1.79	1
06935	Arsenic	7440-38-2	11.6 Q2	0.860	1.79	1
06947	Beryllium	7440-41-7	0.312 J	0.0708	0.448	1
06949	Cadmium	7440-43-9	0.363 J Q8	0.0484	0.448	1
06951	Chromium	7440-47-3	14.6 Q8	0.152	1.34	1
06953	Copper	7440-50-8	53.0 Q2	0.215	0.896	1
06955	Lead	7439-92-1	141 Q2	0.538	1.34	1
06961	Nickel	7440-02-0	19.5	0.134	0.896	1
06936	Selenium	7782-49-2	N.D. Q8	0.833	1.79	1
06966	Silver	7440-22-4	0.692	0.215	0.448	1
06925	Thallium	7440-28-0	N.D.	1.23	2.69	1
06972	Zinc	7440-66-6	110 Q2	0.215	1.79	1
		SW-846 7471A	mg/kg	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.0728 J Q8	0.0110	0.110	1
Wet Chemistry		SM 2540 G-1997	%	%	%	
		%Moisture Calc				
00111	Moisture	n.a.	10.7 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTEX/MTBE/Cumene/Naph/TMBs	SW-846 8260B	1	A173421AA	12/08/2017 17:30	Jennifer K Howe	1.01
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733548152	11/28/2017 14:57	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733548152	11/28/2017 14:57	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733548152	11/28/2017 14:57	Client Supplied	1
10724	PAH 8270 (microwave)	SW-846 8270C	1	17335SLA026	12/05/2017 13:05	Anthony P Bauer	5
10814	BNA Soil Microwave PAH	SW-846 3546	1	17335SLA026	12/03/2017 17:00	Ashley R Transue	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173390024A	12/08/2017 07:50	Kirby B Turner	1

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP01-S101 Grab Soil
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: SW 9342585
ELLE Group #: 1881211
Matrix: Soil

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 14:57

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173390024A	12/05/2017 21:05	Karen L Beyer	1
06944	Antimony	SW-846 6010B	1	173350570804	12/14/2017 01:42	Jonathan J Allen	1
06935	Arsenic	SW-846 6010B	1	173350570804	12/14/2017 01:42	Jonathan J Allen	1
06947	Beryllium	SW-846 6010B	1	173350570804	12/11/2017 15:33	Cindy M Gehman	1
06949	Cadmium	SW-846 6010B	1	173350570804	12/11/2017 15:33	Cindy M Gehman	1
06951	Chromium	SW-846 6010B	1	173350570804	12/11/2017 15:33	Cindy M Gehman	1
06953	Copper	SW-846 6010B	1	173350570804	12/11/2017 15:33	Cindy M Gehman	1
06955	Lead	SW-846 6010B	1	173350570804	12/11/2017 15:33	Cindy M Gehman	1
06961	Nickel	SW-846 6010B	1	173350570804	12/11/2017 15:33	Cindy M Gehman	1
06936	Selenium	SW-846 6010B	1	173350570804	12/11/2017 15:33	Cindy M Gehman	1
06966	Silver	SW-846 6010B	1	173350570804	12/11/2017 15:33	Cindy M Gehman	1
06925	Thallium	SW-846 6010B	1	173350570804	12/11/2017 15:33	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173350570804	12/11/2017 15:33	Cindy M Gehman	1
00159	Mercury	SW-846 7471A	1	173350571102	12/05/2017 06:38	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173350570804	12/04/2017 16:45	Barbara A Kane	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173350571102	12/04/2017 18:00	Barbara A Kane	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17340820003A	12/06/2017 08:58	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP01-S002 Grab Soil
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: SW 9342586
ELLE Group #: 1881211
Matrix: Soil

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submittal Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 15:10

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D.	0.0005	0.005	0.92
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	0.92
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.005	0.92
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	0.92
10237	Naphthalene	91-20-3	N.D. Q2	0.001	0.005	0.92
10237	Toluene	108-88-3	N.D.	0.001	0.005	0.92
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.005	0.92
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.005	0.92
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	0.92
GC/MS Semivolatiles			SW-846 8270C	ug/kg	ug/kg	
10724	Acenaphthene	83-32-9	41 J	18	93	5
10724	Acenaphthylene	208-96-8	N.D.	18	93	5
10724	Anthracene	120-12-7	33 J	18	93	5
10724	Benzo(a)anthracene	56-55-3	N.D.	18	93	5
10724	Benzo(a)pyrene	50-32-8	N.D.	18	93	5
10724	Benzo(b)fluoranthene	205-99-2	19 J Q2	18	93	5
10724	Benzo(g,h,i)perylene	191-24-2	N.D.	18	93	5
10724	Benzo(k)fluoranthene	207-08-9	N.D.	18	93	5
10724	Chrysene	218-01-9	N.D.	18	93	5
10724	Dibenz(a,h)anthracene	53-70-3	N.D.	18	93	5
10724	Fluoranthene	206-44-0	27 J	18	93	5
10724	Fluorene	86-73-7	49 J	18	93	5
10724	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	18	93	5
10724	Naphthalene	91-20-3	1,500	18	93	5
10724	Phenanthrene	85-01-8	57 J	18	93	5
10724	Pyrene	129-00-0	25 J	18	93	5
PCBs			SW-846 8082	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D. D1	4.0	19	1
10736	PCB-1221	11104-28-2	N.D. D1	5.1	19	1
10736	PCB-1232	11141-16-5	N.D. D1	8.8	19	1
10736	PCB-1242	53469-21-9	N.D. D1	3.6	19	1
10736	PCB-1248	12672-29-6	N.D. D1	3.6	19	1
10736	PCB-1254	11097-69-1	N.D. D1	3.6	19	1
10736	PCB-1260	11096-82-5	N.D. D1	5.4	19	1
The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported. This applies to the TCX and DCB surrogates.						
Metals			SW-846 6010B	mg/kg	mg/kg	
06944	Antimony	7440-36-0	N.D.	3.85	8.86	5
06935	Arsenic	7440-38-2	17.3 Q2	0.850	1.77	1

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP01-S002 Grab Soil
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: SW 9342586
ELLE Group #: 1881211
Matrix: Soil

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 15:10

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Metals		SW-846 6010B	mg/kg	mg/kg	mg/kg	
06947	Beryllium	7440-41-7	0.623	0.0700	0.443	1
06949	Cadmium	7440-43-9	0.114 J Q8	0.0478	0.443	1
06951	Chromium	7440-47-3	22.6 Q8	0.151	1.33	1
06953	Copper	7440-50-8	24.4 Q2	0.213	0.886	1
06955	Lead	7439-92-1	23.3 Q2	0.532	1.33	1
06961	Nickel	7440-02-0	30.7	0.133	0.886	1
06936	Selenium	7782-49-2	1.22 J Q8	0.824	1.77	1
06966	Silver	7440-22-4	N.D.	0.213	0.443	1
06925	Thallium	7440-28-0	N.D.	1.21	2.66	1
06972	Zinc	7440-66-6	95.9 Q2	0.213	1.77	1
		SW-846 7471A	mg/kg	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.0131 J Q8	0.0109	0.109	1
Wet Chemistry		SM 2540 G-1997	%	%	%	
		%Moisture Calc				
00111	Moisture	n.a.	9.7 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTEX/MTBE/Cumene/Naph/TMBs	SW-846 8260B	1	A173421AA	12/08/2017 17:53	Jennifer K Howe	0.92
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733548152	11/28/2017 15:10	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733548152	11/28/2017 15:10	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733548152	11/28/2017 15:10	Client Supplied	1
10724	PAH 8270 (microwave)	SW-846 8270C	1	17335SLA026	12/05/2017 18:42	Anthony P Bauer	5
10814	BNA Soil Microwave PAH	SW-846 3546	1	17335SLA026	12/03/2017 17:00	Ashley R Transue	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173390024A	12/08/2017 08:02	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173390024A	12/05/2017 21:05	Karen L Beyer	1
06944	Antimony	SW-846 6010B	1	173350570804	12/14/2017 02:51	Jonathan J Allen	5
06935	Arsenic	SW-846 6010B	1	173350570804	12/14/2017 01:51	Jonathan J Allen	1

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP01-S002 Grab Soil
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: SW 9342586
ELLE Group #: 1881211
Matrix: Soil

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 15:10

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06947	Beryllium	SW-846 6010B	1	173350570804	12/11/2017 15:43	Cindy M Gehman	1
06949	Cadmium	SW-846 6010B	1	173350570804	12/11/2017 15:43	Cindy M Gehman	1
06951	Chromium	SW-846 6010B	1	173350570804	12/11/2017 15:43	Cindy M Gehman	1
06953	Copper	SW-846 6010B	1	173350570804	12/11/2017 15:43	Cindy M Gehman	1
06955	Lead	SW-846 6010B	1	173350570804	12/11/2017 15:43	Cindy M Gehman	1
06961	Nickel	SW-846 6010B	1	173350570804	12/11/2017 15:43	Cindy M Gehman	1
06936	Selenium	SW-846 6010B	1	173350570804	12/11/2017 15:43	Cindy M Gehman	1
06966	Silver	SW-846 6010B	1	173350570804	12/11/2017 15:43	Cindy M Gehman	1
06925	Thallium	SW-846 6010B	1	173350570804	12/11/2017 15:43	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173350570804	12/11/2017 15:43	Cindy M Gehman	1
00159	Mercury	SW-846 7471A	1	173350571102	12/05/2017 06:40	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173350570804	12/04/2017 16:45	Barbara A Kane	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173350571102	12/04/2017 18:00	Barbara A Kane	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17340820003A	12/06/2017 08:58	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP01-W001 Grab Groundwater
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: WW 9342587
ELLE Group #: 1881211
Matrix: Groundwater

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 15:40

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10945	Naphthalene	91-20-3	N.D.	1	4	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	2	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
PCBs		SW-846 8082	ug/l	ug/l	ug/l	
10227	PCB-1016	12674-11-2	N.D. D1 Q9	0.40	2.0	1
10227	PCB-1221	11104-28-2	N.D. D1	0.40	2.0	1
10227	PCB-1232	11141-16-5	N.D. D1	0.80	2.0	1
10227	PCB-1242	53469-21-9	N.D. D1	0.40	2.0	1
10227	PCB-1248	12672-29-6	N.D. D1	0.40	2.0	1
10227	PCB-1254	11097-69-1	N.D. D1	0.40	2.0	1
10227	PCB-1260	11096-82-5	N.D. D1 Q2Q9	0.60	2.0	1
Reporting limits were raised due to interference from the sample matrix.						
Metals Dissolved		SW-846 6010B	mg/l	mg/l	mg/l	
07044	Antimony	7440-36-0	N.D.	0.0435	0.100	5
07035	Arsenic	7440-38-2	0.141 Q3	0.0480	0.100	5
07047	Beryllium	7440-41-7	0.0198 J	0.0100	0.0250	5
07049	Cadmium	7440-43-9	N.D.	0.0090	0.0250	5
07051	Chromium	7440-47-3	0.0684 J	0.0165	0.0750	5
07053	Copper	7440-50-8	2.29 Q3	0.0200	0.0500	5
07055	Lead	7439-92-1	0.501 Q3	0.0300	0.0750	5
07061	Nickel	7440-02-0	0.145	0.0200	0.0500	5
07036	Selenium	7782-49-2	N.D. Q2Q9	0.0465	0.100	5
07066	Silver	7440-22-4	N.D.	0.0120	0.0250	5
Reporting limits for metals were raised due to interference from the sample matrix.						
07022	Thallium	7440-28-0	N.D. Q2	0.0685	0.150	5
07072	Zinc	7440-66-6	0.659 Q3	0.0325	0.100	5
		SW-846 7470A	mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	N.D. Q8	0.000050	0.00020	1

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP01-W001 Grab Groundwater
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: WW 9342587
ELLE Group #: 1881211
Matrix: Groundwater

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 15:40

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was lab filtered for PCBs, and PAHs.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z173392AA	12/05/2017 13:59	Anthony H Downey	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z173392AA	12/05/2017 13:59	Anthony H Downey	1
10227	PCBs in Water	SW-846 8082	1	173380016A	12/06/2017 22:31	Jessica L Miller	1
11117	PCB Waters Extraction	SW-846 3510C	1	173380016A	12/04/2017 17:20	Kate E Lutte	1
07044	Antimony	SW-846 6010B	1	173350184801	12/04/2017 22:42	Cindy M Gehman	5
07035	Arsenic	SW-846 6010B	1	173350184801	12/04/2017 22:42	Cindy M Gehman	5
07047	Beryllium	SW-846 6010B	1	173350184801	12/04/2017 22:42	Cindy M Gehman	5
07049	Cadmium	SW-846 6010B	1	173350184801	12/04/2017 22:42	Cindy M Gehman	5
07051	Chromium	SW-846 6010B	1	173350184801	12/04/2017 22:42	Cindy M Gehman	5
07053	Copper	SW-846 6010B	1	173350184801	12/04/2017 22:42	Cindy M Gehman	5
07055	Lead	SW-846 6010B	1	173350184801	12/04/2017 22:42	Cindy M Gehman	5
07061	Nickel	SW-846 6010B	1	173350184801	12/04/2017 22:42	Cindy M Gehman	5
07036	Selenium	SW-846 6010B	1	173350184801	12/04/2017 22:42	Cindy M Gehman	5
07066	Silver	SW-846 6010B	1	173350184801	12/04/2017 22:42	Cindy M Gehman	5
07022	Thallium	SW-846 6010B	1	173350184801	12/04/2017 22:42	Cindy M Gehman	5
07072	Zinc	SW-846 6010B	1	173350184801	12/04/2017 22:42	Cindy M Gehman	5
00259	Mercury	SW-846 7470A	1	173350571305	12/05/2017 06:31	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	173350184801	12/03/2017 20:53	Annamaria Kuhns	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	173350571305	12/04/2017 16:35	JoElla L Rice	1

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP01-W001 MS Grab Groundwater
Pocono Foundry

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Brightfields, Inc.
ELLE Sample #: WW 9342588
ELLE Group #: 1881211
Matrix: Groundwater

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 15:40

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	21	0.5	1	1
10945	Ethylbenzene	100-41-4	22	0.5	1	1
10945	Isopropylbenzene	98-82-8	22	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	20	0.5	1	1
10945	Naphthalene	91-20-3	17	1	4	1
10945	Toluene	108-88-3	22	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	21	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	21	0.5	2	1
10945	Xylene (Total)	1330-20-7	69	0.5	1	1
PCBs		SW-846 8082	ug/l	ug/l	ug/l	
10227	PCB-1016	12674-11-2	29 D1 Q9	0.40	2.0	1
10227	PCB-1221	11104-28-2	N.D. D1	0.40	2.0	1
10227	PCB-1232	11141-16-5	N.D. D1	0.80	2.0	1
10227	PCB-1242	53469-21-9	N.D. D1	0.40	2.0	1
10227	PCB-1248	12672-29-6	N.D. D1	0.40	2.0	1
10227	PCB-1254	11097-69-1	N.D. D1	0.40	2.0	1
10227	PCB-1260	11096-82-5	24 D1 Q2Q9	0.60	2.0	1
Metals Dissolved		SW-846 6010B	mg/l	mg/l	mg/l	
07044	Antimony	7440-36-0	0.450	0.0435	0.100	5
07035	Arsenic	7440-38-2	0.367 Q3	0.0480	0.100	5
07047	Beryllium	7440-41-7	0.0716	0.0100	0.0250	5
07049	Cadmium	7440-43-9	0.0490	0.0090	0.0250	5
07051	Chromium	7440-47-3	0.233	0.0165	0.0750	5
07053	Copper	7440-50-8	3.32 Q3	0.0200	0.0500	5
07055	Lead	7439-92-1	0.720 Q3	0.0300	0.0750	5
07061	Nickel	7440-02-0	0.644	0.0200	0.0500	5
07036	Selenium	7782-49-2	0.141 Q2Q9	0.0465	0.100	5
07066	Silver	7440-22-4	0.0420	0.0120	0.0250	5
Reporting limits for metals were raised due to interference from the sample matrix.						
07022	Thallium	7440-28-0	0.0943 J Q2	0.0685	0.150	5
07072	Zinc	7440-66-6	1.39 Q3	0.0325	0.100	5
		SW-846 7470A	mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	0.00096 Q8	0.000050	0.00020	1

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP01-W001 MS Grab Groundwater
Pocono Foundry

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 15:40

Brightfields, Inc.
ELLE Sample #: WW 9342588
ELLE Group #: 1881211
Matrix: Groundwater

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was lab filtered for PCBs, and PAHs.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z173392AA	12/05/2017 14:23	Anthony H Downey	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z173392AA	12/05/2017 14:23	Anthony H Downey	1
10227	PCBs in Water	SW-846 8082	1	173380016A	12/06/2017 22:42	Jessica L Miller	1
11117	PCB Waters Extraction	SW-846 3510C	1	173380016A	12/04/2017 17:20	Kate E Lutte	1
07044	Antimony	SW-846 6010B	1	173350184801	12/04/2017 23:00	Cindy M Gehman	5
07035	Arsenic	SW-846 6010B	1	173350184801	12/04/2017 23:00	Cindy M Gehman	5
07047	Beryllium	SW-846 6010B	1	173350184801	12/04/2017 23:00	Cindy M Gehman	5
07049	Cadmium	SW-846 6010B	1	173350184801	12/04/2017 23:00	Cindy M Gehman	5
07051	Chromium	SW-846 6010B	1	173350184801	12/04/2017 23:00	Cindy M Gehman	5
07053	Copper	SW-846 6010B	1	173350184801	12/04/2017 23:00	Cindy M Gehman	5
07055	Lead	SW-846 6010B	1	173350184801	12/04/2017 23:00	Cindy M Gehman	5
07061	Nickel	SW-846 6010B	1	173350184801	12/04/2017 23:00	Cindy M Gehman	5
07036	Selenium	SW-846 6010B	1	173350184801	12/04/2017 23:00	Cindy M Gehman	5
07066	Silver	SW-846 6010B	1	173350184801	12/04/2017 23:00	Cindy M Gehman	5
07022	Thallium	SW-846 6010B	1	173350184801	12/04/2017 23:00	Cindy M Gehman	5
07072	Zinc	SW-846 6010B	1	173350184801	12/04/2017 23:00	Cindy M Gehman	5
00259	Mercury	SW-846 7470A	1	173350571305	12/05/2017 06:35	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	173350184801	12/03/2017 20:53	Annamaria Kuhns	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	173350571305	12/04/2017 16:35	JoElla L Rice	1

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP01-W001 MSD Grab Groundwater
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: WW 9342589
ELLE Group #: 1881211
Matrix: Groundwater

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 15:40

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	21	0.5	1	1
10945	Ethylbenzene	100-41-4	22	0.5	1	1
10945	Isopropylbenzene	98-82-8	23	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	21	0.5	1	1
10945	Naphthalene	91-20-3	17	1	4	1
10945	Toluene	108-88-3	22	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	22	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	21	0.5	2	1
10945	Xylene (Total)	1330-20-7	70	0.5	1	1
PCBs		SW-846 8082	ug/l	ug/l	ug/l	
10227	PCB-1016	12674-11-2	21 D1 Q9	0.40	2.0	1
10227	PCB-1221	11104-28-2	N.D. D1	0.40	2.0	1
10227	PCB-1232	11141-16-5	N.D. D1	0.80	2.0	1
10227	PCB-1242	53469-21-9	N.D. D1	0.40	2.0	1
10227	PCB-1248	12672-29-6	N.D. D1	0.40	2.0	1
10227	PCB-1254	11097-69-1	N.D. D1	0.40	2.0	1
10227	PCB-1260	11096-82-5	11 D1 Q2Q9	0.60	2.0	1
Metals Dissolved		SW-846 6010B	mg/l	mg/l	mg/l	
07044	Antimony	7440-36-0	0.482	0.0435	0.100	5
07035	Arsenic	7440-38-2	0.324 Q3	0.0480	0.100	5
07047	Beryllium	7440-41-7	0.0685	0.0100	0.0250	5
07049	Cadmium	7440-43-9	0.0499	0.0090	0.0250	5
07051	Chromium	7440-47-3	0.235	0.0165	0.0750	5
07053	Copper	7440-50-8	2.96 Q3	0.0200	0.0500	5
07055	Lead	7439-92-1	0.679 Q3	0.0300	0.0750	5
07061	Nickel	7440-02-0	0.616	0.0200	0.0500	5
07036	Selenium	7782-49-2	0.0897 J Q2Q9	0.0465	0.100	5
07066	Silver	7440-22-4	0.0423	0.0120	0.0250	5
Reporting limits for metals were raised due to interference from the sample matrix.						
07022	Thallium	7440-28-0	0.109 J Q2	0.0685	0.150	5
07072	Zinc	7440-66-6	1.23 Q3	0.0325	0.100	5
		SW-846 7470A	mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	0.00092 Q8	0.000050	0.00020	1

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP01-W001 MSD Grab Groundwater
Pocono Foundry

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Brightfields, Inc.
ELLE Sample #: WW 9342589
ELLE Group #: 1881211
Matrix: Groundwater

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 15:40

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was lab filtered for PCBs, and PAHs.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z173392AA	12/05/2017 14:47	Anthony H Downey	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z173392AA	12/05/2017 14:47	Anthony H Downey	1
10227	PCBs in Water	SW-846 8082	1	173380016A	12/06/2017 22:54	Jessica L Miller	1
11117	PCB Waters Extraction	SW-846 3510C	1	173380016A	12/04/2017 17:20	Kate E Lutte	1
07044	Antimony	SW-846 6010B	1	173350184801	12/04/2017 23:03	Cindy M Gehman	5
07035	Arsenic	SW-846 6010B	1	173350184801	12/04/2017 23:03	Cindy M Gehman	5
07047	Beryllium	SW-846 6010B	1	173350184801	12/04/2017 23:03	Cindy M Gehman	5
07049	Cadmium	SW-846 6010B	1	173350184801	12/04/2017 23:03	Cindy M Gehman	5
07051	Chromium	SW-846 6010B	1	173350184801	12/04/2017 23:03	Cindy M Gehman	5
07053	Copper	SW-846 6010B	1	173350184801	12/04/2017 23:03	Cindy M Gehman	5
07055	Lead	SW-846 6010B	1	173350184801	12/04/2017 23:03	Cindy M Gehman	5
07061	Nickel	SW-846 6010B	1	173350184801	12/04/2017 23:03	Cindy M Gehman	5
07036	Selenium	SW-846 6010B	1	173350184801	12/04/2017 23:03	Cindy M Gehman	5
07066	Silver	SW-846 6010B	1	173350184801	12/04/2017 23:03	Cindy M Gehman	5
07022	Thallium	SW-846 6010B	1	173350184801	12/04/2017 23:03	Cindy M Gehman	5
07072	Zinc	SW-846 6010B	1	173350184801	12/04/2017 23:03	Cindy M Gehman	5
00259	Mercury	SW-846 7470A	1	173350571305	12/05/2017 06:41	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	173350184801	12/03/2017 20:53	Annamaria Kuhns	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	173350571305	12/04/2017 16:35	JoElla L Rice	1

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP01-W001 DUP Grab Groundwater
Pocono Foundry

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Brightfields, Inc.
ELLE Sample #: WW 9342590
ELLE Group #: 1881211
Matrix: Groundwater

Submittal Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 15:40

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
Metals Dissolved		SW-846 6010B	mg/l	mg/l	mg/l	
07044	Antimony	7440-36-0	N.D.	0.0435	0.100	5
07035	Arsenic	7440-38-2	0.136 Q3	0.0480	0.100	5
07047	Beryllium	7440-41-7	0.0181 J	0.0100	0.0250	5
07049	Cadmium	7440-43-9	N.D.	0.0090	0.0250	5
07051	Chromium	7440-47-3	0.0604 J	0.0165	0.0750	5
07053	Copper	7440-50-8	2.07 Q3	0.0200	0.0500	5
07055	Lead	7439-92-1	0.450 Q3	0.0300	0.0750	5
07061	Nickel	7440-02-0	0.137	0.0200	0.0500	5
07036	Selenium	7782-49-2	N.D. Q2Q9	0.0465	0.100	5
07066	Silver	7440-22-4	N.D.	0.0120	0.0250	5
Reporting limits for metals were raised due to interference from the sample matrix.						
07022	Thallium	7440-28-0	N.D. Q2	0.0685	0.150	5
07072	Zinc	7440-66-6	0.626 Q3	0.0325	0.100	5
		SW-846 7470A	mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	0.000055 J Q8	0.000050	0.00020	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was lab filtered for PCBs, and PAHs.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07044	Antimony	SW-846 6010B	1	173350184801	12/04/2017 22:56	Cindy M Gehman	5
07035	Arsenic	SW-846 6010B	1	173350184801	12/04/2017 22:56	Cindy M Gehman	5
07047	Beryllium	SW-846 6010B	1	173350184801	12/04/2017 22:56	Cindy M Gehman	5
07049	Cadmium	SW-846 6010B	1	173350184801	12/04/2017 22:56	Cindy M Gehman	5
07051	Chromium	SW-846 6010B	1	173350184801	12/04/2017 22:56	Cindy M Gehman	5
07053	Copper	SW-846 6010B	1	173350184801	12/04/2017 22:56	Cindy M Gehman	5
07055	Lead	SW-846 6010B	1	173350184801	12/04/2017 22:56	Cindy M Gehman	5
07061	Nickel	SW-846 6010B	1	173350184801	12/04/2017 22:56	Cindy M Gehman	5
07036	Selenium	SW-846 6010B	1	173350184801	12/04/2017 22:56	Cindy M Gehman	5
07066	Silver	SW-846 6010B	1	173350184801	12/04/2017 22:56	Cindy M Gehman	5
07022	Thallium	SW-846 6010B	1	173350184801	12/04/2017 22:56	Cindy M Gehman	5
07072	Zinc	SW-846 6010B	1	173350184801	12/04/2017 22:56	Cindy M Gehman	5
00259	Mercury	SW-846 7470A	1	173350571305	12/05/2017 06:33	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	173350184801	12/03/2017 20:53	Annamaria Kuhns	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	173350571305	12/04/2017 16:35	JoElla L Rice	1

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP02-S001 Grab Soil
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: SW 9342591
ELLE Group #: 1881211
Matrix: Soil

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 16:10

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Benzene	71-43-2	N.D.	0.0005	0.005	1
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	1
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.005	1
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	1
10237	Naphthalene	91-20-3	N.D.	0.001	0.005	1
10237	Toluene	108-88-3	0.002 J	0.001	0.005	1
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.005	1
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.005	1
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	1

The recovery for the sample internal standard is outside the QC acceptance limits. The following corrective action was taken:
The sample was re-analyzed and the QC is again outside of the acceptance limits, indicating a matrix effect. The data is reported from the initial trial.

GC/MS Semivolatiles	SW-846 8270C	ug/kg	ug/kg	ug/kg		
10724	Acenaphthene	83-32-9	6 J	3	18	1
10724	Acenaphthylene	208-96-8	14 J	3	18	1
10724	Anthracene	120-12-7	18	3	18	1
10724	Benzo(a)anthracene	56-55-3	49	3	18	1
10724	Benzo(a)pyrene	50-32-8	46	3	18	1
10724	Benzo(b)fluoranthene	205-99-2	88 Q2	3	18	1
10724	Benzo(g,h,i)perylene	191-24-2	74	3	18	1
10724	Benzo(k)fluoranthene	207-08-9	31	3	18	1
10724	Chrysene	218-01-9	110	3	18	1
10724	Dibenz(a,h)anthracene	53-70-3	24	3	18	1
10724	Fluoranthene	206-44-0	80	3	18	1
10724	Fluorene	86-73-7	12 J	3	18	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	51	3	18	1
10724	Naphthalene	91-20-3	73	3	18	1
10724	Phenanthrene	85-01-8	100	3	18	1
10724	Pyrene	129-00-0	98	3	18	1

PCBs	SW-846 8082	ug/kg	ug/kg	ug/kg		
10736	PCB-1016	12674-11-2	N.D. D1	3.8	18	1
10736	PCB-1221	11104-28-2	N.D. D1	4.8	18	1
10736	PCB-1232	11141-16-5	N.D. D1	8.3	18	1
10736	PCB-1242	53469-21-9	N.D. D1	3.4	18	1
10736	PCB-1248	12672-29-6	N.D. D1	3.4	18	1
10736	PCB-1254	11097-69-1	N.D. D1	3.4	18	1
10736	PCB-1260	11096-82-5	30 D1	5.1	18	1

The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported. This applies to the TCX and DCB surrogates.

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP02-S001 Grab Soil
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: SW 9342591
ELLE Group #: 1881211
Matrix: Soil

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submittal Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 16:10

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Metals		SW-846 6010B	mg/kg	mg/kg	mg/kg	
06944	Antimony	7440-36-0	N.D.	0.731	1.68	1
06935	Arsenic	7440-38-2	6.23 Q2	0.807	1.68	1
06947	Beryllium	7440-41-7	0.180 J	0.0664	0.420	1
06949	Cadmium	7440-43-9	0.747 Q8	0.0454	0.420	1
06951	Chromium	7440-47-3	52.0 Q8	0.143	1.26	1
06953	Copper	7440-50-8	58.7 Q2	0.202	0.841	1
06955	Lead	7439-92-1	209 Q2	0.504	1.26	1
06961	Nickel	7440-02-0	29.4	0.126	0.841	1
06936	Selenium	7782-49-2	N.D. Q8	0.782	1.68	1
06966	Silver	7440-22-4	0.335 J	0.202	0.420	1
06925	Thallium	7440-28-0	N.D.	1.15	2.52	1
06972	Zinc	7440-66-6	105 Q2	0.202	1.68	1
		SW-846 7471A	mg/kg	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.0334 J Q8	0.0103	0.103	1
Wet Chemistry		SM 2540 G-1997	%	%	%	
		%Moisture Calc				
00111	Moisture	n.a.	5.6 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTEX/MTBE/Cumene/Naph/TMBs	SW-846 8260B	1	A173413AA	12/08/2017 05:50	Stephen C Nolte	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733548152	11/28/2017 16:10	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733548152	11/28/2017 16:10	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733548152	11/28/2017 16:10	Client Supplied	1
10724	PAH 8270 (microwave)	SW-846 8270C	1	17335SLA026	12/06/2017 02:43	Anthony P Bauer	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	17335SLA026	12/03/2017 17:00	Ashley R Transue	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173390024A	12/08/2017 08:13	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173390024A	12/05/2017 21:05	Karen L Beyer	1

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP02-S001 Grab Soil
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: SW 9342591
ELLE Group #: 1881211
Matrix: Soil

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 16:10

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06944	Antimony	SW-846 6010B	1	173350570804	12/14/2017 01:54	Jonathan J Allen	1
06935	Arsenic	SW-846 6010B	1	173350570804	12/14/2017 01:54	Jonathan J Allen	1
06947	Beryllium	SW-846 6010B	1	173350570804	12/11/2017 15:47	Cindy M Gehman	1
06949	Cadmium	SW-846 6010B	1	173350570804	12/11/2017 15:47	Cindy M Gehman	1
06951	Chromium	SW-846 6010B	1	173350570804	12/11/2017 15:47	Cindy M Gehman	1
06953	Copper	SW-846 6010B	1	173350570804	12/11/2017 15:47	Cindy M Gehman	1
06955	Lead	SW-846 6010B	1	173350570804	12/11/2017 15:47	Cindy M Gehman	1
06961	Nickel	SW-846 6010B	1	173350570804	12/11/2017 15:47	Cindy M Gehman	1
06936	Selenium	SW-846 6010B	1	173350570804	12/11/2017 15:47	Cindy M Gehman	1
06966	Silver	SW-846 6010B	1	173350570804	12/11/2017 15:47	Cindy M Gehman	1
06925	Thallium	SW-846 6010B	1	173350570804	12/11/2017 15:47	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173350570804	12/11/2017 15:47	Cindy M Gehman	1
00159	Mercury	SW-846 7471A	1	173350571102	12/05/2017 06:46	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173350570804	12/04/2017 16:45	Barbara A Kane	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173350571102	12/04/2017 18:00	Barbara A Kane	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17340820003A	12/06/2017 08:58	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP02-S002 Grab Soil
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: SW 9342592
ELLE Group #: 1881211
Matrix: Soil

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 16:20

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D.	0.0005	0.005	1
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	1
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.005	1
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	1
10237	Naphthalene	91-20-3	N.D.	0.001	0.005	1
10237	Toluene	108-88-3	N.D.	0.001	0.005	1
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.005	1
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.005	1
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	1
GC/MS Semivolatiles			SW-846 8270C	ug/kg	ug/kg	
10724	Acenaphthene	83-32-9	N.D.	3	18	1
10724	Acenaphthylene	208-96-8	4 J	3	18	1
10724	Anthracene	120-12-7	N.D.	3	18	1
10724	Benzo(a)anthracene	56-55-3	13 J	3	18	1
10724	Benzo(a)pyrene	50-32-8	9 J	3	18	1
10724	Benzo(b)fluoranthene	205-99-2	22 Q2	3	18	1
10724	Benzo(g,h,i)perylene	191-24-2	10 J	3	18	1
10724	Benzo(k)fluoranthene	207-08-9	9 J	3	18	1
10724	Chrysene	218-01-9	16 J	3	18	1
10724	Dibenz(a,h)anthracene	53-70-3	12 J	3	18	1
10724	Fluoranthene	206-44-0	18	3	18	1
10724	Fluorene	86-73-7	5 J	3	18	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	9 J	3	18	1
10724	Naphthalene	91-20-3	6 J	3	18	1
10724	Phenanthrene	85-01-8	12 J	3	18	1
10724	Pyrene	129-00-0	18	3	18	1
PCBs			SW-846 8082	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D. D1	3.8	18	1
10736	PCB-1221	11104-28-2	N.D. D1	4.8	18	1
10736	PCB-1232	11141-16-5	N.D. D1	8.4	18	1
10736	PCB-1242	53469-21-9	N.D. D1	3.5	18	1
10736	PCB-1248	12672-29-6	N.D. D1	3.5	18	1
10736	PCB-1254	11097-69-1	N.D. D1	3.5	18	1
10736	PCB-1260	11096-82-5	N.D. D1	5.1	18	1
<p>The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported. This applies to the TCX and DCB surrogates.</p>						
Metals			SW-846 6010B	mg/kg	mg/kg	
06944	Antimony	7440-36-0	N.D.	3.28	7.53	5
06935	Arsenic	7440-38-2	16.0 Q2	3.61	7.53	5

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP02-S002 Grab Soil
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: SW 9342592
ELLE Group #: 1881211
Matrix: Soil

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submittal Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 16:20

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Metals		SW-846 6010B	mg/kg	mg/kg	mg/kg	
06947	Beryllium	7440-41-7	0.681	0.0595	0.376	1
06949	Cadmium	7440-43-9	N.D. Q8	0.0407	0.376	1
06951	Chromium	7440-47-3	25.4 Q8	0.128	1.13	1
06953	Copper	7440-50-8	20.3 Q2	0.181	0.753	1
06955	Lead	7439-92-1	33.7 Q2	0.452	1.13	1
06961	Nickel	7440-02-0	35.7	0.113	0.753	1
06936	Selenium	7782-49-2	1.45 J Q8	0.700	1.51	1
06966	Silver	7440-22-4	N.D.	0.181	0.376	1
06925	Thallium	7440-28-0	N.D.	1.03	2.26	1
06972	Zinc	7440-66-6	80.1 Q2	0.181	1.51	1
		SW-846 7471A	mg/kg	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.0187 J Q8	0.010	0.0995	1
Wet Chemistry		SM 2540 G-1997	%	%	%	
		%Moisture Calc				
00111	Moisture	n.a.	5.8 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTEX/MTBE/Cumene/Naph/TMBs	SW-846 8260B	1	A173413AA	12/08/2017 06:13	Stephen C Nolte	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733548152	11/28/2017 16:20	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733548152	11/28/2017 16:20	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733548152	11/28/2017 16:20	Client Supplied	1
10724	PAH 8270 (microwave)	SW-846 8270C	1	17335SLA026	12/06/2017 03:07	Anthony P Bauer	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	17335SLA026	12/03/2017 17:00	Ashley R Transue	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173390024A	12/08/2017 08:24	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173390024A	12/05/2017 21:05	Karen L Beyer	1
06944	Antimony	SW-846 6010B	1	173350570804	12/14/2017 02:54	Jonathan J Allen	5
06935	Arsenic	SW-846 6010B	1	173350570804	12/14/2017 02:54	Jonathan J Allen	5

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP02-S002 Grab Soil
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: SW 9342592
ELLE Group #: 1881211
Matrix: Soil

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 16:20

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06947	Beryllium	SW-846 6010B	1	173350570804	12/11/2017 15:50	Cindy M Gehman	1
06949	Cadmium	SW-846 6010B	1	173350570804	12/11/2017 15:50	Cindy M Gehman	1
06951	Chromium	SW-846 6010B	1	173350570804	12/11/2017 15:50	Cindy M Gehman	1
06953	Copper	SW-846 6010B	1	173350570804	12/11/2017 15:50	Cindy M Gehman	1
06955	Lead	SW-846 6010B	1	173350570804	12/11/2017 15:50	Cindy M Gehman	1
06961	Nickel	SW-846 6010B	1	173350570804	12/11/2017 15:50	Cindy M Gehman	1
06936	Selenium	SW-846 6010B	1	173350570804	12/11/2017 15:50	Cindy M Gehman	1
06966	Silver	SW-846 6010B	1	173350570804	12/11/2017 15:50	Cindy M Gehman	1
06925	Thallium	SW-846 6010B	1	173350570804	12/11/2017 15:50	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173350570804	12/11/2017 15:50	Cindy M Gehman	1
00159	Mercury	SW-846 7471A	1	173350571102	12/05/2017 06:48	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173350570804	12/04/2017 16:45	Barbara A Kane	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173350571102	12/04/2017 18:00	Barbara A Kane	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17340820003A	12/06/2017 08:58	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP03-S001 Grab Soil
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: SW 9342593
ELLE Group #: 1881211
Matrix: Soil

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submittal Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 16:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	Benzene	71-43-2	0.001 J	0.0006	0.006	0.97
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.006	0.97
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.006	0.97
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0006	0.006	0.97
10237	Naphthalene	91-20-3	N.D. Q2	0.001	0.006	0.97
10237	Toluene	108-88-3	N.D.	0.001	0.006	0.97
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.006	0.97
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.006	0.97
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.006	0.97

The recovery for the sample internal standard is outside the QC acceptance limits. The following corrective action was taken:
The secondary vial was analyzed and no valid data was collected during re-analysis. Therefore the matrix effects observed in the initial analysis could not be confirmed. The values reported here are from the initial analysis.

GC/MS Semivolatiles	SW-846 8270C	ug/kg	ug/kg	ug/kg
10724	Acenaphthene	83-32-9	N.D.	19
10724	Acenaphthylene	208-96-8	27 J	19
10724	Anthracene	120-12-7	N.D.	19
10724	Benzo(a)anthracene	56-55-3	43 J	19
10724	Benzo(a)pyrene	50-32-8	38 J	19
10724	Benzo(b)fluoranthene	205-99-2	46 J Q2	19
10724	Benzo(g,h,i)perylene	191-24-2	46 J	19
10724	Benzo(k)fluoranthene	207-08-9	20 J	19
10724	Chrysene	218-01-9	54 J	19
10724	Dibenz(a,h)anthracene	53-70-3	27 J	19
10724	Fluoranthene	206-44-0	67 J	19
10724	Fluorene	86-73-7	N.D.	19
10724	Indeno(1,2,3-cd)pyrene	193-39-5	45 J	19
10724	Naphthalene	91-20-3	25 J	19
10724	Phenanthrene	85-01-8	64 J	19
10724	Pyrene	129-00-0	71 J	19

PCBs	SW-846 8082	ug/kg	ug/kg	ug/kg
10736	PCB-1016	12674-11-2	N.D. D1	4.1
10736	PCB-1221	11104-28-2	N.D. D1	5.3
10736	PCB-1232	11141-16-5	N.D. D1	9.2
10736	PCB-1242	53469-21-9	N.D. D1	3.8
10736	PCB-1248	12672-29-6	N.D. D1	3.8
10736	PCB-1254	11097-69-1	N.D. D1	3.8
10736	PCB-1260	11096-82-5	N.D. D2	5.6

The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP03-S001 Grab Soil
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: SW 9342593
ELLE Group #: 1881211
Matrix: Soil

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submittal Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 16:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
criteria, the results are reported. This applies to the TCX and DCB surrogates.						
Metals		SW-846 6010B	mg/kg	mg/kg	mg/kg	
06944	Antimony	7440-36-0	N.D.	3.46	7.96	5
06935	Arsenic	7440-38-2	8.09 Q2	0.764	1.59	1
06947	Beryllium	7440-41-7	0.376 J	0.0628	0.398	1
06949	Cadmium	7440-43-9	0.109 J Q8	0.0430	0.398	1
06951	Chromium	7440-47-3	18.5 Q8	0.135	1.19	1
06953	Copper	7440-50-8	10.2 Q2	0.191	0.796	1
06955	Lead	7439-92-1	19.2 Q2	0.477	1.19	1
06961	Nickel	7440-02-0	15.5	0.119	0.796	1
06936	Selenium	7782-49-2	N.D. Q8	0.740	1.59	1
06966	Silver	7440-22-4	N.D.	0.191	0.398	1
06925	Thallium	7440-28-0	N.D.	1.09	2.39	1
06972	Zinc	7440-66-6	42.1 Q2	0.191	1.59	1
		SW-846 7471A	mg/kg	mg/kg	mg/kg	
00159	Mercury	7439-97-6	N.D. Q8	0.0112	0.112	1
Wet Chemistry		SM 2540 G-1997	%	%	%	
		%Moisture Calc				
00111	Moisture	n.a.	13.9 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTEX/MTBE/Cumene/Naph/TMBs	SW-846 8260B	1	A173421AA	12/08/2017 18:38	Jennifer K Howe	0.97
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733548152	11/28/2017 16:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733548152	11/28/2017 16:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733548152	11/28/2017 16:30	Client Supplied	1
10724	PAH 8270 (microwave)	SW-846 8270C	1	17335SLA026	12/06/2017 03:31	Anthony P Bauer	5
10814	BNA Soil Microwave PAH	SW-846 3546	1	17335SLA026	12/03/2017 17:00	Ashley R Transue	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173390024A	12/08/2017 08:36	Kirby B Turner	1

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP03-S001 Grab Soil
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: SW 9342593
ELLE Group #: 1881211
Matrix: Soil

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 16:30

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173390024A	12/05/2017 21:05	Karen L Beyer	1
06944	Antimony	SW-846 6010B	1	173350570804	12/14/2017 02:57	Jonathan J Allen	5
06935	Arsenic	SW-846 6010B	1	173350570804	12/14/2017 02:01	Jonathan J Allen	1
06947	Beryllium	SW-846 6010B	1	173350570804	12/11/2017 15:54	Cindy M Gehman	1
06949	Cadmium	SW-846 6010B	1	173350570804	12/11/2017 15:54	Cindy M Gehman	1
06951	Chromium	SW-846 6010B	1	173350570804	12/11/2017 15:54	Cindy M Gehman	1
06953	Copper	SW-846 6010B	1	173350570804	12/11/2017 15:54	Cindy M Gehman	1
06955	Lead	SW-846 6010B	1	173350570804	12/11/2017 15:54	Cindy M Gehman	1
06961	Nickel	SW-846 6010B	1	173350570804	12/11/2017 15:54	Cindy M Gehman	1
06936	Selenium	SW-846 6010B	1	173350570804	12/11/2017 15:54	Cindy M Gehman	1
06966	Silver	SW-846 6010B	1	173350570804	12/11/2017 15:54	Cindy M Gehman	1
06925	Thallium	SW-846 6010B	1	173350570804	12/11/2017 15:54	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173350570804	12/11/2017 15:54	Cindy M Gehman	1
00159	Mercury	SW-846 7471A	1	173350571102	12/05/2017 06:50	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173350570804	12/04/2017 16:45	Barbara A Kane	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173350571102	12/04/2017 18:00	Barbara A Kane	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17340820003A	12/06/2017 08:58	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP03-S002 Grab Soil
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: SW 9342594
ELLE Group #: 1881211
Matrix: Soil

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submittal Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 16:40

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Benzene	71-43-2	N.D.	0.0005	0.005	0.96
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	0.96
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.005	0.96
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	0.96
10237	Naphthalene	91-20-3	N.D.	0.001	0.005	0.96
10237	Toluene	108-88-3	N.D.	0.001	0.005	0.96
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.005	0.96
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.005	0.96
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	0.96
GC/MS Semivolatiles			ug/kg	ug/kg	ug/kg	
SW-846 8270C						
10724	Acenaphthene	83-32-9	N.D.	19	95	5
10724	Acenaphthylene	208-96-8	N.D.	19	95	5
10724	Anthracene	120-12-7	N.D.	19	95	5
10724	Benzo(a)anthracene	56-55-3	23 J	19	95	5
10724	Benzo(a)pyrene	50-32-8	20 J	19	95	5
10724	Benzo(b)fluoranthene	205-99-2	25 J Q2	19	95	5
10724	Benzo(g,h,i)perylene	191-24-2	N.D.	19	95	5
10724	Benzo(k)fluoranthene	207-08-9	N.D.	19	95	5
10724	Chrysene	218-01-9	N.D.	19	95	5
10724	Dibenz(a,h)anthracene	53-70-3	N.D.	19	95	5
10724	Fluoranthene	206-44-0	35 J	19	95	5
10724	Fluorene	86-73-7	N.D.	19	95	5
10724	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	19	95	5
10724	Naphthalene	91-20-3	N.D.	19	95	5
10724	Phenanthrene	85-01-8	41 J	19	95	5
10724	Pyrene	129-00-0	39 J	19	95	5
PCBs			ug/kg	ug/kg	ug/kg	
SW-846 8082						
10736	PCB-1016	12674-11-2	N.D. D1	4.0	19	1
10736	PCB-1221	11104-28-2	N.D. D1	5.1	19	1
10736	PCB-1232	11141-16-5	N.D. D1	9.0	19	1
10736	PCB-1242	53469-21-9	N.D. D1	3.7	19	1
10736	PCB-1248	12672-29-6	N.D. D1	3.7	19	1
10736	PCB-1254	11097-69-1	N.D. D1	3.7	19	1
10736	PCB-1260	11096-82-5	N.D. D1	5.5	19	1
<p>The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported. This applies to the TCX and DCB surrogates.</p>						
Metals			mg/kg	mg/kg	mg/kg	
SW-846 6010B						
06944	Antimony	7440-36-0	N.D.	3.65	8.40	5
06935	Arsenic	7440-38-2	10.5 Q2	0.806	1.68	1

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP03-S002 Grab Soil
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: SW 9342594
ELLE Group #: 1881211
Matrix: Soil

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submittal Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 16:40

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Metals		SW-846 6010B	mg/kg	mg/kg	mg/kg	
06947	Beryllium	7440-41-7	0.475	0.0663	0.420	1
06949	Cadmium	7440-43-9	0.0588 J Q8	0.0454	0.420	1
06951	Chromium	7440-47-3	18.5 Q8	0.143	1.26	1
06953	Copper	7440-50-8	13.2 Q2	0.202	0.840	1
06955	Lead	7439-92-1	18.0 Q2	0.504	1.26	1
06961	Nickel	7440-02-0	24.4	0.126	0.840	1
06936	Selenium	7782-49-2	N.D. Q8	0.781	1.68	1
06966	Silver	7440-22-4	N.D.	0.202	0.420	1
06925	Thallium	7440-28-0	N.D.	1.15	2.52	1
06972	Zinc	7440-66-6	51.0 Q2	0.202	1.68	1
		SW-846 7471A	mg/kg	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.0133 J Q8	0.0106	0.106	1
Wet Chemistry		SM 2540 G-1997	%	%	%	
		%Moisture Calc				
00111	Moisture	n.a.	11.8 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTEX/MTBE/Cumene/Naph/TMBs	SW-846 8260B	1	A173413AA	12/08/2017 06:58	Stephen C Nolte	0.96
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733548152	11/28/2017 16:40	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733548152	11/28/2017 16:40	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733548152	11/28/2017 16:40	Client Supplied	1
10724	PAH 8270 (microwave)	SW-846 8270C	1	17335SLA026	12/06/2017 03:56	Anthony P Bauer	5
10814	BNA Soil Microwave PAH	SW-846 3546	1	17335SLA026	12/03/2017 17:00	Ashley R Transue	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173390024A	12/08/2017 08:47	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173390024A	12/05/2017 21:05	Karen L Beyer	1
06944	Antimony	SW-846 6010B	1	173350570804	12/14/2017 03:00	Jonathan J Allen	5
06935	Arsenic	SW-846 6010B	1	173350570804	12/14/2017 02:04	Jonathan J Allen	1

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP03-S002 Grab Soil
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: SW 9342594
ELLE Group #: 1881211
Matrix: Soil

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 16:40

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06947	Beryllium	SW-846 6010B	1	173350570804	12/11/2017 15:57	Cindy M Gehman	1
06949	Cadmium	SW-846 6010B	1	173350570804	12/11/2017 15:57	Cindy M Gehman	1
06951	Chromium	SW-846 6010B	1	173350570804	12/11/2017 15:57	Cindy M Gehman	1
06953	Copper	SW-846 6010B	1	173350570804	12/11/2017 15:57	Cindy M Gehman	1
06955	Lead	SW-846 6010B	1	173350570804	12/11/2017 15:57	Cindy M Gehman	1
06961	Nickel	SW-846 6010B	1	173350570804	12/11/2017 15:57	Cindy M Gehman	1
06936	Selenium	SW-846 6010B	1	173350570804	12/11/2017 15:57	Cindy M Gehman	1
06966	Silver	SW-846 6010B	1	173350570804	12/11/2017 15:57	Cindy M Gehman	1
06925	Thallium	SW-846 6010B	1	173350570804	12/11/2017 15:57	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173350570804	12/11/2017 15:57	Cindy M Gehman	1
00159	Mercury	SW-846 7471A	1	173350571102	12/05/2017 06:52	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173350570804	12/04/2017 16:45	Barbara A Kane	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173350571102	12/04/2017 18:00	Barbara A Kane	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17340820003A	12/06/2017 08:58	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP03-W001 Grab Groundwater
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: WW 9342595
ELLE Group #: 1881211
Matrix: Groundwater

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submittal Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 17:00

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10945	Naphthalene	91-20-3	N.D.	1	4	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	2	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
PCBs		SW-846 8082	ug/l	ug/l	ug/l	
10227	PCB-1016	12674-11-2	N.D. D1 Q9	0.18	0.88	1
10227	PCB-1221	11104-28-2	N.D. D1	0.18	0.88	1
10227	PCB-1232	11141-16-5	N.D. D1	0.35	0.88	1
10227	PCB-1242	53469-21-9	N.D. D1	0.18	0.88	1
10227	PCB-1248	12672-29-6	N.D. D1	0.18	0.88	1
10227	PCB-1254	11097-69-1	N.D. D1	0.18	0.88	1
10227	PCB-1260	11096-82-5	N.D. D1 Q2Q9	0.27	0.88	1
Reporting limits were raised due to interference from the sample matrix.						
Metals Dissolved		SW-846 6010B	mg/l	mg/l	mg/l	
07044	Antimony	7440-36-0	N.D.	0.0087	0.0200	1
07035	Arsenic	7440-38-2	0.0138 J Q3	0.0096	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.0020	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.0018	0.0050	1
07051	Chromium	7440-47-3	0.0237	0.0033	0.0150	1
07053	Copper	7440-50-8	0.0266 Q3	0.0040	0.0100	1
07055	Lead	7439-92-1	0.0329 Q3	0.0060	0.0150	1
07061	Nickel	7440-02-0	0.0297	0.0040	0.0100	1
07036	Selenium	7782-49-2	N.D. Q2Q9	0.0093	0.0200	1
07066	Silver	7440-22-4	N.D.	0.0024	0.0050	1
07022	Thallium	7440-28-0	N.D. Q2	0.0137	0.0300	1
07072	Zinc	7440-66-6	0.0587 Q3	0.0065	0.0200	1
		SW-846 7470A	mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	N.D. Q8	0.000050	0.00020	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was lab filtered for PCBs, and PAHs.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP03-W001 Grab Groundwater
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: WW 9342595
ELLE Group #: 1881211
Matrix: Groundwater

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 17:00

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z173392AA	12/05/2017 13:35	Anthony H Downey	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z173392AA	12/05/2017 13:35	Anthony H Downey	1
10227	PCBs in Water	SW-846 8082	1	173380016A	12/06/2017 23:05	Jessica L Miller	1
11117	PCB Waters Extraction	SW-846 3510C	1	173380016A	12/04/2017 17:20	Kate E Lutte	1
07044	Antimony	SW-846 6010B	1	173350184801	12/04/2017 12:51	Suzanne M Will	1
07035	Arsenic	SW-846 6010B	1	173350184801	12/04/2017 12:51	Suzanne M Will	1
07047	Beryllium	SW-846 6010B	1	173350184801	12/04/2017 12:51	Suzanne M Will	1
07049	Cadmium	SW-846 6010B	1	173350184801	12/04/2017 12:51	Suzanne M Will	1
07051	Chromium	SW-846 6010B	1	173350184801	12/04/2017 12:51	Suzanne M Will	1
07053	Copper	SW-846 6010B	1	173350184801	12/04/2017 12:51	Suzanne M Will	1
07055	Lead	SW-846 6010B	1	173350184801	12/05/2017 00:07	Cindy M Gehman	1
07061	Nickel	SW-846 6010B	1	173350184801	12/04/2017 12:51	Suzanne M Will	1
07036	Selenium	SW-846 6010B	1	173350184801	12/05/2017 00:07	Cindy M Gehman	1
07066	Silver	SW-846 6010B	1	173350184801	12/05/2017 00:07	Cindy M Gehman	1
07022	Thallium	SW-846 6010B	1	173350184801	12/04/2017 12:51	Suzanne M Will	1
07072	Zinc	SW-846 6010B	1	173350184801	12/04/2017 12:51	Suzanne M Will	1
00259	Mercury	SW-846 7470A	1	173350571305	12/05/2017 07:00	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	173350184801	12/03/2017 20:53	Annamaria Kuhns	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	173350571305	12/04/2017 16:35	JoElla L Rice	1

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP03-W101 Grab Groundwater
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: WW 9342596
ELLE Group #: 1881211
Matrix: Groundwater

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submittal Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 17:02

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10945	Naphthalene	91-20-3	N.D.	1	4	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	2	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
PCBs			SW-846 8082	ug/l	ug/l	
10227	PCB-1016	12674-11-2	N.D. D1 Q9	0.18	0.89	1
10227	PCB-1221	11104-28-2	N.D. D1	0.18	0.89	1
10227	PCB-1232	11141-16-5	N.D. D1	0.36	0.89	1
10227	PCB-1242	53469-21-9	N.D. D1	0.18	0.89	1
10227	PCB-1248	12672-29-6	N.D. D1	0.18	0.89	1
10227	PCB-1254	11097-69-1	N.D. D1	0.18	0.89	1
10227	PCB-1260	11096-82-5	N.D. D1 Q2Q9	0.27	0.89	1
Reporting limits were raised due to interference from the sample matrix.						
Metals Dissolved			SW-846 6010B	mg/l	mg/l	
07044	Antimony	7440-36-0	N.D.	0.0087	0.0200	1
07035	Arsenic	7440-38-2	N.D. Q3	0.0096	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.0020	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.0018	0.0050	1
07051	Chromium	7440-47-3	0.0163	0.0033	0.0150	1
07053	Copper	7440-50-8	0.0156 Q3	0.0040	0.0100	1
07055	Lead	7439-92-1	0.0269 Q3	0.0060	0.0150	1
07061	Nickel	7440-02-0	0.0174	0.0040	0.0100	1
07036	Selenium	7782-49-2	N.D. Q2Q9	0.0093	0.0200	1
07066	Silver	7440-22-4	N.D.	0.0024	0.0050	1
07022	Thallium	7440-28-0	N.D. Q2	0.0137	0.0300	1
07072	Zinc	7440-66-6	0.0255 Q3	0.0065	0.0200	1
			SW-846 7470A	mg/l	mg/l	
00259	Mercury	7439-97-6	N.D. Q8	0.000050	0.00020	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was lab filtered for PCBs, and PAHs.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP03-W101 Grab Groundwater
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: WW 9342596
ELLE Group #: 1881211
Matrix: Groundwater

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 17:02

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z173392AA	12/05/2017 16:00	Anthony H Downey	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z173392AA	12/05/2017 16:00	Anthony H Downey	1
10227	PCBs in Water	SW-846 8082	1	173380016A	12/06/2017 23:16	Jessica L Miller	1
11117	PCB Waters Extraction	SW-846 3510C	1	173380016A	12/04/2017 17:20	Kate E Lutte	1
07044	Antimony	SW-846 6010B	1	173350184801	12/04/2017 12:54	Suzanne M Will	1
07035	Arsenic	SW-846 6010B	1	173350184801	12/04/2017 12:54	Suzanne M Will	1
07047	Beryllium	SW-846 6010B	1	173350184801	12/04/2017 12:54	Suzanne M Will	1
07049	Cadmium	SW-846 6010B	1	173350184801	12/04/2017 12:54	Suzanne M Will	1
07051	Chromium	SW-846 6010B	1	173350184801	12/04/2017 12:54	Suzanne M Will	1
07053	Copper	SW-846 6010B	1	173350184801	12/04/2017 12:54	Suzanne M Will	1
07055	Lead	SW-846 6010B	1	173350184801	12/04/2017 12:54	Suzanne M Will	1
07061	Nickel	SW-846 6010B	1	173350184801	12/04/2017 12:54	Suzanne M Will	1
07036	Selenium	SW-846 6010B	1	173350184801	12/04/2017 12:54	Suzanne M Will	1
07066	Silver	SW-846 6010B	1	173350184801	12/05/2017 00:17	Cindy M Gehman	1
07022	Thallium	SW-846 6010B	1	173350184801	12/04/2017 12:54	Suzanne M Will	1
07072	Zinc	SW-846 6010B	1	173350184801	12/04/2017 12:54	Suzanne M Will	1
00259	Mercury	SW-846 7470A	1	173350571305	12/05/2017 07:06	Damary Valentin	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	173350184801	12/03/2017 20:53	Annamaria Kuhns	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	173350571305	12/04/2017 16:35	JoElla L Rice	1

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP04-S001 Grab Soil
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: SW 9342597
ELLE Group #: 1881211
Matrix: Soil

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 17:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D.	0.0005	0.005	0.97
10237	Ethylbenzene	100-41-4	N.D. Q2Q9	0.001	0.005	0.97
10237	Isopropylbenzene	98-82-8	N.D. Q2Q9	0.001	0.005	0.97
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	0.97
10237	Naphthalene	91-20-3	N.D. Q2Q9	0.001	0.005	0.97
10237	Toluene	108-88-3	N.D. Q2Q9	0.001	0.005	0.97
10237	1,2,4-Trimethylbenzene	95-63-6	N.D. Q2Q9	0.001	0.005	0.97
10237	1,3,5-Trimethylbenzene	108-67-8	N.D. Q2Q9	0.001	0.005	0.97
10237	Xylene (Total)	1330-20-7	N.D. Q2Q9	0.001	0.005	0.97
GC/MS Semivolatiles			SW-846 8270C	ug/kg	ug/kg	
10724	Acenaphthene	83-32-9	N.D.	4	19	1
10724	Acenaphthylene	208-96-8	16 J	4	19	1
10724	Anthracene	120-12-7	7 J	4	19	1
10724	Benzo(a)anthracene	56-55-3	21	4	19	1
10724	Benzo(a)pyrene	50-32-8	19	4	19	1
10724	Benzo(b)fluoranthene	205-99-2	41	4	19	1
10724	Benzo(g,h,i)perylene	191-24-2	30	4	19	1
10724	Benzo(k)fluoranthene	207-08-9	21	4	19	1
10724	Chrysene	218-01-9	53	4	19	1
10724	Dibenz(a,h)anthracene	53-70-3	7 J	4	19	1
10724	Fluoranthene	206-44-0	57	4	19	1
10724	Fluorene	86-73-7	8 J	4	19	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	25	4	19	1
10724	Naphthalene	91-20-3	22	4	19	1
10724	Phenanthrene	85-01-8	41	4	19	1
10724	Pyrene	129-00-0	41	4	19	1
PCBs			SW-846 8082	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D. D1	3.9	19	1
10736	PCB-1221	11104-28-2	N.D. D1	5.0	19	1
10736	PCB-1232	11141-16-5	N.D. D1	8.8	19	1
10736	PCB-1242	53469-21-9	N.D. D1	3.6	19	1
10736	PCB-1248	12672-29-6	N.D. D1	3.6	19	1
10736	PCB-1254	11097-69-1	N.D. D1	3.6	19	1
10736	PCB-1260	11096-82-5	N.D. D2	5.4	19	1
<p>The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported. This applies to the TCX and DCB surrogates.</p>						
Metals			SW-846 6010B	mg/kg	mg/kg	
06944	Antimony	7440-36-0	N.D.	3.27	7.51	5
06935	Arsenic	7440-38-2	15.9 Q2	0.721	1.50	1

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP04-S001 Grab Soil
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: SW 9342597
ELLE Group #: 1881211
Matrix: Soil

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submittal Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 17:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Metals		SW-846 6010B	mg/kg	mg/kg	mg/kg	
06947	Beryllium	7440-41-7	0.474	0.0593	0.375	1
06949	Cadmium	7440-43-9	0.152 J Q8	0.0405	0.375	1
06951	Chromium	7440-47-3	21.0 Q8	0.128	1.13	1
06953	Copper	7440-50-8	40.9 Q2	0.180	0.751	1
06955	Lead	7439-92-1	79.2 Q2	0.450	1.13	1
06961	Nickel	7440-02-0	24.1	0.113	0.751	1
06936	Selenium	7782-49-2	1.72 Q8	0.698	1.50	1
06966	Silver	7440-22-4	N.D.	0.180	0.375	1
06925	Thallium	7440-28-0	N.D.	1.03	2.25	1
06972	Zinc	7440-66-6	82.2 Q2	0.180	1.50	1
		SW-846 7471A	mg/kg	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.0294 J Q8	0.0103	0.103	1
Wet Chemistry		SM 2540 G-1997	%	%	%	
		%Moisture Calc				
00111	Moisture	n.a.	10.0 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTEX/MTBE/Cumene/Naph/TMBs	SW-846 8260B	1	A173422AA	12/09/2017 04:06	Stephen C Nolte	0.97
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733548152	11/28/2017 17:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733548152	11/28/2017 17:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733548152	11/28/2017 17:30	Client Supplied	1
10724	PAH 8270 (microwave)	SW-846 8270C	1	17338SLD026	12/07/2017 00:45	Anthony P Bauer	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	17338SLD026	12/05/2017 00:45	Samantha M Metzgar	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173390024A	12/08/2017 08:59	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173390024A	12/05/2017 21:05	Karen L Beyer	1
06944	Antimony	SW-846 6010B	1	173350570804	12/14/2017 02:06	Jonathan J Allen	5
06935	Arsenic	SW-846 6010B	1	173350570804	12/14/2017 01:21	Jonathan J Allen	1

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP04-S001 Grab Soil
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: SW 9342597
ELLE Group #: 1881211
Matrix: Soil

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 17:30

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06947	Beryllium	SW-846 6010B	1	173350570804	12/11/2017 15:10	Cindy M Gehman	1
06949	Cadmium	SW-846 6010B	1	173350570804	12/11/2017 15:10	Cindy M Gehman	1
06951	Chromium	SW-846 6010B	1	173350570804	12/11/2017 15:10	Cindy M Gehman	1
06953	Copper	SW-846 6010B	1	173350570804	12/11/2017 15:10	Cindy M Gehman	1
06955	Lead	SW-846 6010B	1	173350570804	12/11/2017 15:10	Cindy M Gehman	1
06961	Nickel	SW-846 6010B	1	173350570804	12/11/2017 15:10	Cindy M Gehman	1
06936	Selenium	SW-846 6010B	1	173350570804	12/11/2017 15:10	Cindy M Gehman	1
06966	Silver	SW-846 6010B	1	173350570804	12/11/2017 15:10	Cindy M Gehman	1
06925	Thallium	SW-846 6010B	1	173350570804	12/11/2017 15:10	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173350570804	12/11/2017 15:10	Cindy M Gehman	1
00159	Mercury	SW-846 7471A	1	173350571102	12/05/2017 06:26	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173350570804	12/04/2017 16:45	Barbara A Kane	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173350571102	12/04/2017 18:00	Barbara A Kane	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17340820003A	12/06/2017 08:58	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP04-S001 MS Grab Soil
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: SW 9342598
ELLE Group #: 1881211
Matrix: Soil

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 17:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Benzene	71-43-2	0.022	0.0005	0.005	0.95
10237	Ethylbenzene	100-41-4	0.020 Q2Q9	0.001	0.005	0.95
10237	Isopropylbenzene	98-82-8	0.021 Q2Q9	0.001	0.005	0.95
10237	Methyl Tertiary Butyl Ether	1634-04-4	0.021	0.0005	0.005	0.95
10237	Naphthalene	91-20-3	0.011 Q2Q9	0.001	0.005	0.95
10237	Toluene	108-88-3	0.023 Q2Q9	0.001	0.005	0.95
10237	1,2,4-Trimethylbenzene	95-63-6	0.024 Q2Q9	0.001	0.005	0.95
10237	1,3,5-Trimethylbenzene	108-67-8	0.023 Q2Q9	0.001	0.005	0.95
10237	Xylene (Total)	1330-20-7	0.063 Q2Q9	0.001	0.005	0.95
GC/MS Semivolatiles			ug/kg	ug/kg	ug/kg	
SW-846 8270C						
10724	Acenaphthene	83-32-9	1,800	4	19	1
10724	Acenaphthylene	208-96-8	2,100	4	19	1
10724	Anthracene	120-12-7	1,700	4	19	1
10724	Benzo(a)anthracene	56-55-3	1,500	4	19	1
10724	Benzo(a)pyrene	50-32-8	1,500	4	19	1
10724	Benzo(b)fluoranthene	205-99-2	1,500	4	19	1
10724	Benzo(g,h,i)perylene	191-24-2	1,400	4	19	1
10724	Benzo(k)fluoranthene	207-08-9	1,500	4	19	1
10724	Chrysene	218-01-9	1,600	4	19	1
10724	Dibenz(a,h)anthracene	53-70-3	1,600	4	19	1
10724	Fluoranthene	206-44-0	1,500	4	19	1
10724	Fluorene	86-73-7	1,700	4	19	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	1,600	4	19	1
10724	Naphthalene	91-20-3	1,900	4	19	1
10724	Phenanthrene	85-01-8	1,700	4	19	1
10724	Pyrene	129-00-0	1,700	4	19	1
PCBs			ug/kg	ug/kg	ug/kg	
SW-846 8082						
10736	PCB-1016	12674-11-2	180 D1	4.0	19	1
10736	PCB-1221	11104-28-2	N.D. D1	5.1	19	1
10736	PCB-1232	11141-16-5	N.D. D1	8.8	19	1
10736	PCB-1242	53469-21-9	N.D. D1	3.6	19	1
10736	PCB-1248	12672-29-6	N.D. D1	3.6	19	1
10736	PCB-1254	11097-69-1	N.D. D1	3.6	19	1
10736	PCB-1260	11096-82-5	170 D2	5.4	19	1
<p>The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported. This applies to the TCX and DCB surrogates.</p>						
Metals			mg/kg	mg/kg	mg/kg	
SW-846 6010B						
06944	Antimony	7440-36-0	37.8	0.761	1.75	1
06935	Arsenic	7440-38-2	24.6 Q2	0.840	1.75	1

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP04-S001 MS Grab Soil
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: SW 9342598
ELLE Group #: 1881211
Matrix: Soil

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submittal Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 17:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Metals			SW-846 6010B	mg/kg	mg/kg	
06947	Beryllium	7440-41-7	4.55	0.0691	0.437	1
06949	Cadmium	7440-43-9	4.12 Q8	0.0472	0.437	1
06951	Chromium	7440-47-3	37.0 Q8	0.149	1.31	1
06953	Copper	7440-50-8	52.5 Q2	0.210	0.875	1
06955	Lead	7439-92-1	75.2 Q2	0.525	1.31	1
06961	Nickel	7440-02-0	64.7	0.131	0.875	1
06936	Selenium	7782-49-2	13.6 Q8	0.814	1.75	1
06966	Silver	7440-22-4	3.60	0.210	0.437	1
06925	Thallium	7440-28-0	12.3	1.20	2.62	1
06972	Zinc	7440-66-6	111 Q2	0.210	1.75	1
			SW-846 7471A	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.198 Q8	0.0104	0.104	1
Wet Chemistry			SM 2540 G-1997	%	%	
			%Moisture Calc			
00118	Moisture	n.a.	10.0 Q8	0.50	0.50	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTEX/MTBE/Cumene/Naph/TMBs	SW-846 8260B	1	A173422AB	12/11/2017 22:09	Patrick T Herres	0.95
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733548152	11/28/2017 17:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733548152	11/28/2017 17:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733548152	11/28/2017 17:30	Client Supplied	1
10724	PAH 8270 (microwave)	SW-846 8270C	1	17338SLD026	12/07/2017 01:09	Anthony P Bauer	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	17338SLD026	12/05/2017 00:45	Samantha M Metzgar	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173390024A	12/08/2017 09:10	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173390024A	12/05/2017 21:05	Karen L Beyer	1
06944	Antimony	SW-846 6010B	1	173350570804	12/11/2017 15:20	Cindy M Gehman	1
06935	Arsenic	SW-846 6010B	1	173350570804	12/14/2017 01:30	Jonathan J Allen	1
06947	Beryllium	SW-846 6010B	1	173350570804	12/11/2017 15:20	Cindy M Gehman	1
06949	Cadmium	SW-846 6010B	1	173350570804	12/11/2017 15:20	Cindy M Gehman	1
06951	Chromium	SW-846 6010B	1	173350570804	12/11/2017 15:20	Cindy M Gehman	1

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP04-S001 MS Grab Soil
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: SW 9342598
ELLE Group #: 1881211
Matrix: Soil

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 17:30

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06953	Copper	SW-846 6010B	1	173350570804	12/11/2017 15:20	Cindy M Gehman	1
06955	Lead	SW-846 6010B	1	173350570804	12/11/2017 15:20	Cindy M Gehman	1
06961	Nickel	SW-846 6010B	1	173350570804	12/11/2017 15:20	Cindy M Gehman	1
06936	Selenium	SW-846 6010B	1	173350570804	12/11/2017 15:20	Cindy M Gehman	1
06966	Silver	SW-846 6010B	1	173350570804	12/11/2017 15:20	Cindy M Gehman	1
06925	Thallium	SW-846 6010B	1	173350570804	12/11/2017 15:20	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173350570804	12/11/2017 15:20	Cindy M Gehman	1
00159	Mercury	SW-846 7471A	1	173350571102	12/05/2017 06:32	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173350570804	12/04/2017 16:45	Barbara A Kane	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173350571102	12/04/2017 18:00	Barbara A Kane	1
00118	Moisture	SM 2540 G-1997 %Moisture Calc	1	17340820003A	12/06/2017 08:58	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP04-S001 MSD Grab Soil
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: SW 9342599
ELLE Group #: 1881211
Matrix: Soil

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 17:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	Benzene	71-43-2	0.018	0.0005	0.005	0.97
10237	Ethylbenzene	100-41-4	0.011 Q2Q9	0.001	0.005	0.97
10237	Isopropylbenzene	98-82-8	0.011 Q2Q9	0.001	0.005	0.97
10237	Methyl Tertiary Butyl Ether	1634-04-4	0.020	0.0005	0.005	0.97
10237	Naphthalene	91-20-3	0.006 Q2Q9	0.001	0.005	0.97
10237	Toluene	108-88-3	0.016 Q2Q9	0.001	0.005	0.97
10237	1,2,4-Trimethylbenzene	95-63-6	0.011 Q2Q9	0.001	0.005	0.97
10237	1,3,5-Trimethylbenzene	108-67-8	0.012 Q2Q9	0.001	0.005	0.97
10237	Xylene (Total)	1330-20-7	0.033 Q2Q9	0.001	0.005	0.97
GC/MS Semivolatiles			SW-846 8270C	ug/kg	ug/kg	
10724	Acenaphthene	83-32-9	1,800	4	19	1
10724	Acenaphthylene	208-96-8	2,100	4	19	1
10724	Anthracene	120-12-7	1,800	4	19	1
10724	Benzo(a)anthracene	56-55-3	1,600	4	19	1
10724	Benzo(a)pyrene	50-32-8	1,500	4	19	1
10724	Benzo(b)fluoranthene	205-99-2	1,500	4	19	1
10724	Benzo(g,h,i)perylene	191-24-2	1,600	4	19	1
10724	Benzo(k)fluoranthene	207-08-9	1,700	4	19	1
10724	Chrysene	218-01-9	1,700	4	19	1
10724	Dibenz(a,h)anthracene	53-70-3	1,600	4	19	1
10724	Fluoranthene	206-44-0	1,600	4	19	1
10724	Fluorene	86-73-7	1,700	4	19	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	1,700	4	19	1
10724	Naphthalene	91-20-3	1,700	4	19	1
10724	Phenanthrene	85-01-8	1,800	4	19	1
10724	Pyrene	129-00-0	1,700	4	19	1
PCBs			SW-846 8082	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	170 D1	3.9	19	1
10736	PCB-1221	11104-28-2	N.D. D1	5.0	19	1
10736	PCB-1232	11141-16-5	N.D. D1	8.8	19	1
10736	PCB-1242	53469-21-9	N.D. D1	3.6	19	1
10736	PCB-1248	12672-29-6	N.D. D1	3.6	19	1
10736	PCB-1254	11097-69-1	N.D. D1	3.6	19	1
10736	PCB-1260	11096-82-5	170 D1	5.4	19	1
<p>The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported. This applies to the TCX and DCB surrogates.</p>						
Metals			SW-846 6010B	mg/kg	mg/kg	
06944	Antimony	7440-36-0	35.7	0.755	1.74	1
06935	Arsenic	7440-38-2	24.2 Q2	0.833	1.74	1

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP04-S001 MSD Grab Soil
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: SW 9342599
ELLE Group #: 1881211
Matrix: Soil

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 17:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Metals			SW-846 6010B	mg/kg	mg/kg	
06947	Beryllium	7440-41-7	4.52	0.0686	0.434	1
06949	Cadmium	7440-43-9	3.92 Q8	0.0469	0.434	1
06951	Chromium	7440-47-3	36.2 Q8	0.148	1.30	1
06953	Copper	7440-50-8	54.0 Q2	0.208	0.868	1
06955	Lead	7439-92-1	76.8 Q2	0.521	1.30	1
06961	Nickel	7440-02-0	63.3	0.130	0.868	1
06936	Selenium	7782-49-2	12.8 Q8	0.807	1.74	1
06966	Silver	7440-22-4	3.55	0.208	0.434	1
06925	Thallium	7440-28-0	12.0	1.19	2.60	1
06972	Zinc	7440-66-6	108 Q2	0.208	1.74	1
			SW-846 7471A	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.209 Q8	0.0111	0.111	1
Wet Chemistry			SM 2540 G-1997	%	%	
			%Moisture Calc			
00118	Moisture	n.a.	10.0 Q8	0.50	0.50	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTEX/MTBE/Cumene/Naph/TMBs	SW-846 8260B	1	A173422AA	12/09/2017 04:52	Stephen C Nolte	0.97
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733548152	11/28/2017 17:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733548152	11/28/2017 17:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733548152	11/28/2017 17:30	Client Supplied	1
10724	PAH 8270 (microwave)	SW-846 8270C	1	17338SLD026	12/07/2017 01:33	Anthony P Bauer	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	17338SLD026	12/05/2017 00:45	Samantha M Metzgar	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173390024A	12/08/2017 09:22	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173390024A	12/05/2017 21:05	Karen L Beyer	1
06944	Antimony	SW-846 6010B	1	173350570804	12/11/2017 15:23	Cindy M Gehman	1
06935	Arsenic	SW-846 6010B	1	173350570804	12/14/2017 01:33	Jonathan J Allen	1
06947	Beryllium	SW-846 6010B	1	173350570804	12/11/2017 15:23	Cindy M Gehman	1
06949	Cadmium	SW-846 6010B	1	173350570804	12/11/2017 15:23	Cindy M Gehman	1
06951	Chromium	SW-846 6010B	1	173350570804	12/11/2017 15:23	Cindy M Gehman	1

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP04-S001 MSD Grab Soil
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: SW 9342599
ELLE Group #: 1881211
Matrix: Soil

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submittal Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 17:30

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06953	Copper	SW-846 6010B	1	173350570804	12/11/2017 15:23	Cindy M Gehman	1
06955	Lead	SW-846 6010B	1	173350570804	12/11/2017 15:23	Cindy M Gehman	1
06961	Nickel	SW-846 6010B	1	173350570804	12/11/2017 15:23	Cindy M Gehman	1
06936	Selenium	SW-846 6010B	1	173350570804	12/11/2017 15:23	Cindy M Gehman	1
06966	Silver	SW-846 6010B	1	173350570804	12/11/2017 15:23	Cindy M Gehman	1
06925	Thallium	SW-846 6010B	1	173350570804	12/11/2017 15:23	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173350570804	12/11/2017 15:23	Cindy M Gehman	1
00159	Mercury	SW-846 7471A	1	173350571102	12/05/2017 06:34	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173350570804	12/04/2017 16:45	Barbara A Kane	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173350571102	12/04/2017 18:00	Barbara A Kane	1
00118	Moisture	SM 2540 G-1997 %Moisture Calc	1	17340820003A	12/06/2017 08:58	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP04-S001 DUP Grab Soil
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: SW 9342600
ELLE Group #: 1881211
Matrix: Soil

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 17:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Metals			SW-846 6010B	mg/kg	mg/kg	
06944	Antimony	7440-36-0	N.D.	3.24	7.46	5
06935	Arsenic	7440-38-2	13.6 Q2	0.716	1.49	1
06947	Beryllium	7440-41-7	0.535	0.0589	0.373	1
06949	Cadmium	7440-43-9	0.116 J Q8	0.0403	0.373	1
06951	Chromium	7440-47-3	16.6 Q8	0.127	1.12	1
06953	Copper	7440-50-8	44.1 Q2	0.179	0.746	1
06955	Lead	7439-92-1	64.7 Q2	0.447	1.12	1
06961	Nickel	7440-02-0	20.6	0.112	0.746	1
06936	Selenium	7782-49-2	1.07 J Q8	0.694	1.49	1
06966	Silver	7440-22-4	N.D.	0.179	0.373	1
06925	Thallium	7440-28-0	N.D.	1.02	2.24	1
06972	Zinc	7440-66-6	71.0 Q2	0.179	1.49	1
			SW-846 7471A	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.0768 J Q8	0.0111	0.111	1
Wet Chemistry			SM 2540 G-1997	%	%	
			%Moisture Calc			
00118	Moisture	n.a.	10.0 Q8	0.50	0.50	1
00121	Moisture Duplicate	n.a.	11.6 Q8	0.50	0.50	1
The duplicate moisture value is provided to assess the precision of the moisture test. For comparability purposes, the initial moisture determination is the value used to perform dry weight calculations.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06944	Antimony	SW-846 6010B	1	173350570804	12/14/2017 02:12	Jonathan J Allen	5
06935	Arsenic	SW-846 6010B	1	173350570804	12/14/2017 01:27	Jonathan J Allen	1
06947	Beryllium	SW-846 6010B	1	173350570804	12/11/2017 15:16	Cindy M Gehman	1
06949	Cadmium	SW-846 6010B	1	173350570804	12/11/2017 15:16	Cindy M Gehman	1
06951	Chromium	SW-846 6010B	1	173350570804	12/11/2017 15:16	Cindy M Gehman	1
06953	Copper	SW-846 6010B	1	173350570804	12/11/2017 15:16	Cindy M Gehman	1
06955	Lead	SW-846 6010B	1	173350570804	12/11/2017 15:16	Cindy M Gehman	1
06961	Nickel	SW-846 6010B	1	173350570804	12/11/2017 15:16	Cindy M Gehman	1
06936	Selenium	SW-846 6010B	1	173350570804	12/11/2017 15:16	Cindy M Gehman	1
06966	Silver	SW-846 6010B	1	173350570804	12/11/2017 15:16	Cindy M Gehman	1
06925	Thallium	SW-846 6010B	1	173350570804	12/11/2017 15:16	Cindy M Gehman	1

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP04-S001 DUP Grab Soil
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: SW 9342600
ELLE Group #: 1881211
Matrix: Soil

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submittal Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 17:30

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06972	Zinc	SW-846 6010B	1	173350570804	12/11/2017 15:16	Cindy M Gehman	1
00159	Mercury	SW-846 7471A	1	173350571102	12/05/2017 06:30	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173350570804	12/04/2017 16:45	Barbara A Kane	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173350571102	12/04/2017 18:00	Barbara A Kane	1
00118	Moisture	SM 2540 G-1997 %Moisture Calc	1	17340820003A	12/06/2017 08:58	Larry E Bevins	1
00121	Moisture Duplicate	SM 2540 G-1997 %Moisture Calc	1	17340820003A	12/06/2017 08:58	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP04-S002 Grab Soil
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: SW 9342601
ELLE Group #: 1881211
Matrix: Soil

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 17:45

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D.	0.0005	0.005	0.97
10237	Ethylbenzene	100-41-4	N.D. Q2Q9	0.001	0.005	0.97
10237	Isopropylbenzene	98-82-8	N.D. Q2Q9	0.001	0.005	0.97
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	0.97
10237	Naphthalene	91-20-3	N.D. Q2Q9	0.001	0.005	0.97
10237	Toluene	108-88-3	N.D. Q2Q9	0.001	0.005	0.97
10237	1,2,4-Trimethylbenzene	95-63-6	N.D. Q2Q9	0.001	0.005	0.97
10237	1,3,5-Trimethylbenzene	108-67-8	N.D. Q2Q9	0.001	0.005	0.97
10237	Xylene (Total)	1330-20-7	N.D. Q2Q9	0.001	0.005	0.97
GC/MS Semivolatiles			SW-846 8270C	ug/kg	ug/kg	
10724	Acenaphthene	83-32-9	N.D.	4	19	1
10724	Acenaphthylene	208-96-8	N.D.	4	19	1
10724	Anthracene	120-12-7	N.D.	4	19	1
10724	Benzo(a)anthracene	56-55-3	N.D.	4	19	1
10724	Benzo(a)pyrene	50-32-8	N.D.	4	19	1
10724	Benzo(b)fluoranthene	205-99-2	N.D.	4	19	1
10724	Benzo(g,h,i)perylene	191-24-2	N.D.	4	19	1
10724	Benzo(k)fluoranthene	207-08-9	N.D.	4	19	1
10724	Chrysene	218-01-9	N.D.	4	19	1
10724	Dibenz(a,h)anthracene	53-70-3	N.D.	4	19	1
10724	Fluoranthene	206-44-0	N.D.	4	19	1
10724	Fluorene	86-73-7	N.D.	4	19	1
10724	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	4	19	1
10724	Naphthalene	91-20-3	N.D.	4	19	1
10724	Phenanthrene	85-01-8	N.D.	4	19	1
10724	Pyrene	129-00-0	N.D.	4	19	1
PCBs			SW-846 8082	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D. D1	3.9	18	1
10736	PCB-1221	11104-28-2	N.D. D1	5.0	18	1
10736	PCB-1232	11141-16-5	N.D. D1	8.6	18	1
10736	PCB-1242	53469-21-9	N.D. D1	3.6	18	1
10736	PCB-1248	12672-29-6	N.D. D1	3.6	18	1
10736	PCB-1254	11097-69-1	N.D. D1	3.6	18	1
10736	PCB-1260	11096-82-5	N.D. D1	5.3	18	1
<p>The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported. This applies to the TCX and DCB surrogates.</p>						
Metals			SW-846 6010B	mg/kg	mg/kg	
06944	Antimony	7440-36-0	N.D. Q2	0.677	1.56	1
06935	Arsenic	7440-38-2	6.15 Q2	0.747	1.56	1

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP04-S002 Grab Soil
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: SW 9342601
ELLE Group #: 1881211
Matrix: Soil

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 17:45

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Metals		SW-846 6010B	mg/kg	mg/kg	mg/kg	
06947	Beryllium	7440-41-7	0.533	0.0614	0.389	1
06949	Cadmium	7440-43-9	N.D. Q2	0.0420	0.389	1
06951	Chromium	7440-47-3	19.5 BQ3	0.132	1.17	1
06953	Copper	7440-50-8	25.6 Q3	0.187	0.778	1
06955	Lead	7439-92-1	18.8 Q2Q9	0.467	1.17	1
06961	Nickel	7440-02-0	29.2 Q3	0.117	0.778	1
06936	Selenium	7782-49-2	N.D.	0.723	1.56	1
06966	Silver	7440-22-4	0.740	0.187	0.389	1
06925	Thallium	7440-28-0	N.D.	1.07	2.33	1
06972	Zinc	7440-66-6	73.2 Q3Q2Q9	0.187	1.56	1
		SW-846 7471A	mg/kg	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.0209 J Q8	0.0104	0.104	1
Wet Chemistry		SM 2540 G-1997	%	%	%	
		%Moisture Calc				
00111	Moisture	n.a.	8.8 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTEX/MTBE/Cumene/Naph/TMBs	SW-846 8260B	1	A173422AA	12/09/2017 02:13	Stephen C Nolte	0.97
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733548152	11/28/2017 17:45	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733548152	11/28/2017 17:45	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733548152	11/28/2017 17:45	Client Supplied	1
10724	PAH 8270 (microwave)	SW-846 8270C	1	17338SLD026	12/06/2017 16:08	Linda M Hartenstine	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	17338SLD026	12/05/2017 00:45	Samantha M Metzgar	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173390024A	12/08/2017 09:33	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173390024A	12/05/2017 21:05	Karen L Beyer	1
06944	Antimony	SW-846 6010B	1	173460570801	12/17/2017 02:00	Jonathan J Allen	1
06935	Arsenic	SW-846 6010B	1	173460570801	12/17/2017 02:00	Jonathan J Allen	1

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP04-S002 Grab Soil
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: SW 9342601
ELLE Group #: 1881211
Matrix: Soil

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 17:45

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06947	Beryllium	SW-846 6010B	1	173460570801	12/13/2017 08:25	Eric L Eby	1
06949	Cadmium	SW-846 6010B	1	173460570801	12/13/2017 08:25	Eric L Eby	1
06951	Chromium	SW-846 6010B	1	173460570801	12/13/2017 08:25	Eric L Eby	1
06953	Copper	SW-846 6010B	1	173460570801	12/13/2017 08:25	Eric L Eby	1
06955	Lead	SW-846 6010B	1	173460570801	12/13/2017 08:25	Eric L Eby	1
06961	Nickel	SW-846 6010B	1	173460570801	12/13/2017 08:25	Eric L Eby	1
06936	Selenium	SW-846 6010B	1	173460570801	12/17/2017 02:00	Jonathan J Allen	1
06966	Silver	SW-846 6010B	1	173460570801	12/17/2017 02:00	Jonathan J Allen	1
06925	Thallium	SW-846 6010B	1	173460570801	12/13/2017 08:25	Eric L Eby	1
06972	Zinc	SW-846 6010B	1	173460570801	12/17/2017 02:00	Jonathan J Allen	1
00159	Mercury	SW-846 7471A	1	173350571102	12/05/2017 06:54	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173350570804	12/04/2017 16:45	Barbara A Kane	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	2	173460570801	12/12/2017 15:10	JoElla L Rice	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173350571102	12/04/2017 18:00	Barbara A Kane	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17340820003A	12/06/2017 08:58	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP04-S301 NaHSO4/MeOH
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: G5 9342602
ELLE Group #: 1881211
Matrix: NaHSO4/MeOH

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submittal Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 17:50

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D.	0.0005	0.005	1
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	1
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.005	1
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	1
10237	Naphthalene	91-20-3	N.D.	0.001	0.005	1
10237	Toluene	108-88-3	0.001 J	0.001	0.005	1
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.005	1
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.005	1
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTEX/MTBE/Cumene/Naph/TMBs	SW-846 8260B	1	A173413AA	12/07/2017 23:47	Stephen C Nolte	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733548152	11/28/2017 17:50	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733548152	11/28/2017 17:50	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733548152	11/28/2017 17:50	Client Supplied	1

*=This limit was used in the evaluation of the final result

Sample Description: BIO-GP04-W301 Water
Pocono Foundry

Brightfields, Inc.
ELLE Sample #: WW 9342603
ELLE Group #: 1881211
Matrix: Water

Project Name: Biobuffers Solutions, Inc. / Pocono Foundry

Submittal Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/28/2017 17:55

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10945	Naphthalene	91-20-3	N.D.	1	4	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	2	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z173392AA	12/05/2017 13:10	Anthony H Downey	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z173392AA	12/05/2017 13:10	Anthony H Downey	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/18/2017 22:02

Group Number: 1881211

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	MDL**	LOQ
	mg/kg	mg/kg	mg/kg
Batch number: A173413AA	Sample number(s): 9342591-9342592,9342594,9342602		
Benzene	N.D.	0.0005	0.005
Ethylbenzene	N.D.	0.001	0.005
Isopropylbenzene	N.D.	0.001	0.005
Methyl Tertiary Butyl Ether	N.D.	0.0005	0.005
Naphthalene	N.D.	0.001	0.005
Toluene	N.D.	0.001	0.005
1,2,4-Trimethylbenzene	N.D.	0.001	0.005
1,3,5-Trimethylbenzene	N.D.	0.001	0.005
Xylene (Total)	N.D.	0.001	0.005
Batch number: A173421AA	Sample number(s): 9342584-9342586,9342593		
Benzene	N.D.	0.0005	0.005
Ethylbenzene	N.D.	0.001	0.005
Isopropylbenzene	N.D.	0.001	0.005
Methyl Tertiary Butyl Ether	N.D.	0.0005	0.005
Naphthalene	N.D.	0.001	0.005
Toluene	N.D.	0.001	0.005
1,2,4-Trimethylbenzene	N.D.	0.001	0.005
1,3,5-Trimethylbenzene	N.D.	0.001	0.005
Xylene (Total)	N.D.	0.001	0.005
Batch number: A173422AA	Sample number(s): 9342597,9342599,9342601		
Benzene	N.D.	0.0005	0.005
Ethylbenzene	N.D.	0.001	0.005
Isopropylbenzene	N.D.	0.001	0.005
Methyl Tertiary Butyl Ether	N.D.	0.0005	0.005
Naphthalene	N.D.	0.001	0.005
Toluene	N.D.	0.001	0.005
1,2,4-Trimethylbenzene	N.D.	0.001	0.005
1,3,5-Trimethylbenzene	N.D.	0.001	0.005
Xylene (Total)	N.D.	0.001	0.005
Batch number: A173422AB	Sample number(s): 9342598		
Benzene	N.D.	0.0005	0.005
Ethylbenzene	N.D.	0.001	0.005
Isopropylbenzene	N.D.	0.001	0.005
Methyl Tertiary Butyl Ether	N.D.	0.0005	0.005
Naphthalene	N.D.	0.001	0.005
Toluene	N.D.	0.001	0.005
1,2,4-Trimethylbenzene	N.D.	0.001	0.005

*- Outside of specification

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(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/18/2017 22:02

Group Number: 1881211

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	mg/kg	mg/kg	mg/kg
1,3,5-Trimethylbenzene	N.D.	0.001	0.005
Xylene (Total)	N.D.	0.001	0.005
	ug/l	ug/l	ug/l
Batch number: Z173392AA	Sample number(s): 9342587-9342589,9342595-9342596,9342603		
Benzene	N.D.	0.5	1
Ethylbenzene	N.D.	0.5	1
Isopropylbenzene	N.D.	0.5	2
Methyl Tertiary Butyl Ether	N.D.	0.5	1
Naphthalene	N.D.	1	4
Toluene	N.D.	0.5	1
1,2,4-Trimethylbenzene	N.D.	0.5	2
1,3,5-Trimethylbenzene	N.D.	0.5	2
Xylene (Total)	N.D.	0.5	1
	ug/kg	ug/kg	ug/kg
Batch number: 17335SLA026	Sample number(s): 9342584-9342586,9342591-9342594		
Acenaphthene	N.D.	3	17
Acenaphthylene	N.D.	3	17
Anthracene	N.D.	3	17
Benzo(a)anthracene	N.D.	3	17
Benzo(a)pyrene	N.D.	3	17
Benzo(b)fluoranthene	N.D.	3	17
Benzo(g,h,i)perylene	N.D.	3	17
Benzo(k)fluoranthene	N.D.	3	17
Chrysene	N.D.	3	17
Dibenz(a,h)anthracene	N.D.	3	17
Fluoranthene	N.D.	3	17
Fluorene	N.D.	3	17
Indeno(1,2,3-cd)pyrene	N.D.	3	17
Naphthalene	N.D.	3	17
Phenanthrene	N.D.	3	17
Pyrene	N.D.	3	17
Batch number: 17338SLD026	Sample number(s): 9342597-9342599,9342601		
Acenaphthene	N.D.	3	17
Acenaphthylene	N.D.	3	17
Anthracene	N.D.	3	17
Benzo(a)anthracene	N.D.	3	17
Benzo(a)pyrene	N.D.	3	17
Benzo(b)fluoranthene	N.D.	3	17
Benzo(g,h,i)perylene	N.D.	3	17
Benzo(k)fluoranthene	N.D.	3	17
Chrysene	N.D.	3	17
Dibenz(a,h)anthracene	N.D.	3	17
Fluoranthene	N.D.	3	17

*- Outside of specification

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(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/18/2017 22:02

Group Number: 1881211

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	ug/kg	ug/kg	ug/kg
Fluorene	N.D.	3	17
Indeno(1,2,3-cd)pyrene	N.D.	3	17
Naphthalene	N.D.	3	17
Phenanthrene	N.D.	3	17
Pyrene	N.D.	3	17
Batch number: 173390024A	Sample number(s): 9342584-9342586,9342591-9342594,9342597-9342599,9342601		
PCB-1016	N.D.	3.6	17
PCB-1221	N.D.	4.6	17
PCB-1232	N.D.	8.0	17
PCB-1242	N.D.	3.3	17
PCB-1248	N.D.	3.3	17
PCB-1254	N.D.	3.3	17
PCB-1260	N.D.	4.9	17
	ug/l	ug/l	ug/l
Batch number: 173380016A	Sample number(s): 9342587-9342589,9342595-9342596		
PCB-1016	N.D.	0.080	0.40
PCB-1221	N.D.	0.080	0.40
PCB-1232	N.D.	0.16	0.40
PCB-1242	N.D.	0.080	0.40
PCB-1248	N.D.	0.080	0.40
PCB-1254	N.D.	0.080	0.40
PCB-1260	N.D.	0.12	0.40
	mg/kg	mg/kg	mg/kg
Batch number: 173350570804	Sample number(s): 9342584-9342586,9342591-9342594,9342597-9342600		
Antimony	N.D.	0.870	2.00
Arsenic	N.D.	0.960	2.00
Beryllium	N.D.	0.0790	0.500
Cadmium	N.D.	0.0540	0.500
Chromium	N.D.	0.170	1.50
Copper	N.D.	0.240	1.00
Lead	N.D.	0.600	1.50
Nickel	N.D.	0.150	1.00
Selenium	N.D.	0.930	2.00
Silver	N.D.	0.240	0.500
Thallium	N.D.	1.37	3.00
Zinc	N.D.	0.240	2.00
Batch number: 173350571102	Sample number(s): 9342584-9342586,9342591-9342594,9342597-9342601		
Mercury	N.D.	0.0100	0.100
Batch number: 173460570801	Sample number(s): 9342601		
Antimony	N.D.	0.870	2.00
Arsenic	N.D.	0.960	2.00
Beryllium	N.D.	0.0790	0.500

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/18/2017 22:02

Group Number: 1881211

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	mg/kg	mg/kg	mg/kg
Cadmium	N.D.	0.0540	0.500
Chromium	0.181 J	0.170	1.50
Copper	N.D.	0.240	1.00
Lead	N.D.	0.600	1.50
Nickel	N.D.	0.150	1.00
Selenium	N.D.	0.930	2.00
Silver	N.D.	0.240	0.500
Thallium	N.D.	1.37	3.00
Zinc	N.D.	0.240	2.00
	mg/l	mg/l	mg/l
Batch number: 173350184801	Sample number(s): 9342587-9342590,9342595-9342596		
Antimony	N.D.	0.0087	0.0200
Arsenic	N.D.	0.0096	0.0200
Beryllium	N.D.	0.0020	0.0050
Cadmium	N.D.	0.0018	0.0050
Chromium	N.D.	0.0033	0.0150
Copper	N.D.	0.0040	0.0100
Lead	N.D.	0.0060	0.0150
Nickel	N.D.	0.0040	0.0100
Selenium	N.D.	0.0093	0.0200
Silver	N.D.	0.0024	0.0050
Thallium	N.D.	0.0137	0.0300
Zinc	N.D.	0.0065	0.0200
Batch number: 173350571305	Sample number(s): 9342587-9342590,9342595-9342596		
Mercury	N.D.	0.000050	0.00020

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: A173413AA	Sample number(s): 9342591-9342592,9342594,9342602								
Benzene	0.0200	0.0178	0.0200	0.0173	89	86	80-120	3	30
Ethylbenzene	0.0200	0.0169	0.0200	0.0162	84	81	80-120	4	30
Isopropylbenzene	0.0200	0.0176	0.0200	0.0171	88	86	76-120	3	30
Methyl Tertiary Butyl Ether	0.0200	0.0161	0.0200	0.0162	80	81	66-123	1	30
Naphthalene	0.0200	0.0146	0.0200	0.0147	73	73	54-132	0	30
Toluene	0.0200	0.0192	0.0200	0.0185	96	92	80-120	4	30
1,2,4-Trimethylbenzene	0.0200	0.0166	0.0200	0.0164	83	82	74-120	1	30
1,3,5-Trimethylbenzene	0.0200	0.0150	0.0200	0.0160	75	80	73-120	7	30
Xylene (Total)	0.0600	0.0517	0.0600	0.0499	86	83	80-120	3	30

*- Outside of specification

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/18/2017 22:02

Group Number: 1881211

LCS/LCSD (continued)

Analysis Name	LCS Spike Added mg/kg	LCS Conc mg/kg	LCSD Spike Added mg/kg	LCSD Conc mg/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: A173421AA	Sample number(s): 9342584-9342586,9342593								
Benzene	0.0200	0.0182	0.0200	0.0180	91	90	80-120	1	30
Ethylbenzene	0.0200	0.0175	0.0200	0.0177	87	89	80-120	1	30
Isopropylbenzene	0.0200	0.0185	0.0200	0.0180	93	90	76-120	3	30
Methyl Tertiary Butyl Ether	0.0200	0.0144	0.0200	0.0167	72	84	66-123	15	30
Naphthalene	0.0200	0.0136	0.0200	0.0141	68	70	54-132	4	30
Toluene	0.0200	0.0199	0.0200	0.0188	99	94	80-120	5	30
1,2,4-Trimethylbenzene	0.0200	0.0173	0.0200	0.0167	87	84	74-120	3	30
1,3,5-Trimethylbenzene	0.0200	0.0172	0.0200	0.0167	86	84	73-120	3	30
Xylene (Total)	0.0600	0.0531	0.0600	0.0522	88	87	80-120	2	30
Batch number: A173422AA	Sample number(s): 9342597,9342599,9342601								
Benzene	0.0200	0.0183	0.0200	0.0186	92	93	80-120	1	30
Ethylbenzene	0.0200	0.0176	0.0200	0.0178	88	89	80-120	1	30
Isopropylbenzene	0.0200	0.0184	0.0200	0.0187	92	93	76-120	1	30
Methyl Tertiary Butyl Ether	0.0200	0.0166	0.0200	0.0169	83	85	66-123	2	30
Naphthalene	0.0200	0.0144	0.0200	0.0146	72	73	54-132	1	30
Toluene	0.0200	0.0198	0.0200	0.0199	99	99	80-120	0	30
1,2,4-Trimethylbenzene	0.0200	0.0175	0.0200	0.0173	87	86	74-120	1	30
1,3,5-Trimethylbenzene	0.0200	0.0174	0.0200	0.0171	87	86	73-120	2	30
Xylene (Total)	0.0600	0.0533	0.0600	0.0535	89	89	80-120	0	30
Batch number: A173422AB	Sample number(s): 9342598								
Benzene	0.0200	0.0181	0.0200	0.0185	91	92	80-120	2	30
Ethylbenzene	0.0200	0.0189	0.0200	0.0177	95	88	80-120	7	30
Isopropylbenzene	0.0200	0.0184	0.0200	0.0187	92	94	76-120	2	30
Methyl Tertiary Butyl Ether	0.0200	0.0171	0.0200	0.0170	85	85	66-123	0	30
Naphthalene	0.0200	0.0145	0.0200	0.0144	72	72	54-132	1	30
Toluene	0.0200	0.0198	0.0200	0.0199	99	100	80-120	1	30
1,2,4-Trimethylbenzene	0.0200	0.0173	0.0200	0.0174	86	87	74-120	1	30
1,3,5-Trimethylbenzene	0.0200	0.0158	0.0200	0.0160	79	80	73-120	2	30
Xylene (Total)	0.0600	0.0532	0.0600	0.0569	89	95	80-120	7	30
	ug/l	ug/l	ug/l	ug/l					
Batch number: Z173392AA	Sample number(s): 9342587-9342589,9342595-9342596,9342603								
Benzene	20	18.26			91		78-120		
Ethylbenzene	20	18.38			92		78-120		
Isopropylbenzene	20	19.14			96		80-120		
Methyl Tertiary Butyl Ether	20	18.78			94		75-120		
Naphthalene	20	16.54			83		59-120		
Toluene	20	18.95			95		80-120		
1,2,4-Trimethylbenzene	20	18.88			94		75-120		
1,3,5-Trimethylbenzene	20	18.46			92		75-120		
Xylene (Total)	60	58.1			97		80-120		

*- Outside of specification

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(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/18/2017 22:02

Group Number: 1881211

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 17335SLA026	Sample number(s): 9342584-9342586,9342591-9342594								
Acenaphthene	1666.67	1588.63			95		78-119		
Acenaphthylene	1666.67	1859.37			112		76-119		
Anthracene	1666.67	1748.34			105		82-118		
Benzo(a)anthracene	1666.67	1560.08			94		76-119		
Benzo(a)pyrene	1666.67	1417.48			85		78-117		
Benzo(b)fluoranthene	1666.67	1485.91			89		74-127		
Benzo(g,h,i)perylene	1666.67	1374.09			82		72-118		
Benzo(k)fluoranthene	1666.67	1409.95			85		71-123		
Chrysene	1666.67	1610.59			97		72-121		
Dibenz(a,h)anthracene	1666.67	1427.66			86		72-129		
Fluoranthene	1666.67	1638.26			98		72-120		
Fluorene	1666.67	1634.83			98		75-118		
Indeno(1,2,3-cd)pyrene	1666.67	1422			85		69-125		
Naphthalene	1666.67	1721.39			103		75-113		
Phenanthrene	1666.67	1644.71			99		74-114		
Pyrene	1666.67	1554.08			93		74-112		
Batch number: 17338SLD026	Sample number(s): 9342597-9342599,9342601								
Acenaphthene	1666.67	1650.88			99		78-119		
Acenaphthylene	1666.67	1939.24			116		76-119		
Anthracene	1666.67	1699.45			102		82-118		
Benzo(a)anthracene	1666.67	1645.41			99		76-119		
Benzo(a)pyrene	1666.67	1556.78			93		78-117		
Benzo(b)fluoranthene	1666.67	1550.67			93		74-127		
Benzo(g,h,i)perylene	1666.67	1546.95			93		72-118		
Benzo(k)fluoranthene	1666.67	1620.92			97		71-123		
Chrysene	1666.67	1710.05			103		72-121		
Dibenz(a,h)anthracene	1666.67	1686.17			101		72-129		
Fluoranthene	1666.67	1574.79			94		72-120		
Fluorene	1666.67	1613.41			97		75-118		
Indeno(1,2,3-cd)pyrene	1666.67	1668.47			100		69-125		
Naphthalene	1666.67	1668.86			100		75-113		
Phenanthrene	1666.67	1667.94			100		74-114		
Pyrene	1666.67	1624.75			97		74-112		
	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 173390024A	Sample number(s): 9342584-9342586,9342591-9342594,9342597-9342599,9342601								
PCB-1016	167	171.81			103		76-121		
PCB-1260	167	170.88			102		79-130		
	ug/l	ug/l	ug/l	ug/l					

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/18/2017 22:02

Group Number: 1881211

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 173380016A	Sample number(s): 9342587-9342589,9342595-9342596								
PCB-1016	5.01	5.42			108		60-117		
PCB-1260	5.01	5.09			102		57-134		
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 173350570804	Sample number(s): 9342584-9342586,9342591-9342594,9342597-9342600								
Antimony	50	53.88			108		80-120		
Arsenic	15	14.62			97		80-120		
Beryllium	5.00	4.80			96		80-120		
Cadmium	5.00	4.92			98		80-120		
Chromium	20	19.28			96		80-120		
Copper	25	24.98			100		80-120		
Lead	15	14.73			98		80-120		
Nickel	50	50.26			101		80-120		
Selenium	15	14.36			96		80-120		
Silver	5.00	4.36			87		80-120		
Thallium	15	14.09			94		80-120		
Zinc	50	49.89			100		80-120		
Batch number: 173350571102	Sample number(s): 9342584-9342586,9342591-9342594,9342597-9342601								
Mercury	0.100	0.0887			89		80-120		
Batch number: 173460570801	Sample number(s): 9342601								
Antimony	50	47.74			95		80-120		
Arsenic	15	16.08			107		80-120		
Beryllium	5.00	4.69			94		80-120		
Cadmium	5.00	4.75			95		80-120		
Chromium	20	19.35			97		80-120		
Copper	25	25.58			102		80-120		
Lead	15	14.36			96		80-120		
Nickel	50	49.58			99		80-120		
Selenium	15	15.5			103		80-120		
Silver	5.00	4.18			84		80-120		
Thallium	15	14.06			94		80-120		
Zinc	50	53.64			107		80-120		
	mg/l	mg/l	mg/l	mg/l					
Batch number: 173350184801	Sample number(s): 9342587-9342590,9342595-9342596								
Antimony	0.500	0.511			102		80-120		
Arsenic	0.150	0.154			102		80-120		
Beryllium	0.0500	0.0478			96		80-120		
Cadmium	0.0500	0.0499			100		80-120		
Chromium	0.200	0.197			98		80-120		
Copper	0.250	0.250			100		80-120		
Lead	0.150	0.150			100		80-120		

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/18/2017 22:02

Group Number: 1881211

LCS/LCSD (continued)

Analysis Name	LCS Spike Added mg/l	LCS Conc mg/l	LCSD Spike Added mg/l	LCSD Conc mg/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Nickel	0.500	0.512			102		80-120		
Selenium	0.150	0.139			93		80-120		
Silver	0.0500	0.0468			94		80-120		
Thallium	0.150	0.132			88		80-120		
Zinc	0.500	0.492			98		80-120		
Batch number: 173350571305	Sample number(s): 9342587-9342590,9342595-9342596								
Mercury	0.00100	0.000881			88		80-120		
	%	%	%	%					
Batch number: 17340820003A	Sample number(s): 9342584-9342586,9342591-9342594,9342597-9342601								
Moisture	89.5	89.41			100		99-101		
Moisture	89.5	89.41			100		99-101		
Moisture Duplicate	89.5	89.41			100		99-101		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: A173421AA	Sample number(s): 9342584-9342586,9342593 UNSPK: P339820									
Benzene	N.D.	0.0195	0.0202	0.0200	0.0207	103	103	80-120	2	30
Ethylbenzene	N.D.	0.0195	0.0192	0.0200	0.0186	98	93	80-120	3	30
Isopropylbenzene	N.D.	0.0195	0.0200	0.0200	0.0194	102	97	76-120	3	30
Methyl Tertiary Butyl Ether	N.D.	0.0195	0.0193	0.0200	0.0199	99	100	66-123	3	30
Naphthalene	N.D.	0.0195	0.0104	0.0200	0.0110	53*	55	54-132	5	30
Toluene	N.D.	0.0195	0.0222	0.0200	0.0218	114	109	80-120	2	30
1,2,4-Trimethylbenzene	N.D.	0.0195	0.0207	0.0200	0.0208	106	104	74-120	0	30
1,3,5-Trimethylbenzene	N.D.	0.0195	0.0206	0.0200	0.0209	106	104	73-120	1	30
Xylene (Total)	N.D.	0.0586	0.0577	0.0600	0.0567	98	94	80-120	2	30
Batch number: A173422AA	Sample number(s): 9342597,9342599,9342601 UNSPK: 9342597									
Benzene	N.D.	0.0190	0.0195	0.0193	0.0159	103	82	80-120	20	30
Ethylbenzene	N.D.	0.0190	0.0180	0.0193	0.0101	95	52*	80-120	56*	30
Isopropylbenzene	N.D.	0.0190	0.0193	0.0193	0.00993	102	51*	76-120	64*	30
Methyl Tertiary Butyl Ether	N.D.	0.0190	0.0188	0.0193	0.0183	99	95	66-123	3	30
Naphthalene	N.D.	0.0190	0.0102	0.0193	0.00546	54	28*	54-132	61*	30
Toluene	N.D.	0.0190	0.0211	0.0193	0.0148	111	77*	80-120	35*	30
1,2,4-Trimethylbenzene	N.D.	0.0190	0.0213	0.0193	0.00985	112	51*	74-120	74*	30
1,3,5-Trimethylbenzene	N.D.	0.0190	0.0204	0.0193	0.0104	108	54*	73-120	65*	30

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/18/2017 22:02

Group Number: 1881211

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Xylene (Total)	N.D.	0.0569	0.0569	0.0580	0.0293	100	50*	80-120	64*	30
Batch number: A173422AB	Sample number(s): 9342598 UNSPK: 9342597									
Benzene	N.D.	0.0190	0.0195	0.0193	0.0159	103	82	80-120	20	30
Ethylbenzene	N.D.	0.0190	0.0180	0.0193	0.0101	95	52*	80-120	56*	30
Isopropylbenzene	N.D.	0.0190	0.0193	0.0193	0.00993	102	51*	76-120	64*	30
Methyl Tertiary Butyl Ether	N.D.	0.0190	0.0188	0.0193	0.0183	99	95	66-123	3	30
Naphthalene	N.D.	0.0190	0.0102	0.0193	0.00546	54	28*	54-132	61*	30
Toluene	N.D.	0.0190	0.0211	0.0193	0.0148	111	77*	80-120	35*	30
1,2,4-Trimethylbenzene	N.D.	0.0190	0.0213	0.0193	0.00985	112	51*	74-120	74*	30
1,3,5-Trimethylbenzene	N.D.	0.0190	0.0204	0.0193	0.0104	108	54*	73-120	65*	30
Xylene (Total)	N.D.	0.0569	0.0569	0.0580	0.0293	100	50*	80-120	64*	30
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: Z173392AA	Sample number(s): 9342587-9342589,9342595-9342596,9342603 UNSPK: 9342587									
Benzene	N.D.	20	20.73	20	21.13	104	106	78-120	2	30
Ethylbenzene	N.D.	20	21.55	20	21.98	108	110	78-120	2	30
Isopropylbenzene	N.D.	20	22.4	20	22.62	112	113	80-120	1	30
Methyl Tertiary Butyl Ether	N.D.	20	20.17	20	20.72	101	104	75-120	3	30
Naphthalene	N.D.	20	16.68	20	16.87	83	84	59-120	1	30
Toluene	N.D.	20	22.17	20	22.38	111	112	80-120	1	30
1,2,4-Trimethylbenzene	N.D.	20	21.48	20	21.64	107	108	75-120	1	30
1,3,5-Trimethylbenzene	N.D.	20	21.19	20	21.39	106	107	75-120	1	30
Xylene (Total)	N.D.	60	68.59	60	70.27	114	117	80-120	2	30
	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 17335SLA026	Sample number(s): 9342584-9342586,9342591-9342594 UNSPK: P326799									
Acenaphthene	152.03	1655.63	1567.26	1644.74	1630.43	85	90	78-119	4	30
Acenaphthylene	144.38	1655.63	1768.43	1644.74	1855.63	98	104	76-119	5	30
Anthracene	108.28	1655.63	1887.84	1644.74	1782.3	107	102	82-118	6	30
Benzo(a)anthracene	84.71	1655.63	1580.28	1644.74	1580.87	90	91	76-119	0	30
Benzo(a)pyrene	76.06	1655.63	1394.62	1644.74	1368.16	80	79	78-117	2	30
Benzo(b)fluoranthene	176.81	1655.63	1479.62	1644.74	1366.05	79	72*	74-127	8	30
Benzo(g,h,i)perylene	86.7	1655.63	1380.42	1644.74	1356.93	78	77	72-118	2	30
Benzo(k)fluoranthene	7.67	1655.63	1303.92	1644.74	1399.2	78	85	71-123	7	30
Chrysene	169.53	1655.63	1665.4	1644.74	1729.76	90	95	72-121	4	30
Dibenz(a,h)anthracene	30.25	1655.63	1444.88	1644.74	1472.86	85	88	72-129	2	30
Fluoranthene	227.89	1655.63	1809.66	1644.74	1773.24	96	94	72-120	2	30
Fluorene	356.73	1655.63	1634.47	1644.74	1715.67	77	83	75-118	5	30
Indeno(1,2,3-cd)pyrene	69.8	1655.63	1487.56	1644.74	1438.9	86	83	69-125	3	30
Naphthalene	156.27	1655.63	2015.77	1644.74	1973.2	95	93	75-113	2	30
Phenanthrene	752.89	1655.63	2336.6	1644.74	2383.19	96	99	74-114	2	30
Pyrene	227.07	1655.63	1640.63	1644.74	1649.91	85	87	74-112	1	30

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/18/2017 22:02

Group Number: 1881211

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 17338SLD026 Sample number(s): 9342597-9342599,9342601 UNSPK: 9342597										
Acenaphthene	N.D.	1648.53	1653.1	1641.5	1663.08	100	101	78-119	1	30
Acenaphthylene	14.15	1648.53	1863.7	1641.5	1870.35	112	113	76-119	0	30
Anthracene	6.67	1648.53	1556.17	1641.5	1598.9	94	97	82-118	3	30
Benzo(a)anthracene	18.62	1648.53	1353.65	1641.5	1426.79	81	86	76-119	5	30
Benzo(a)pyrene	17.55	1648.53	1314.99	1641.5	1394.3	79	84	78-117	6	30
Benzo(b)fluoranthene	36.59	1648.53	1322.22	1641.5	1379.48	78	82	74-127	4	30
Benzo(g,h,i)perylene	26.72	1648.53	1289.51	1641.5	1413.16	77	84	72-118	9	30
Benzo(k)fluoranthene	18.83	1648.53	1363.78	1641.5	1490.13	82	90	71-123	9	30
Chrysene	47.74	1648.53	1428.39	1641.5	1505.48	84	89	72-121	5	30
Dibenz(a,h)anthracene	6.71	1648.53	1399.83	1641.5	1455.73	85	88	72-129	4	30
Fluoranthene	51.61	1648.53	1393.12	1641.5	1410.33	81	83	72-120	1	30
Fluorene	7.24	1648.53	1512.69	1641.5	1520.81	91	92	75-118	1	30
Indeno(1,2,3-cd)pyrene	22.19	1648.53	1438.31	1641.5	1512.82	86	91	69-125	5	30
Naphthalene	20.03	1648.53	1727.85	1641.5	1554.14	104	93	75-113	11	30
Phenanthrene	36.5	1648.53	1555.22	1641.5	1596.49	92	95	74-114	3	30
Pyrene	36.61	1648.53	1538.48	1641.5	1559.6	91	93	74-112	1	30
	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 173390024A Sample number(s): 9342584-9342586,9342591-9342594,9342597-9342599,9342601 UNSPK: 9342597										
PCB-1016	N.D.	166	160.82	165	157.5	97	95	76-121	2	50
PCB-1260	N.D.	166	148.56	165	149.58	89	91	79-130	1	50
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: 173380016A Sample number(s): 9342587-9342589,9342595-9342596 UNSPK: 9342587										
PCB-1016	N.D.	25	28.79	25	21.15	115	85	60-117	31*	30
PCB-1260	N.D.	25	23.89	25	10.91	96	44*	57-134	75*	30
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 173350570804 Sample number(s): 9342584-9342586,9342591-9342594,9342597-9342600 UNSPK: 9342597										
Antimony	N.D.	39.37	34.04	39.06	32.16	86	82	75-125	6	20
Arsenic	14.35	11.81	22.16	11.72	21.8	66*	64*	75-125	2	20
Beryllium	0.426	3.94	4.09	3.91	4.07	93	93	75-125	1	20
Cadmium	0.137	3.94	3.71	3.91	3.53	91	87	75-125	5	20
Chromium	18.87	15.75	33.27	15.63	32.56	91	88	75-125	2	20
Copper	36.85	19.69	47.28	19.53	48.58	53*	60*	75-125	3	20
Lead	71.26	11.81	67.64	11.72	69.15	-31 (2)	-18 (2)	75-125	2	20
Nickel	21.68	39.37	58.24	39.06	56.96	93	90	75-125	2	20
Selenium	1.55	11.81	12.26	11.72	11.48	91	85	75-125	7	20
Silver	N.D.	3.94	3.24	3.91	3.20	82	82	75-125	1	20
Thallium	N.D.	11.81	11.03	11.72	10.81	93	92	75-125	2	20

*- Outside of specification

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(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/18/2017 22:02

Group Number: 1881211

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Zinc	74	39.37	99.65	39.06	97.63	65*	60*	75-125	2	20
Batch number: 173350571102	Sample number(s): 9342584-9342586,9342591-9342594,9342597-9342601 UNSPK: 9342597									
Mercury	0.0265	0.156	0.179	0.167	0.188	97	97	80-120	5	20
Batch number: 173460570801	Sample number(s): 9342601 UNSPK: P356113									
Antimony	11.37	34.97	29.91	40.98	36	53*	60*	75-125	18	20
Arsenic	32.91	10.49	39.02	12.3	45	58*	98	75-125	14	20
Beryllium	0.904	3.50	3.98	4.10	4.73	88	93	75-125	17	20
Cadmium	4.18	3.50	6.33	4.10	7.60	62*	83	75-125	18	20
Chromium	48.16	13.99	76.06	16.39	78.03	199*	182*	75-125	3	20
Copper	619.9	17.48	711.72	20.49	751.61	525 (2)	643 (2)	75-125	5	20
Lead	1096.38	10.49	421.33	12.3	796.53	-6436 (2)	-2439 (2)	75-125	62*	20
Nickel	105.85	34.97	151.12	40.98	170.06	129*	157*	75-125	12	20
Selenium	1.89	10.49	13.67	12.3	14.17	112	100	75-125	4	20
Silver	0.841	3.50	3.70	4.10	4.07	82	79	75-125	10	20
Thallium	N.D.	10.49	9.64	12.3	11.5	92	94	75-125	18	20
Zinc	376.04	34.97	349.21	40.98	453.93	-77 (2)	190 (2)	75-125	26*	20
	mg/l	mg/l	mg/l	mg/l	mg/l					
Batch number: 173350184801	Sample number(s): 9342587-9342590,9342595-9342596 UNSPK: 9342587									
Antimony	N.D.	0.500	0.450	0.500	0.482	90	96	75-125	7	20
Arsenic	0.141	0.150	0.367	0.150	0.324	151*	122	75-125	13	20
Beryllium	0.0198	0.0500	0.0716	0.0500	0.0685	104	97	75-125	4	20
Cadmium	N.D.	0.0500	0.0490	0.0500	0.0499	98	100	75-125	2	20
Chromium	0.0684	0.200	0.233	0.200	0.235	82	83	75-125	1	20
Copper	2.29	0.250	3.32	0.250	2.96	410 (2)	269 (2)	75-125	11	20
Lead	0.501	0.150	0.720	0.150	0.679	146*	118	75-125	6	20
Nickel	0.145	0.500	0.644	0.500	0.616	100	94	75-125	4	20
Selenium	N.D.	0.150	0.141	0.150	0.0897	94	60*	75-125	44*	20
Silver	N.D.	0.0500	0.0420	0.0500	0.0423	84	85	75-125	1	20
Thallium	N.D.	0.150	0.0943	0.150	0.109	63*	72*	75-125	14	20
Zinc	0.659	0.500	1.39	0.500	1.23	147*	113	75-125	13	20
Batch number: 173350571305	Sample number(s): 9342587-9342590,9342595-9342596 UNSPK: 9342587									
Mercury	N.D.	0.00100	0.000962	0.00100	0.000919	96	92	80-120	5	20

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

*- Outside of specification

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(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/18/2017 22:02

Group Number: 1881211

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/kg	DUP Conc mg/kg	DUP RPD	DUP RPD Max
Batch number: 173350570804	Sample number(s): 9342584-9342586,9342591-9342594,9342597-9342600 BKG: 9342597			
Antimony	N.D.	N.D.	0 (1)	20
Arsenic	14.35	12.24	16	20
Beryllium	0.426	0.482	12 (1)	20
Cadmium	0.137	0.104	27* (1)	20
Chromium	18.87	14.95	23*	20
Copper	36.85	39.67	7	20
Lead	71.26	58.26	20	20
Nickel	21.68	18.57	15	20
Selenium	1.55	0.961	47* (1)	20
Silver	N.D.	N.D.	0 (1)	20
Thallium	N.D.	N.D.	0 (1)	20
Zinc	74	63.87	15	20
Batch number: 173350571102	Sample number(s): 9342584-9342586,9342591-9342594,9342597-9342601 BKG: 9342597			
Mercury	0.0265	0.0691	89* (1)	20
Batch number: 173460570801	Sample number(s): 9342601 BKG: P356113			
Antimony	11.37	11.9	5	20
Arsenic	32.91	33.81	3	20
Beryllium	0.904	0.905	0 (1)	20
Cadmium	4.18	3.66	13	20
Chromium	48.16	49.48	3	20
Copper	619.9	632.65	2	20
Lead	1096.38	1222.18	11	20
Nickel	105.85	107.64	2	20
Selenium	1.89	2.22	16 (1)	20
Silver	0.841	0.758	10 (1)	20
Thallium	N.D.	N.D.	0 (1)	20
Zinc	376.04	395.91	5	20
	mg/l	mg/l		
Batch number: 173350184801	Sample number(s): 9342587-9342590,9342595-9342596 BKG: 9342587			
Antimony	N.D.	N.D.	0 (1)	20
Arsenic	0.141	0.136	3 (1)	20
Beryllium	0.0198	0.0181	9 (1)	20
Cadmium	N.D.	N.D.	0 (1)	20
Chromium	0.0684	0.0604	12 (1)	20
Copper	2.29	2.07	10	20
Lead	0.501	0.450	11	20
Nickel	0.145	0.137	6 (1)	20
Selenium	N.D.	N.D.	0 (1)	20
Silver	N.D.	N.D.	0 (1)	20
Thallium	N.D.	N.D.	0 (1)	20

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/18/2017 22:02

Group Number: 1881211

Laboratory Duplicate (continued)

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/l	DUP Conc mg/l	DUP RPD	DUP RPD Max
Zinc	0.659	0.626	5	20
Batch number: 173350571305	Sample number(s): 9342587-9342590,9342595-9342596 BKG: 9342587			
Mercury	N.D.	0.0000548	200* (1)	20
	%	%		
Batch number: 17340820003A	Sample number(s): 9342584-9342586,9342591-9342594,9342597-9342601 BKG: 9342597, P342597			
Moisture	10.03	11.63	15*	5
Moisture	10.03	11.63	15*	5
Moisture Duplicate	10.03	11.63	15*	5

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report. For dual column analyses, the surrogate (at least one surrogate for multi-surrogate tests) must be within the acceptance limits on at least one of the two columns.

Analysis Name: BTEX/MTBE/Cumene/Naph/TMBs
Batch number: A173413AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9342591	108	104	127	71
9342592	109	106	109	93
9342594	108	104	107	97
9342602	103	106	109	97
Blank	100	98	108	100
LCS	102	101	111	106
LCSD	101	100	111	102
Limits:	50-141	54-135	52-141	50-131

Analysis Name: BTEX/MTBE/Cumene/Naph/TMBs
Batch number: A173421AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9342584	116	112	138	67
9342585	114	110	129	67
9342586	109	109	107	104
9342593	114	113	128	71
Blank	103	101	108	102
LCS	101	99	111	101
LCSD	103	99	111	109

*- Outside of specification

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/18/2017 22:02

Group Number: 1881211

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report. For dual column analyses, the surrogate (at least one surrogate for multi-surrogate tests) must be within the acceptance limits on at least one of the two columns.

Analysis Name: BTEX/MTBE/Cumene/Naph/TMBs
Batch number: A173421AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
MS	105	103	113	99
MSD	102	103	109	96
Limits:	50-141	54-135	52-141	50-131

Analysis Name: BTEX/MTBE/Cumene/Naph/TMBs
Batch number: A173422AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9342597	104	104	112	92
9342599	103	103	115	95
9342601	104	105	100	88
Blank	106	104	108	102
LCS	103	100	111	103
LCSD	101	100	111	108
MS	106	107	112	89
MSD	103	103	115	95
Limits:	50-141	54-135	52-141	50-131

Analysis Name: BTEX/MTBE/Cumene/Naph/TMBs
Batch number: A173422AB

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9342598	106	107	112	89
Blank	104	104	108	100
LCS	102	102	111	103
LCSD	102	101	110	103
MS	106	107	112	89
MSD	103	103	115	95
Limits:	50-141	54-135	52-141	50-131

Analysis Name: VOCs- 5ml Water by 8260B UST
Batch number: Z173392AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9342587	108	100	100	95
9342588	104	99	101	106
9342589	103	99	101	106
9342595	109	101	99	95
9342596	109	100	99	94

*- Outside of specification

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/18/2017 22:02

Group Number: 1881211

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report. For dual column analyses, the surrogate (at least one surrogate for multi-surrogate tests) must be within the acceptance limits on at least one of the two columns.

Analysis Name: VOCs- 5ml Water by 8260B UST
Batch number: Z173392AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9342603	108	99	99	92
Blank	107	100	100	94
LCS	102	99	100	104
MS	104	99	101	106
MSD	103	99	101	106
Limits:	80-120	80-120	80-120	80-120

Analysis Name: PAH 8270 (microwave)
Batch number: 17335SLA026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
9342584	82	92	87
9342585	81	92	86
9342586	73	89	85
9342591	73	103	88
9342592	70	107	100
9342593	69	93	88
9342594	63	94	90
Blank	92	97	96
LCS	95	97	91
MS	80	88	87
MSD	56	89	90
Limits:	49-118	57-116	55-118

Analysis Name: PAH 8270 (microwave)
Batch number: 17338SLD026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
9342597	73	95	96
9342598	68	97	97
9342599	67	99	99
9342601	75	101	100
Blank	71	96	97
LCS	76	100	104
MS	68	97	97
MSD	67	99	99
Limits:	49-118	57-116	55-118

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/18/2017 22:02

Group Number: 1881211

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report. For dual column analyses, the surrogate (at least one surrogate for multi-surrogate tests) must be within the acceptance limits on at least one of the two columns.

Analysis Name: PCBs in Water
Batch number: 173380016A

	Tetrachloro-m-xylene-D1	Decachlorobiphenyl-D1	Tetrachloro-m-xylene-D2	Decachlorobiphenyl-D2
9342587	67	52	63	49
9342588	110	59	109	57
9342589	38	30	38	29
9342595	70	23	68	21
9342596	63	22	62	20
Blank	100	94	95	90
LCS	99	76	95	73
MS	110	59	109	57
MSD	38	30	38	29
Limits:	33-137	10-148	33-137	10-148

Analysis Name: PCBs in Soil (microwave)
Batch number: 173390024A

	Tetrachloro-m-xylene-D1	Decachlorobiphenyl-D1	Tetrachloro-m-xylene-D2	Decachlorobiphenyl-D2
9342584	99	91	106	81
9342585	78	70	83	58
9342586	123	88	120	74
9342591	105	88	104	72
9342592	121	93	114	77
9342593	73	55	73	47
9342594	101	76	106	66
9342597	103	81	105	68
9342598	118	92	118	80
9342599	114	89	117	77
9342601	132	90	125	84
Blank	136	130	125	121
LCS	113	115	112	107
MS	118	92	118	80
MSD	114	89	117	77
Limits:	53-140	45-143	53-140	45-143

*- Outside of specification

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(2) The unspiked result was more than four times the spike added.

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Environmental Analysis Request/Chain of Custody



Lancaster Laboratories Environmental

For Eurofins Lancaster Laboratories Environmental use only

Acct. # 4549 Group # 1881211 Sample # 9342584-603

COC # 539170

Client Information				Matrix				Analysis Requested												For Lab Use Only			
Client: <u>Brightfields, Inc.</u>		Acct. #:		<input type="checkbox"/> Tissue <input checked="" type="checkbox"/> Ground <input type="checkbox"/> Surface		<input type="checkbox"/> Potable <input type="checkbox"/> NPDES <input type="checkbox"/> Water		<input type="checkbox"/> Sediment <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Other:		Preservation Codes VOCs (BAPEP Short List) PAHs PPL Metals PCBs												FSC: _____ SCR#: <u>216044</u>	
Project Name/#: <u>Pocono Foundry</u>		PWSID #:								Remarks Water samples not filtered machine lab filtration (all except VOCs) (1 of 2)													
Project Manager: <u>Victoria Bisbing</u>		P.O. #:		Preservation Codes H=HCl T=Thiosulfate N=HNO ₃ B=NaOH S=H ₂ SO ₄ O=Other																			
Sampler: <u>James Thompson</u>		Quote #:		State where samples were collected: <u>Pennsylvania</u>		For Compliance: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		Total # of Containers		Sample Identification Collected Date Time Grab Composite													
BIO-6P01-5001		11/28/17 1455		X		X		2		X X X X													
BIO-6P01-5101		1457		X		X		2		X X X X													
BIO-6P01-5002		1510		X		X		2		X X X X													
BIO-6P01-W001		1540		X		X		21		X X X X												MS/MSD	
BIO-6P02-5001		1610		X		X		2		X X X X													
BIO-6P02-5002		1620		X		X		2		X X X X													
BIO-6P03-5001		1630		X		X		2		X X X X													
BIO-6P03-5002		1640		X		X		2		X X X X													
BIO-6P03-W001		1700		X		X		5		X X X X												Limited Volume	
BIO-6P03-W01		1702		X		X		5		X X X X												Limited Volume	
Turnaround Time (TAT) Requested (please circle) Standard <u>Standard</u> Rush (Rush TAT is subject to laboratory approval and surcharge.)				Relinquished by <u>Bottle Storage</u> Date <u>11/29/17</u> Time <u>1230</u> Received by <u>[Signature]</u> Date <u>11/29/17</u> Time <u>1230</u>																			
Date results are needed: _____				Relinquished by <u>[Signature]</u> Date <u>11/29/17</u> Time <u>1257</u> Received by <u>[Signature]</u> Date <u>11/29/17</u> Time <u>1257</u>																			
E-mail address: _____				Relinquished by _____ Date _____ Time _____ Received by _____ Date _____ Time _____																			
Data Package Options (circle if required) Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only) Type III (Reduced non-CLP) NJ DKQP TX TRRP-13 NYSDEC Category A or B MA MCP CT RCP				Relinquished by <u>[Signature]</u> Date <u>11/29/17</u> Time <u>1635</u> Received by <u>[Signature]</u> Date <u>11/29/17</u> Time <u>1635</u>																			
EDD Required? Yes No If yes, format: _____				Relinquished by Commercial Carrier: UPS _____ FedEx _____ Other _____																			
Site-Specific QC (MS/MSD/Dup)? Yes No (If yes, indicate QC sample and submit triplicate sample volume.)				Temperature upon receipt <u>0.7-5.8 °C</u>																			

Environmental Analysis Request/Chain of Custody



Lancaster Laboratories Environmental

For Eurofins Lancaster Laboratories Environmental use only

Acct. # 4549 Group # 1881211 Sample # 9342584-603

COC # 539171

Client Information				Matrix				Analysis Requested				For Lab Use Only	
Client: <u>JLI Pocono Foundry Brightfields, Inc.</u>		Acct. #:		<input type="checkbox"/> Tissue				Preservation Codes				FSC: _____	
Project Name #: <u>Pocono Foundry</u>		PWSID #:		<input type="checkbox"/> Potable		<input type="checkbox"/> Ground						SCR#: _____	
Project Manager: <u>V. Cora Bishop</u>		P.O. #:		<input type="checkbox"/> Sediment		<input type="checkbox"/> NPDES						Preservation Codes H=HCl T=Thiosulfate N=HNO ₃ B=NaOH S=H ₂ SO ₄ O=Other	
Sampler: <u>James Thompson</u>		Quote #:		<input type="checkbox"/> Water		<input type="checkbox"/> Surface						Remarks (2 of 2)	
State where samples were collected: <u>Pennsylvania</u>		For Compliance: Yes <input type="checkbox"/> No <input type="checkbox"/>		<input checked="" type="checkbox"/> Soil		<input type="checkbox"/> Other:		Total # of Containers <u>6</u> VOCs (PADEP ghost list) <u>2</u> PAHs <u>3</u> PPL Metals <u>1</u> PCBs					
Sample Identification		Collected		Grab	Composite								
Date	Time												
<u>BIO-6P04-5001</u>	<u>11/28/17</u>	<u>1730</u>	<u>X</u>		<u>X</u>			<u>6</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>MS/MSD</u>
<u>BIO-6P04-5002</u>		<u>1745</u>	<u>X</u>		<u>X</u>			<u>2</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	
<u>BIO-6P04-5301</u>		<u>1750</u>	<u>X</u>		<u>X</u>				<u>X</u>				
<u>BIO-6P04-W301</u>		<u>1755</u>	<u>X</u>			<u>X</u>		<u>3</u>	<u>X</u>				

Turnaround Time (TAT) Requested (please circle) Standard <u>Standard</u> Rush (Rush TAT is subject to laboratory approval and surcharge.)	Relinquished by: <u>[Signature]</u>	Date: <u>11/29/17</u>	Time: <u>1257</u>	Received by: <u>[Signature]</u>	Date: <u>11/29/17</u>	Time: <u>1257</u>
	Relinquished by:	Date:	Time:	Received by:	Date:	Time:
	Relinquished by:	Date:	Time:	Received by:	Date:	Time:
	Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Data Package Options (circle if required) Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only) Type III (Reduced non-CLP) NJ DKQP TX TRRP-13 NYSDEC Category A or B MA MCP CT RCP	Relinquished by: <u>[Signature]</u>	Date: <u>11/29/17</u>	Time: <u>1635</u>	Received by: <u>[Signature]</u>	Date: <u>11/29/17</u>	Time: <u>1635</u>
	EDD Required? Yes No		Relinquished by Commercial Carrier:			
	If yes, format: _____		UPS _____ FedEx _____ Other _____			
	Site-Specific QC (MS/MSD/Dup)? Yes No		Temperature upon receipt: <u>0.7-5.8C</u>			
(If yes, indicate QC sample and submit triplicate sample volume.)						

[Signature] 11/30/17 1815



Client: Brightfield, Inc

Delivery and Receipt Information

Delivery Method: ELLE Courier Arrival Timestamp: 11/29/2017 16:35
 Number of Packages: 1 Number of Projects: 3
 State/Province of Origin: PA

Arrival Condition Summary

Shipping Container Sealed:	No	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	No	Sample Date/Times match COC:	Yes
Samples Chilled:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	5
Samples Intact:	Yes	Trip Blank Type:	See Below
Missing Samples:	Yes	Air Quality Samples Present:	No
Extra Samples:	No		
Discrepancy in Container Qty on COC:	Yes		

Unpacked by Cory Jeremiah (10469) at 18:29 on 11/29/2017

Samples Chilled Details

Thermometer Types: *DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp)* *All Temperatures in °C.*

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
4	DT146	0.7	DT	Wet	Y	Bagged	N

Missing Sample Details

<u>Sample ID on COC</u>	<u>Comments</u>
BIO-GP01-S001	
BIO-GP01-S101	
BIO-GP01-S002	
BIO-GP02-S001	
BIO-GP02-S002	
BIO-GP03-S001	
BIO-GP03-S002	
BIO-GP04-S001	
BIO-GP04-S002	

Client: Brightfield, Inc**Container Quantity Discrepancy Details**

<u>Sample ID on COC</u>	<u>Container Qty. Received</u>	<u>Container Qty. on COC</u>	<u>Comments</u>
BIO-GP01-W001	15	21	
BIO-GP03-W001	3	5	
BIO-GP03-W101	3	5	
BIO-GP04-S301	3	0	
BIO-GP04-W301	2	3	

General Comments:	1 MeOH 2NASO4 2 HCl
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Client: Brightfields

Delivery and Receipt Information

Delivery Method: ELLE Courier Arrival Timestamp: 11/30/2017 18:15
 Number of Packages: 1 Number of Projects: 1
 State/Province of Origin: PA

Arrival Condition Summary

Shipping Container Sealed:	No	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	No	Sample Date/Times match COC:	Yes
Samples Chilled:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	0
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	Yes		

Unpacked by Simon Nies (25112) at 00:09 on 12/01/2017

Samples Chilled Details

Thermometer Types: *DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp)* All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container *	Elevated Temp?
1	DT42-02	5.8	DT	Wet	Y	Bagged	N

Container Quantity Discrepancy Details

Sample ID on COC	Container Qty. Received	Container Qty. on COC	Comments
BIO-GP03-W001	15	21	

General Comments: Received missing cooler from 11/29

Hold Id: 00010234**Date Resolved:****Start date:** 11/29/2017**SA Employee:** Tamara Helsel**Account #:** 04549**Client name:** Brightfields, Inc.**Project:** Pocono Foundry**# of containers:** 0**Storage location:** SA Storage**Arrival:** 01-Lab Courier**ISPD Code:** Y-Missing cooler(s)**Description:** missing coolers? We did not receive soils and waters had quantity discrepancy issues.**Follow-up:****Client Service Rep:** Elisabeth Knisley**Results:****Preventative actions:**

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	mg	milligram(s)
C	degrees Celsius	mL	milliliter(s)
cfu	colony forming units	MPN	Most Probable Number
CP Units	cobalt-chloroplatinate units	N.D.	non-detect
F	degrees Fahrenheit	ng	nanogram(s)
g	gram(s)	NTU	nephelometric turbidity units
IU	International Units	pg/L	picogram/liter
kg	kilogram(s)	RL	Reporting Limit
L	liter(s)	TNTC	Too Numerous To Count
lb.	pound(s)	µg	microgram(s)
m3	cubic meter(s)	µL	microliter(s)
meq	milliequivalents	umhos/cm	micromhos/cm
<	less than		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
J (or G, I, X)	Estimated value \geq the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report
B	Detection in the Blank
Q0	LCS/LCSD Low
Q1	LCS/LCSD High
Q2	MS/MSD Low
Q3	MS/MSD High
Q7	LCS/LCSD RPD
Q8	DUP RPD
Q9	MS/MSD RPD

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Appendix E.3

Eurofins Analytical Data Packages

Former Gas Station



ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Brightfields, Inc.
801 Industrial St.
Suite 1
Wilmington DE 19801

Report Date: December 13, 2017 18:10

Project: Former Gas Station

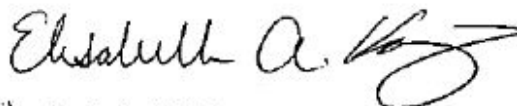
Account #: 04549
Group Number: 1880558
PO Number: 14726
State of Sample Origin: PA

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/>. To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To Brightfields, Inc.
Electronic Copy To Brightfields, Inc.

Attn: James Thompson
Attn: Victoria Bisbing

Respectfully Submitted,



Elisabeth A. Knisley
Project Manager

(717) 556-7262



SAMPLE INFORMATION

<u>Client Sample Description</u>	<u>Sample Collection Date/Time</u>	<u>ELLE#</u>
FGS-GP01-S001 Grab Soil	11/29/2017 08:05	9339820
FGS-GP01-S001MS Grab Soil	11/29/2017 08:05	9339821
FGS-GP01-S001MSD Grab Soil	11/29/2017 08:05	9339822
FGS-GP01-S001DUP Grab Soil	11/29/2017 08:05	9339823
FGS-GP01-S002 Grab Soil	11/29/2017 08:15	9339824
FGS-GP01-S102 Grab Soil	11/29/2017 08:17	9339825
FGS-GP02-S001 Grab Soil	11/29/2017 08:30	9339826
FGS-GP02-S002 Grab Soil	11/29/2017 08:45	9339827
FGS-GP03-S001 Grab Soil	11/29/2017 08:50	9339828
FGS-GP03-S002 Grab Soil	11/29/2017 09:00	9339829
FGS-GP04-S001 Grab Soil	11/29/2017 09:10	9339830
FGS-GP04-S002 Grab Soil	11/29/2017 09:15	9339831
FGS-GP04-S301 MeOH	11/29/2017 09:20	9339832

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Sample Description: FGS-GP01-S001 Grab Soil
Former Gas Station

Brightfields, Inc.
ELLE Sample #: SW 9339820
ELLE Group #: 1880558
Matrix: Soil

Project Name: Former Gas Station

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/29/2017 08:05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D.	0.0005	0.005	0.94
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	0.94
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	0.94
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	0.94
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.005	0.94
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	0.94
10237	Naphthalene	91-20-3	N.D. Q2	0.001	0.005	0.94
10237	Toluene	108-88-3	N.D.	0.001	0.005	0.94
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.005	0.94
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.005	0.94
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	0.94
Metals			SW-846 6010B	mg/kg	mg/kg	
06955	Lead	7439-92-1	24.4 Q3	0.626	1.56	1
Wet Chemistry			SM 2540 G-1997	%	%	
00111	Moisture	n.a.	12.8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A173421AA	12/08/2017 10:42	Jennifer K Howe	0.94
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733448130	11/29/2017 08:05	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733448130	11/29/2017 08:05	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733448130	11/29/2017 08:05	Client Supplied	1
06955	Lead	SW-846 6010B	1	173340570802	12/11/2017 21:09	Cindy M Gehman	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173340570802	12/01/2017 16:00	JoElla L Rice	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	2	17340820010A	12/06/2017 21:07	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: FGS-GP01-S001MS Grab Soil
Former Gas Station

Brightfields, Inc.
ELLE Sample #: SW 9339821
ELLE Group #: 1880558
Matrix: Soil

Project Name: Former Gas Station

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/29/2017 08:05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Benzene	71-43-2	0.023	0.0006	0.006	0.98
10237	1,2-Dibromoethane	106-93-4	0.022	0.001	0.006	0.98
10237	1,2-Dichloroethane	107-06-2	0.023	0.001	0.006	0.98
10237	Ethylbenzene	100-41-4	0.022	0.001	0.006	0.98
10237	Isopropylbenzene	98-82-8	0.023	0.001	0.006	0.98
10237	Methyl Tertiary Butyl Ether	1634-04-4	0.022	0.0006	0.006	0.98
10237	Naphthalene	91-20-3	0.012 Q2	0.001	0.006	0.98
10237	Toluene	108-88-3	0.025	0.001	0.006	0.98
10237	1,2,4-Trimethylbenzene	95-63-6	0.024	0.001	0.006	0.98
10237	1,3,5-Trimethylbenzene	108-67-8	0.024	0.001	0.006	0.98
10237	Xylene (Total)	1330-20-7	0.066	0.001	0.006	0.98
Metals			mg/kg	mg/kg	mg/kg	
SW-846 6010B						
06955	Lead	7439-92-1	43.9 Q3	0.662	1.65	1
Wet Chemistry			%	%	%	
SM 2540 G-1997						
%Moisture Calc						
00118	Moisture	n.a.	12.8	0.50	0.50	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A173421AA	12/08/2017 11:05	Jennifer K Howe	0.98
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733448130	11/29/2017 08:05	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733448130	11/29/2017 08:05	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733448130	11/29/2017 08:05	Client Supplied	1
06955	Lead	SW-846 6010B	1	173340570802	12/11/2017 21:18	Cindy M Gehman	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173340570802	12/01/2017 16:00	JoElla L Rice	1
00118	Moisture	SM 2540 G-1997 %Moisture Calc	2	17340820010A	12/06/2017 21:07	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: FGS-GP01-S001MSD Grab Soil
Former Gas Station

Brightfields, Inc.
ELLE Sample #: SW 9339822
ELLE Group #: 1880558
Matrix: Soil

Project Name: Former Gas Station

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/29/2017 08:05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Benzene	71-43-2	0.024	0.0006	0.006	1
10237	1,2-Dibromoethane	106-93-4	0.022	0.001	0.006	1
10237	1,2-Dichloroethane	107-06-2	0.024	0.001	0.006	1
10237	Ethylbenzene	100-41-4	0.021	0.001	0.006	1
10237	Isopropylbenzene	98-82-8	0.022	0.001	0.006	1
10237	Methyl Tertiary Butyl Ether	1634-04-4	0.023	0.0006	0.006	1
10237	Naphthalene	91-20-3	0.013 Q2	0.001	0.006	1
10237	Toluene	108-88-3	0.025	0.001	0.006	1
10237	1,2,4-Trimethylbenzene	95-63-6	0.024	0.001	0.006	1
10237	1,3,5-Trimethylbenzene	108-67-8	0.024	0.001	0.006	1
10237	Xylene (Total)	1330-20-7	0.065	0.001	0.006	1
Metals			mg/kg	mg/kg	mg/kg	
SW-846 6010B						
06955	Lead	7439-92-1	46.5 Q3	0.626	1.56	1
Wet Chemistry			%	%	%	
SM 2540 G-1997						
%Moisture Calc						
00118	Moisture	n.a.	12.8	0.50	0.50	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A173421AA	12/08/2017 11:27	Jennifer K Howe	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733448130	11/29/2017 08:05	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733448130	11/29/2017 08:05	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733448130	11/29/2017 08:05	Client Supplied	1
06955	Lead	SW-846 6010B	1	173340570802	12/11/2017 21:22	Cindy M Gehman	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173340570802	12/01/2017 16:00	JoElla L Rice	1
00118	Moisture	SM 2540 G-1997 %Moisture Calc	2	17340820010A	12/06/2017 21:07	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: FGS-GP01-S001DUP Grab Soil
Former Gas Station

Brightfields, Inc.
ELLE Sample #: SW 9339823
ELLE Group #: 1880558
Matrix: Soil

Project Name: Former Gas Station

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/29/2017 08:05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Metals						
		SW-846 6010B	mg/kg	mg/kg	mg/kg	
06955	Lead	7439-92-1	24.3 Q3	0.655	1.64	1
Wet Chemistry						
		SM 2540 G-1997	%	%	%	
		%Moisture Calc				
00118	Moisture	n.a.	12.8	0.50	0.50	1
00121	Moisture Duplicate	n.a.	13.1	0.50	0.50	1
The duplicate moisture value is provided to assess the precision of the moisture test. For comparability purposes, the initial moisture determination is the value used to perform dry weight calculations.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06955	Lead	SW-846 6010B	1	173340570802	12/11/2017 21:15	Cindy M Gehman	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173340570802	12/01/2017 16:00	JoElla L Rice	1
00118	Moisture	SM 2540 G-1997 %Moisture Calc	2	17340820010A	12/06/2017 21:07	Scott W Freisher	1
00121	Moisture Duplicate	SM 2540 G-1997 %Moisture Calc	2	17340820010A	12/06/2017 21:07	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: FGS-GP01-S002 Grab Soil
Former Gas Station

Brightfields, Inc.
ELLE Sample #: SW 9339824
ELLE Group #: 1880558
Matrix: Soil

Project Name: Former Gas Station

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/29/2017 08:15

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	mg/kg	mg/kg	mg/kg	
10237	Benzene	71-43-2	0.003 J	0.0006	0.006	0.97
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.006	0.97
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.006	0.97
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.006	0.97
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.006	0.97
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0006	0.006	0.97
10237	Naphthalene	91-20-3	0.002 J Q2	0.001	0.006	0.97
10237	Toluene	108-88-3	0.003 J	0.001	0.006	0.97
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.006	0.97
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.006	0.97
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.006	0.97

The recovery for the sample internal standard is outside the QC acceptance limits. The following corrective action was taken:
The sample was re-analyzed and the QC is again outside of the acceptance limits, indicating a matrix effect. The data is reported from the initial trial.

Metals	SW-846 6010B	mg/kg	mg/kg	mg/kg	
06955 Lead	7439-92-1	107 Q3	0.658	1.65	1

Wet Chemistry	SM 2540 G-1997	%	%	%	
00111 Moisture	%Moisture Calc n.a.	14.8 Q8	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A173421AA	12/08/2017 11:50	Jennifer K Howe	0.97
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733448130	11/29/2017 08:15	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733448130	11/29/2017 08:15	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733448130	11/29/2017 08:15	Client Supplied	1
06955	Lead	SW-846 6010B	1	173340570802	12/11/2017 21:28	Cindy M Gehman	1

*=This limit was used in the evaluation of the final result

Sample Description: FGS-GP01-S002 Grab Soil
Former Gas Station

Brightfields, Inc.
ELLE Sample #: SW 9339824
ELLE Group #: 1880558
Matrix: Soil

Project Name: Former Gas Station

Submittal Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/29/2017 08:15

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173340570802	12/01/2017 16:00	JoElla L Rice	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17339820004A	12/05/2017 20:13	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: FGS-GP01-S102 Grab Soil
Former Gas Station

Brightfields, Inc.
ELLE Sample #: SW 9339825
ELLE Group #: 1880558
Matrix: Soil

Project Name: Former Gas Station

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/29/2017 08:17

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D.	0.0006	0.006	1.01
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.006	1.01
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.006	1.01
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.006	1.01
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.006	1.01
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0006	0.006	1.01
10237	Naphthalene	91-20-3	N.D. Q2	0.001	0.006	1.01
10237	Toluene	108-88-3	N.D.	0.001	0.006	1.01
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.006	1.01
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.006	1.01
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.006	1.01
Metals			SW-846 6010B	mg/kg	mg/kg	
06955	Lead	7439-92-1	224 Q3	0.596	1.49	1
Wet Chemistry			SM 2540 G-1997	%	%	
00111	Moisture	n.a.	11.7 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A173421AA	12/08/2017 19:23	Jennifer K Howe	1.01
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733448130	11/29/2017 08:17	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733448130	11/29/2017 08:17	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733448130	11/29/2017 08:17	Client Supplied	1
06955	Lead	SW-846 6010B	1	173340570802	12/11/2017 21:32	Cindy M Gehman	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173340570802	12/01/2017 16:00	JoElla L Rice	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17339820004A	12/05/2017 20:13	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: FGS-GP02-S001 Grab Soil
Former Gas Station

Brightfields, Inc.
ELLE Sample #: SW 9339826
ELLE Group #: 1880558
Matrix: Soil

Project Name: Former Gas Station

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/29/2017 08:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	Benzene	71-43-2	0.0007 J	0.0006	0.006	0.95
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.006	0.95
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.006	0.95
10237	Ethylbenzene	100-41-4	N.D. Q2Q9	0.001	0.006	0.95
10237	Isopropylbenzene	98-82-8	N.D. Q2Q9	0.001	0.006	0.95
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0006	0.006	0.95
10237	Naphthalene	91-20-3	N.D. Q2Q9	0.001	0.006	0.95
10237	Toluene	108-88-3	N.D. Q2Q9	0.001	0.006	0.95
10237	1,2,4-Trimethylbenzene	95-63-6	N.D. Q2Q9	0.001	0.006	0.95
10237	1,3,5-Trimethylbenzene	108-67-8	N.D. Q2Q9	0.001	0.006	0.95
10237	Xylene (Total)	1330-20-7	N.D. Q2Q9	0.001	0.006	0.95

The secondary vial was analyzed and no valid data was collected during re-analysis. Therefore the matrix effects observed in the initial analysis could not be confirmed. The values reported here are from the initial analysis.

Metals		SW-846 6010B	mg/kg	mg/kg	mg/kg	
06955	Lead	7439-92-1	52.1 Q3	0.639	1.60	1

Wet Chemistry		SM 2540 G-1997	%	%	%	
		%Moisture Calc				
00111	Moisture	n.a.	15.4	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A173422AA	12/08/2017 23:11	Stephen C Nolte	0.95
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733448130	11/29/2017 08:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733448130	11/29/2017 08:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733448130	11/29/2017 08:30	Client Supplied	1
06955	Lead	SW-846 6010B	1	173340570802	12/11/2017 21:41	Cindy M Gehman	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173340570802	12/01/2017 16:00	JoElla L Rice	1

*=This limit was used in the evaluation of the final result

Sample Description: FGS-GP02-S001 Grab Soil
Former Gas Station

Brightfields, Inc.
ELLE Sample #: SW 9339826
ELLE Group #: 1880558
Matrix: Soil

Project Name: Former Gas Station

Submittal Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/29/2017 08:30

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	SM 2540 G-1997 %Moisture Calc	2	17340820010B	12/06/2017 21:07	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: FGS-GP02-S002 Grab Soil
Former Gas Station

Brightfields, Inc.
ELLE Sample #: SW 9339827
ELLE Group #: 1880558
Matrix: Soil

Project Name: Former Gas Station

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/29/2017 08:45

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	mg/kg	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D.	0.0006	0.006	0.93
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.006	0.93
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.006	0.93
10237	Ethylbenzene	100-41-4	N.D. Q2Q9	0.001	0.006	0.93
10237	Isopropylbenzene	98-82-8	N.D. Q2Q9	0.001	0.006	0.93
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0006	0.006	0.93
10237	Naphthalene	91-20-3	N.D. Q2Q9	0.001	0.006	0.93
10237	Toluene	108-88-3	N.D. Q2Q9	0.001	0.006	0.93
10237	1,2,4-Trimethylbenzene	95-63-6	N.D. Q2Q9	0.001	0.006	0.93
10237	1,3,5-Trimethylbenzene	108-67-8	N.D. Q2Q9	0.001	0.006	0.93
10237	Xylene (Total)	1330-20-7	N.D. Q2Q9	0.001	0.006	0.93
Metals		SW-846 6010B	mg/kg	mg/kg	mg/kg	
06955	Lead	7439-92-1	27.6 Q3	0.696	1.74	1
Wet Chemistry		SM 2540 G-1997	%	%	%	
00111	Moisture	n.a.	17.1 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A173422AA	12/08/2017 23:34	Stephen C Nolte	0.93
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733448130	11/29/2017 08:45	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733448130	11/29/2017 08:45	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733448130	11/29/2017 08:45	Client Supplied	1
06955	Lead	SW-846 6010B	1	173340570802	12/11/2017 21:45	Cindy M Gehman	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173340570802	12/01/2017 16:00	JoElla L Rice	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17339820004B	12/05/2017 20:13	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: FGS-GP03-S001 Grab Soil
Former Gas Station

Brightfields, Inc.
ELLE Sample #: SW 9339828
ELLE Group #: 1880558
Matrix: Soil

Project Name: Former Gas Station

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/29/2017 08:50

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Benzene	71-43-2	N.D.	0.0006	0.006	0.92
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.006	0.92
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.006	0.92
10237	Ethylbenzene	100-41-4	N.D. Q2Q9	0.001	0.006	0.92
10237	Isopropylbenzene	98-82-8	N.D. Q2Q9	0.001	0.006	0.92
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0006	0.006	0.92
10237	Naphthalene	91-20-3	N.D. Q2Q9	0.001	0.006	0.92
10237	Toluene	108-88-3	N.D. Q2Q9	0.001	0.006	0.92
10237	1,2,4-Trimethylbenzene	95-63-6	N.D. Q2Q9	0.001	0.006	0.92
10237	1,3,5-Trimethylbenzene	108-67-8	N.D. Q2Q9	0.001	0.006	0.92
10237	Xylene (Total)	1330-20-7	N.D. Q2Q9	0.001	0.006	0.92

The secondary vial was analyzed and no valid data was collected during re-analysis. Therefore the matrix effects observed in the initial analysis could not be confirmed. The values reported here are from the initial analysis.

Metals		SW-846 6010B	mg/kg	mg/kg	mg/kg	
06955	Lead	7439-92-1	58.2 Q3	0.731	1.83	1

Wet Chemistry		SM 2540 G-1997	%	%	%	
		%Moisture Calc				
00111	Moisture	n.a.	18.7 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A173422AA	12/08/2017 23:56	Stephen C Nolte	0.92
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733448130	11/29/2017 08:50	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733448130	11/29/2017 08:50	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733448130	11/29/2017 08:50	Client Supplied	1
06955	Lead	SW-846 6010B	1	173340570802	12/11/2017 21:48	Cindy M Gehman	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173340570802	12/01/2017 16:00	JoElla L Rice	1

*=This limit was used in the evaluation of the final result

Sample Description: FGS-GP03-S001 Grab Soil
Former Gas Station

Brightfields, Inc.
ELLE Sample #: SW 9339828
ELLE Group #: 1880558
Matrix: Soil

Project Name: Former Gas Station

Submittal Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/29/2017 08:50

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17339820004B	12/05/2017 20:13	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: FGS-GP03-S002 Grab Soil
Former Gas Station

Brightfields, Inc.
ELLE Sample #: SW 9339829
ELLE Group #: 1880558
Matrix: Soil

Project Name: Former Gas Station

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/29/2017 09:00

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	mg/kg	mg/kg	mg/kg	
10237	Benzene	71-43-2	0.0009 J	0.0006	0.006	0.93
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.006	0.93
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.006	0.93
10237	Ethylbenzene	100-41-4	N.D. Q2Q9	0.001	0.006	0.93
10237	Isopropylbenzene	98-82-8	N.D. Q2Q9	0.001	0.006	0.93
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0006	0.006	0.93
10237	Naphthalene	91-20-3	N.D. Q2Q9	0.001	0.006	0.93
10237	Toluene	108-88-3	0.002 J Q2Q9	0.001	0.006	0.93
10237	1,2,4-Trimethylbenzene	95-63-6	N.D. Q2Q9	0.001	0.006	0.93
10237	1,3,5-Trimethylbenzene	108-67-8	N.D. Q2Q9	0.001	0.006	0.93
10237	Xylene (Total)	1330-20-7	N.D. Q2Q9	0.001	0.006	0.93
Metals		SW-846 6010B	mg/kg	mg/kg	mg/kg	
06955	Lead	7439-92-1	31.4 Q3	0.661	1.65	1
Wet Chemistry		SM 2540 G-1997	%	%	%	
00111	Moisture	n.a.	18.9 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A173422AA	12/09/2017 00:19	Stephen C Nolte	0.93
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733448130	11/29/2017 09:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733448130	11/29/2017 09:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733448130	11/29/2017 09:00	Client Supplied	1
06955	Lead	SW-846 6010B	1	173340570802	12/11/2017 21:52	Cindy M Gehman	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173340570802	12/01/2017 16:00	JoElla L Rice	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17339820004B	12/05/2017 20:13	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: FGS-GP04-S001 Grab Soil
Former Gas Station

Brightfields, Inc.
ELLE Sample #: SW 9339830
ELLE Group #: 1880558
Matrix: Soil

Project Name: Former Gas Station

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/29/2017 09:10

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	mg/kg	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D.	0.0006	0.006	0.94
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.006	0.94
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.006	0.94
10237	Ethylbenzene	100-41-4	N.D. Q2Q9	0.001	0.006	0.94
10237	Isopropylbenzene	98-82-8	N.D. Q2Q9	0.001	0.006	0.94
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0006	0.006	0.94
10237	Naphthalene	91-20-3	N.D. Q2Q9	0.001	0.006	0.94
10237	Toluene	108-88-3	N.D. Q2Q9	0.001	0.006	0.94
10237	1,2,4-Trimethylbenzene	95-63-6	N.D. Q2Q9	0.001	0.006	0.94
10237	1,3,5-Trimethylbenzene	108-67-8	N.D. Q2Q9	0.001	0.006	0.94
10237	Xylene (Total)	1330-20-7	N.D. Q2Q9	0.001	0.006	0.94
Metals		SW-846 6010B	mg/kg	mg/kg	mg/kg	
06955	Lead	7439-92-1	26.9 Q3	0.713	1.78	1
Wet Chemistry		SM 2540 G-1997	%	%	%	
00111	Moisture	n.a.	18.3 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A173422AA	12/09/2017 00:42	Stephen C Nolte	0.94
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733448130	11/29/2017 09:10	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733448130	11/29/2017 09:10	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733448130	11/29/2017 09:10	Client Supplied	1
06955	Lead	SW-846 6010B	1	173340570802	12/11/2017 21:55	Cindy M Gehman	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173340570802	12/01/2017 16:00	JoElla L Rice	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17339820004B	12/05/2017 20:13	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: FGS-GP04-S002 Grab Soil
Former Gas Station

Brightfields, Inc.
ELLE Sample #: SW 9339831
ELLE Group #: 1880558
Matrix: Soil

Project Name: Former Gas Station

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/29/2017 09:15

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	Benzene	71-43-2	0.001 J	0.0006	0.006	1.02
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.006	1.02
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.006	1.02
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.006	1.02
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.006	1.02
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0006	0.006	1.02
10237	Naphthalene	91-20-3	N.D. Q2	0.001	0.006	1.02
10237	Toluene	108-88-3	N.D.	0.001	0.006	1.02
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.006	1.02
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.006	1.02
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.006	1.02
Metals			SW-846 6010B	mg/kg	mg/kg	
06955	Lead	7439-92-1	28.1 Q3	0.573	1.43	1
Wet Chemistry			SM 2540 G-1997	%	%	
00111	Moisture	n.a.	17.5 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A173421AA	12/08/2017 14:06	Jennifer K Howe	1.02
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733448130	11/29/2017 09:15	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733448130	11/29/2017 09:15	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733448130	11/29/2017 09:15	Client Supplied	1
06955	Lead	SW-846 6010B	1	173340570802	12/11/2017 21:59	Cindy M Gehman	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173340570802	12/01/2017 16:00	JoElla L Rice	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17339820004B	12/05/2017 20:13	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: FGS-GP04-S301 MeOH
Former Gas Station

Brightfields, Inc.
ELLE Sample #: G5 9339832
ELLE Group #: 1880558
Matrix: MeOH

Project Name: Former Gas Station

Submission Date/Time: 11/29/2017 16:35
Collection Date/Time: 11/29/2017 09:20

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D.	0.0005	0.005	1
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	1
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	1
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	1
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.005	1
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D. Q2	0.0005	0.005	1
10237	Naphthalene	91-20-3	N.D. Q2	0.001	0.005	1
10237	Toluene	108-88-3	N.D.	0.001	0.005	1
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.005	1
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.005	1
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	X173381AA	12/04/2017 15:26	Jennifer K Howe	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733448130	11/29/2017 09:20	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733448130	11/29/2017 09:20	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733448130	11/29/2017 09:20	Client Supplied	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/13/2017 18:10

Group Number: 1880558

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	MDL**	LOQ
	mg/kg	mg/kg	mg/kg
Batch number: A173421AA	Sample number(s): 9339820-9339822,9339824-9339825,9339831		
Benzene	N.D.	0.0005	0.005
1,2-Dibromoethane	N.D.	0.001	0.005
1,2-Dichloroethane	N.D.	0.001	0.005
Ethylbenzene	N.D.	0.001	0.005
Isopropylbenzene	N.D.	0.001	0.005
Methyl Tertiary Butyl Ether	N.D.	0.0005	0.005
Naphthalene	N.D.	0.001	0.005
Toluene	N.D.	0.001	0.005
1,2,4-Trimethylbenzene	N.D.	0.001	0.005
1,3,5-Trimethylbenzene	N.D.	0.001	0.005
Xylene (Total)	N.D.	0.001	0.005
Batch number: A173422AA	Sample number(s): 9339826-9339830		
Benzene	N.D.	0.0005	0.005
1,2-Dibromoethane	N.D.	0.001	0.005
1,2-Dichloroethane	N.D.	0.001	0.005
Ethylbenzene	N.D.	0.001	0.005
Isopropylbenzene	N.D.	0.001	0.005
Methyl Tertiary Butyl Ether	N.D.	0.0005	0.005
Naphthalene	N.D.	0.001	0.005
Toluene	N.D.	0.001	0.005
1,2,4-Trimethylbenzene	N.D.	0.001	0.005
1,3,5-Trimethylbenzene	N.D.	0.001	0.005
Xylene (Total)	N.D.	0.001	0.005
Batch number: X173381AA	Sample number(s): 9339832		
Benzene	N.D.	0.0005	0.005
1,2-Dibromoethane	N.D.	0.001	0.005
1,2-Dichloroethane	N.D.	0.001	0.005
Ethylbenzene	N.D.	0.001	0.005
Isopropylbenzene	N.D.	0.001	0.005
Methyl Tertiary Butyl Ether	N.D.	0.0005	0.005
Naphthalene	N.D.	0.001	0.005
Toluene	N.D.	0.001	0.005
1,2,4-Trimethylbenzene	N.D.	0.001	0.005
1,3,5-Trimethylbenzene	N.D.	0.001	0.005
Xylene (Total)	N.D.	0.001	0.005
Batch number: 173340570802	Sample number(s): 9339820-9339831		
Lead	N.D.	0.600	1.50

*- Outside of specification

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(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/13/2017 18:10

Group Number: 1880558

Method Blank (continued)

Analysis Name	Result mg/kg	MDL** mg/kg	LOQ mg/kg
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LCS/LCSD

Analysis Name	LCS Spike Added mg/kg	LCS Conc mg/kg	LCSD Spike Added mg/kg	LCSD Conc mg/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: A173421AA	Sample number(s): 9339820-9339822,9339824-9339825,9339831								
Benzene	0.0200	0.0182	0.0200	0.0180	91	90	80-120	1	30
1,2-Dibromoethane	0.0200	0.0162	0.0200	0.0167	81	83	74-120	3	30
1,2-Dichloroethane	0.0200	0.0172	0.0200	0.0173	86	87	71-128	1	30
Ethylbenzene	0.0200	0.0175	0.0200	0.0177	87	89	80-120	1	30
Isopropylbenzene	0.0200	0.0185	0.0200	0.0180	93	90	76-120	3	30
Methyl Tertiary Butyl Ether	0.0200	0.0144	0.0200	0.0167	72	84	66-123	15	30
Naphthalene	0.0200	0.0136	0.0200	0.0141	68	70	54-132	4	30
Toluene	0.0200	0.0199	0.0200	0.0188	99	94	80-120	5	30
1,2,4-Trimethylbenzene	0.0200	0.0173	0.0200	0.0167	87	84	74-120	3	30
1,3,5-Trimethylbenzene	0.0200	0.0172	0.0200	0.0167	86	84	73-120	3	30
Xylene (Total)	0.0600	0.0531	0.0600	0.0522	88	87	80-120	2	30
Batch number: A173422AA	Sample number(s): 9339826-9339830								
Benzene	0.0200	0.0183	0.0200	0.0186	92	93	80-120	1	30
1,2-Dibromoethane	0.0200	0.0168	0.0200	0.0171	84	86	74-120	2	30
1,2-Dichloroethane	0.0200	0.0182	0.0200	0.0182	91	91	71-128	0	30
Ethylbenzene	0.0200	0.0176	0.0200	0.0178	88	89	80-120	1	30
Isopropylbenzene	0.0200	0.0184	0.0200	0.0187	92	93	76-120	1	30
Methyl Tertiary Butyl Ether	0.0200	0.0166	0.0200	0.0169	83	85	66-123	2	30
Naphthalene	0.0200	0.0144	0.0200	0.0146	72	73	54-132	1	30
Toluene	0.0200	0.0198	0.0200	0.0199	99	99	80-120	0	30
1,2,4-Trimethylbenzene	0.0200	0.0175	0.0200	0.0173	87	86	74-120	1	30
1,3,5-Trimethylbenzene	0.0200	0.0174	0.0200	0.0171	87	86	73-120	2	30
Xylene (Total)	0.0600	0.0533	0.0600	0.0535	89	89	80-120	0	30
Batch number: X173381AA	Sample number(s): 9339832								
Benzene	0.0200	0.0185	0.0200	0.0184	92	92	80-120	1	30
1,2-Dibromoethane	0.0200	0.0178	0.0200	0.0178	89	89	74-120	0	30
1,2-Dichloroethane	0.0200	0.0185	0.0200	0.0185	93	92	71-128	0	30
Ethylbenzene	0.0200	0.0185	0.0200	0.0181	93	91	80-120	2	30
Isopropylbenzene	0.0200	0.0176	0.0200	0.0172	88	86	76-120	2	30
Methyl Tertiary Butyl Ether	0.0200	0.0141	0.0200	0.0145	71	72	66-123	2	30
Naphthalene	0.0200	0.0144	0.0200	0.0144	72	72	54-132	0	30
Toluene	0.0200	0.0189	0.0200	0.0185	94	92	80-120	2	30
1,2,4-Trimethylbenzene	0.0200	0.0177	0.0200	0.0173	89	87	74-120	2	30
1,3,5-Trimethylbenzene	0.0200	0.0174	0.0200	0.0170	87	85	73-120	2	30

*- Outside of specification

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/13/2017 18:10

Group Number: 1880558

LCS/LCSD (continued)

Analysis Name	LCS Spike Added mg/kg	LCS Conc mg/kg	LCSD Spike Added mg/kg	LCSD Conc mg/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Xylene (Total)	0.0600	0.0556	0.0600	0.0541	93	90	80-120	3	30
Batch number: 173340570802 Lead	Sample number(s): 9339820-9339831 15	14.38			96		80-120		
	%	%	%	%					
Batch number: 17339820004A Moisture	Sample number(s): 9339824-9339825 89.5	89.44			100		99-101		
Batch number: 17339820004B Moisture	Sample number(s): 9339827-9339831 89.5	89.44			100		99-101		
Batch number: 17340820010A Moisture	Sample number(s): 9339820-9339823 89.5	89.48			100		99-101		
Moisture	89.5	89.48			100		99-101		
Moisture Duplicate	89.5	89.48			100		99-101		
Batch number: 17340820010B Moisture	Sample number(s): 9339826 89.5	89.48			100		99-101		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: A173421AA	Sample number(s): 9339820-9339822,9339824-9339825,9339831 UNSPK: 9339820									
Benzene	N.D.	0.0195	0.0202	0.0200	0.0207	103	103	80-120	2	30
1,2-Dibromoethane	N.D.	0.0195	0.0195	0.0200	0.0192	100	96	74-120	1	30
1,2-Dichloroethane	N.D.	0.0195	0.0198	0.0200	0.0207	101	103	71-128	5	30
Ethylbenzene	N.D.	0.0195	0.0192	0.0200	0.0186	98	93	80-120	3	30
Isopropylbenzene	N.D.	0.0195	0.0200	0.0200	0.0194	102	97	76-120	3	30
Methyl Tertiary Butyl Ether	N.D.	0.0195	0.0193	0.0200	0.0199	99	100	66-123	3	30
Naphthalene	N.D.	0.0195	0.0104	0.0200	0.0110	53*	55	54-132	5	30
Toluene	N.D.	0.0195	0.0222	0.0200	0.0218	114	109	80-120	2	30
1,2,4-Trimethylbenzene	N.D.	0.0195	0.0207	0.0200	0.0208	106	104	74-120	0	30
1,3,5-Trimethylbenzene	N.D.	0.0195	0.0206	0.0200	0.0209	106	104	73-120	1	30
Xylene (Total)	N.D.	0.0586	0.0577	0.0600	0.0567	98	94	80-120	2	30
Batch number: A173422AA	Sample number(s): 9339826-9339830 UNSPK: P342597									
Benzene	N.D.	0.0190	0.0195	0.0193	0.0159	103	82	80-120	20	30

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/13/2017 18:10

Group Number: 1880558

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
1,2-Dibromoethane	N.D.	0.0190	0.0201	0.0193	0.0149	106	77	74-120	30	30
1,2-Dichloroethane	N.D.	0.0190	0.0192	0.0193	0.0166	101	86	71-128	15	30
Ethylbenzene	N.D.	0.0190	0.0180	0.0193	0.0101	95	52*	80-120	56*	30
Isopropylbenzene	N.D.	0.0190	0.0193	0.0193	0.00993	102	51*	76-120	64*	30
Methyl Tertiary Butyl Ether	N.D.	0.0190	0.0188	0.0193	0.0183	99	95	66-123	3	30
Naphthalene	N.D.	0.0190	0.0102	0.0193	0.00546	54	28*	54-132	61*	30
Toluene	N.D.	0.0190	0.0211	0.0193	0.0148	111	77*	80-120	35*	30
1,2,4-Trimethylbenzene	N.D.	0.0190	0.0213	0.0193	0.00985	112	51*	74-120	74*	30
1,3,5-Trimethylbenzene	N.D.	0.0190	0.0204	0.0193	0.0104	108	54*	73-120	65*	30
Xylene (Total)	N.D.	0.0569	0.0569	0.0580	0.0293	100	50*	80-120	64*	30
Batch number: X173381AA	Sample number(s): 9339832 UNSPK: P337632									
Benzene	N.D.	0.0182	0.0173	0.0204	0.0194	95	95	80-120	12	30
1,2-Dibromoethane	N.D.	0.0182	0.0166	0.0204	0.0189	91	93	74-120	13	30
1,2-Dichloroethane	N.D.	0.0182	0.0166	0.0204	0.0197	91	97	71-128	17	30
Ethylbenzene	N.D.	0.0182	0.0162	0.0204	0.0185	89	91	80-120	14	30
Isopropylbenzene	N.D.	0.0182	0.0154	0.0204	0.0163	84	80	76-120	6	30
Methyl Tertiary Butyl Ether	N.D.	0.0182	0.0117	0.0204	0.0140	64*	69	66-123	17	30
Naphthalene	N.D.	0.0182	0.00361	0.0204	0.00450	20*	22*	54-132	22	30
Toluene	N.D.	0.0182	0.0204	0.0204	0.0208	112	102	80-120	2	30
1,2,4-Trimethylbenzene	N.D.	0.0182	0.0191	0.0204	0.0199	105	98	74-120	4	30
1,3,5-Trimethylbenzene	N.D.	0.0182	0.0200	0.0204	0.0203	110	100	73-120	2	30
Xylene (Total)	N.D.	0.0546	0.0472	0.0611	0.0538	86	88	80-120	13	30
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 173340570802	Sample number(s): 9339820-9339831 UNSPK: 9339820									
Lead	21.26	14.42	38.25	13.64	40.52	118	141*	75-125	6	20

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/kg	DUP Conc mg/kg	DUP RPD	DUP RPD Max
Batch number: 173340570802	Sample number(s): 9339820-9339831 BKG: 9339820			
Lead	21.26	21.19	0	20
	%	%		
Batch number: 17339820004A	Sample number(s): 9339824-9339825 BKG: P339820			
Moisture	11	9.33	16*	5

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/13/2017 18:10

Group Number: 1880558

Laboratory Duplicate (continued)

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc %	DUP Conc %	DUP RPD	DUP RPD Max
Batch number: 17339820004B Moisture	Sample number(s): 9339827-9339831 BKG: P339826 12.38	9.85	23*	5
Batch number: 17340820010A Moisture	Sample number(s): 9339820-9339823 BKG: 9339820, P339820 12.82	13.08	2	5
Moisture	12.82	13.08	2	5
Moisture Duplicate	12.82	13.08	2	5
Batch number: 17340820010B Moisture	Sample number(s): 9339826 BKG: 9339826 15.42	14.84	4	5

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report. For dual column analyses, the surrogate (at least one surrogate for multi-surrogate tests) must be within the acceptance limits on at least one of the two columns.

Analysis Name: PA UST Leaded/Unleaded VOCs
Batch number: A173421AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9339820	104	104	106	88
9339821	105	103	113	99
9339822	102	103	109	96
9339824	111	113	105	78
9339825	110	107	114	86
9339831	109	104	109	92
Blank	103	101	108	102
LCS	101	99	111	101
LCSD	103	99	111	109
MS	105	103	113	99
MSD	102	103	109	96
Limits:	50-141	54-135	52-141	50-131

Analysis Name: PA UST Leaded/Unleaded VOCs
Batch number: A173422AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9339826	108	107	123	78
9339827	107	104	110	88
9339828	111	107	120	78

*- Outside of specification

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/13/2017 18:10

Group Number: 1880558

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report. For dual column analyses, the surrogate (at least one surrogate for multi-surrogate tests) must be within the acceptance limits on at least one of the two columns.

Analysis Name: PA UST Leaded/Unleaded VOCs
Batch number: A173422AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9339829	111	109	111	87
9339830	109	106	112	84
Blank	106	104	108	102
LCS	103	100	111	103
LCSD	101	100	111	108
MS	106	107	112	89
MSD	103	103	115	95
Limits:	50-141	54-135	52-141	50-131

Analysis Name: PA UST Leaded/Unleaded VOCs
Batch number: X173381AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9339832	105	112	97	87
Blank	102	104	98	88
LCS	99	103	101	100
LCSD	99	103	101	100
MS	99	105	118	80
MSD	99	105	107	89
Limits:	50-141	54-135	52-141	50-131

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Environmental Analysis Request/Chain of Custody



Lancaster Laboratories Environmental

Acct. # 4549

For Eurofins Lancaster Laboratories Environmental use only

Group # 1880558

Sample # 9339820-33

COC # 539463

Client Information				Matrix				Analysis Requested										For Lab Use Only			
Client: <u>Brightfields, Inc</u>		Acct. #:		<input type="checkbox"/> Tissue	<input type="checkbox"/> Ground	<input type="checkbox"/> Surface	<input type="checkbox"/> Potable	<input type="checkbox"/> NPDES	<input type="checkbox"/> Other:	Preservation Codes										FSC: _____	
Project Name/#: <u>Former Gas Station</u>		PWSID #:																		SCR#: <u>216065</u>	
Project Manager: <u>Victoria Bisbing</u>		P.O. #:												Preservation Codes							
Sampler: <u>James Thompson</u>		Quote #:												H=HCl T=Thiosulfate							
State where samples were collected: <u>Pennsylvania</u>		For Compliance: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>												N=HNO ₃ B=NaOH							
														S=H ₂ SO ₄ O=Other							
														Remarks							
														<u>1 of 1</u>							
Sample Identification		Collected		Grab	Composite	Soil <input checked="" type="checkbox"/>	Water	Other:	Total # of Containers	<u>VECS (LAMPED Short List)</u>	<u>Lead</u>										
		Date	Time																		
<u>F65-6P01-5001</u>		<u>11/29/17</u>	<u>0805</u>	<u>X</u>		<u>X</u>			<u>2</u>	<u>X</u>	<u>X</u>	<u>MS/MSD</u>									
<u>F65-6P01-5002</u>		<u>11/29/17</u>	<u>0815</u>	<u>X</u>		<u>X</u>			<u>2</u>	<u>X</u>	<u>X</u>										
<u>F65-6P01-5102</u>		<u>11/29/17</u>	<u>0817</u>	<u>X</u>		<u>X</u>			<u>2</u>	<u>X</u>	<u>X</u>										
<u>F65-6P02-5001</u>		<u>11/29/17</u>	<u>0830</u>	<u>X</u>		<u>X</u>			<u>2</u>	<u>X</u>	<u>X</u>										
<u>F65-6P02-5002</u>		<u>11/29/17</u>	<u>0845</u>	<u>X</u>		<u>X</u>			<u>2</u>	<u>X</u>	<u>X</u>										
<u>F65-6P03-5001</u>		<u>11/29/17</u>	<u>0850</u>	<u>X</u>		<u>X</u>			<u>2</u>	<u>X</u>	<u>X</u>										
<u>F65-6P03-5002</u>		<u>11/29/17</u>	<u>0900</u>	<u>X</u>		<u>X</u>			<u>2</u>	<u>X</u>	<u>X</u>										
<u>F65-6P04-5001</u>		<u>11/29/17</u>	<u>0910</u>	<u>X</u>		<u>X</u>			<u>2</u>	<u>X</u>	<u>X</u>										
<u>F65-6P04-5002</u>		<u>11/29/17</u>	<u>0915</u>	<u>X</u>		<u>X</u>			<u>2</u>	<u>X</u>	<u>X</u>										
<u>F65-6P04-5301</u>		<u>11/29/17</u>	<u>0920</u>	<u>X</u>		<u>X</u>			<u>3</u>	<u>X</u>											

Turnaround Time (TAT) Requested (please circle)		Relinquished by		Date	Time	Received by		Date	Time
<u>Standard</u> (Rush TAT is subject to laboratory approval and surcharge.)		<u>Bottle storage</u>		<u>11/29/17</u>	<u>1230</u>	<u>[Signature]</u>		<u>11/29/17</u>	<u>1230</u>
		<u>[Signature]</u>		<u>11/29/17</u>	<u>1257</u>	<u>[Signature]</u>		<u>11/29/17</u>	<u>1257</u>
Date results are needed: _____									
E-mail address: _____									
		<u>[Signature]</u>		<u>11/29/17</u>	<u>1635</u>	<u>[Signature]</u>		<u>11/29/17</u>	<u>1635</u>

Data Package Options (circle if required)				EDD Required? Yes No		Relinquished by Commercial Carrier:		
Type I (EPA Level 3 Equivalent/non-CLP)	Type VI (Raw Data Only)					UPS _____ FedEx _____ Other _____		
Type III (Reduced non-CLP)	NJ DKQP TX TRRP-13					Temperature upon receipt <u>0.8</u> °C		
NYSDEC Category A or B	MA MCP CT RCP			Site-Specific QC (MS/MSD/Dup)? Yes No		(If yes, indicate QC sample and submit triplicate sample volume.)		



Client: Brightfield, Inc

Delivery and Receipt Information

Delivery Method: ELLE Courier Arrival Timestamp: 11/29/2017 16:35
 Number of Packages: 1 Number of Projects: 3
 State/Province of Origin: PA

Arrival Condition Summary

Shipping Container Sealed:	No	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	No	Sample Date/Times match COC:	Yes
Samples Chilled:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	3
Samples Intact:	Yes	Trip Blank Type:	See Below
Missing Samples:	No	Air Quality Samples Present:	No
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Trip Blank Type(s): 1-MeOH & 2-NaHSO4

Unpacked by Cory Jeremiah (10469) at 18:29 on 11/29/2017

Samples Chilled Details

Thermometer Types: *DT = Digital (Temp. Bottle)* *IR = Infrared (Surface Temp)* All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm_Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
5	DT146	0.8	DT	Wet	Y	Bagged	N

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	mg	milligram(s)
C	degrees Celsius	mL	milliliter(s)
cfu	colony forming units	MPN	Most Probable Number
CP Units	cobalt-chloroplatinate units	N.D.	non-detect
F	degrees Fahrenheit	ng	nanogram(s)
g	gram(s)	NTU	nephelometric turbidity units
IU	International Units	pg/L	picogram/liter
kg	kilogram(s)	RL	Reporting Limit
L	liter(s)	TNTC	Too Numerous To Count
lb.	pound(s)	µg	microgram(s)
m3	cubic meter(s)	µL	microliter(s)
meq	milliequivalents	umhos/cm	micromhos/cm
<	less than		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
J (or G, I, X)	Estimated value \geq the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report
B	Detection in the Blank
Q0	LCS/LCSD Low
Q1	LCS/LCSD High
Q2	MS/MSD Low
Q3	MS/MSD High
Q7	LCS/LCSD RPD
Q8	DUP RPD
Q9	MS/MSD RPD

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Appendix E.4

Eurofins Analytical Data Packages Former Research Laboratory / Chemical Plant



ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Brightfields, Inc.
801 Industrial St.
Suite 1
Wilmington DE 19801

Report Date: December 14, 2017 21:05

Project: Former Research Laboratory / Chemical Plant

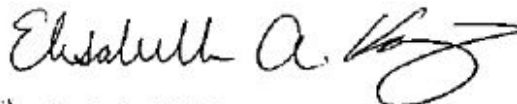
Account #: 04549
Group Number: 1882308
PO Number: 14726
State of Sample Origin: PA

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/> . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To Brightfields, Inc.
Electronic Copy To Brightfields, Inc.

Attn: James Thompson
Attn: Victoria Bisbing

Respectfully Submitted,



Elisabeth A. Knisley
Project Manager

(717) 556-7262



SAMPLE INFORMATION

<u>Client Sample Description</u>	<u>Sample Collection Date/Time</u>	<u>ELLE#</u>
FRL-GP01-S001 Grab Soil	11/30/2017 15:20	9348103
FRL-GP01-S001 MS Grab Soil	11/30/2017 15:20	9348104
FRL-GP01-S001 MSD Grab Soil	11/30/2017 15:20	9348105
FRL-GP01-S002 Grab Soil	11/30/2017 15:30	9348106
FRL-GP02-S001 Grab Soil	11/30/2017 15:45	9348107
FRL-GP02-S002 Grab Soil	11/30/2017 15:55	9348108
FRL-GP03-S001 Grab Soil	11/30/2017 16:10	9348109
FRL-GP03-S002 Grab Soil	11/30/2017 16:20	9348110
FRL-GP03-S102 Grab Soil	11/30/2017 16:22	9348111
FRL-GP04-S001 Grab Soil	11/30/2017 16:30	9348112
FRL-GP04-S301 MeOH	11/30/2017 16:40	9348113
FRL-GP05-S001 Grab Soil	11/30/2017 16:45	9348114
FRL-GP05-S002 Grab Soil	11/30/2017 16:50	9348115

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Sample Description: FRL-GP01-S001 Grab Soil
Former Research Library

Project Name: Former Research Laboratory / Chemical Plant

Brightfields, Inc.
ELLE Sample #: SW 9348103
ELLE Group #: 1882308
Matrix: Soil

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 15:20

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	mg/kg	mg/kg	mg/kg	
10237	Acetone	67-64-1	0.16 Q3	0.009	0.026	1.04
10237	Benzene	71-43-2	N.D. Q3	0.0006	0.006	1.04
10237	Bromodichloromethane	75-27-4	N.D.	0.001	0.006	1.04
10237	Bromoform	75-25-2	N.D.	0.001	0.006	1.04
10237	Bromomethane	74-83-9	N.D.	0.003	0.006	1.04
10237	2-Butanone	78-93-3	0.016 Q3	0.005	0.013	1.04
10237	Carbon Disulfide	75-15-0	0.041 Q2	0.001	0.006	1.04
10237	Carbon Tetrachloride	56-23-5	N.D.	0.001	0.006	1.04
10237	Chlorobenzene	108-90-7	N.D.	0.001	0.006	1.04
10237	Chloroethane	75-00-3	N.D.	0.003	0.006	1.04
10237	Chloroform	67-66-3	N.D. Q3	0.001	0.006	1.04
10237	Chloromethane	74-87-3	N.D.	0.003	0.006	1.04
10237	Cyclohexane	110-82-7	N.D.	0.001	0.006	1.04
10237	1,2-Dibromo-3-chloropropane	96-12-8	N.D. Q3	0.003	0.006	1.04
10237	Dibromochloromethane	124-48-1	N.D. Q3	0.001	0.006	1.04
10237	1,2-Dibromoethane	106-93-4	N.D. Q3	0.001	0.006	1.04
10237	1,2-Dichlorobenzene	95-50-1	N.D.	0.001	0.006	1.04
10237	1,3-Dichlorobenzene	541-73-1	N.D. Q3	0.001	0.006	1.04
10237	1,4-Dichlorobenzene	106-46-7	N.D.	0.001	0.006	1.04
10237	Dichlorodifluoromethane	75-71-8	N.D.	0.003	0.006	1.04
10237	1,1-Dichloroethane	75-34-3	N.D. Q3	0.001	0.006	1.04
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.006	1.04
10237	1,1-Dichloroethene	75-35-4	N.D. Q3	0.001	0.006	1.04
10237	cis-1,2-Dichloroethene	156-59-2	N.D. Q3	0.001	0.006	1.04
10237	trans-1,2-Dichloroethene	156-60-5	N.D. Q3	0.001	0.006	1.04
10237	1,2-Dichloropropane	78-87-5	N.D. Q3	0.001	0.006	1.04
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.001	0.006	1.04
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.001	0.006	1.04
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.006	1.04
10237	Freon 113	76-13-1	N.D.	0.003	0.013	1.04
10237	2-Hexanone	591-78-6	N.D. Q3	0.004	0.013	1.04
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.006	1.04
10237	Methyl Acetate	79-20-9	N.D. Q3	0.003	0.006	1.04
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D. Q3	0.0006	0.006	1.04
10237	4-Methyl-2-pentanone	108-10-1	N.D. Q3	0.004	0.013	1.04
10237	Methylcyclohexane	108-87-2	N.D.	0.001	0.006	1.04
10237	Methylene Chloride	75-09-2	0.004 J Q3	0.003	0.006	1.04
10237	Styrene	100-42-5	N.D.	0.001	0.006	1.04
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D. Q3	0.001	0.006	1.04
10237	Tetrachloroethene	127-18-4	0.002 J	0.001	0.006	1.04
10237	Toluene	108-88-3	N.D. Q3	0.001	0.006	1.04
10237	1,2,4-Trichlorobenzene	120-82-1	N.D. Q2	0.001	0.006	1.04

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP01-S001 Grab Soil
Former Research Library

Project Name: Former Research Laboratory / Chemical Plant

Brightfields, Inc.
ELLE Sample #: SW 9348103
ELLE Group #: 1882308
Matrix: Soil

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 15:20

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	1,1,1-Trichloroethane	71-55-6	N.D.	0.001	0.006	1.04
10237	1,1,2-Trichloroethane	79-00-5	N.D. Q3	0.001	0.006	1.04
10237	Trichloroethene	79-01-6	N.D.	0.001	0.006	1.04
10237	Trichlorofluoromethane	75-69-4	N.D.	0.003	0.006	1.04
10237	Vinyl Chloride	75-01-4	N.D.	0.001	0.006	1.04
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.006	1.04

The recovery for the sample internal standard is outside the QC acceptance limits. The following corrective action was taken:
The sample was re-analyzed and the QC is again outside of the acceptance limits, indicating a matrix effect. The data is reported from the initial trial.

GC/MS Semivolatiles	SW-846 8270C	ug/kg	ug/kg	ug/kg		
10727	Acenaphthene	83-32-9	25 J	20	100	5
10727	Acenaphthylene	208-96-8	180	20	100	5
10727	Acetophenone	98-86-2	N.D.	100	200	5
10727	Anthracene	120-12-7	100	20	100	5
10727	Atrazine	1912-24-9	N.D.	200	1,000	5
10727	Benzaldehyde	100-52-7	N.D.	400	1,000	5
10727	Benzo(a)anthracene	56-55-3	380	20	100	5
10727	Benzo(a)pyrene	50-32-8	370	20	100	5
10727	Benzo(b)fluoranthene	205-99-2	500	20	100	5
10727	Benzo(g,h,i)perylene	191-24-2	330	20	100	5
10727	Benzo(k)fluoranthene	207-08-9	180	20	100	5
10727	1,1'-Biphenyl	92-52-4	N.D.	100	200	5
10727	4-Bromophenyl-phenylether	101-55-3	N.D.	100	200	5
10727	Butylbenzylphthalate	85-68-7	N.D.	400	1,000	5
10727	Di-n-butylphthalate	84-74-2	N.D.	400	1,000	5
10727	Caprolactam	105-60-2	N.D.	200	1,000	5
10727	Carbazole	86-74-8	N.D.	100	200	5
10727	4-Chloro-3-methylphenol	59-50-7	N.D.	100	200	5
10727	4-Chloroaniline	106-47-8	N.D.	200	400	5
10727	bis(2-Chloroethoxy)methane	111-91-1	N.D.	100	200	5
10727	bis(2-Chloroethyl)ether	111-44-4	N.D. Q2	100	200	5
10727	2-Chloronaphthalene	91-58-7	N.D.	40	200	5
10727	2-Chlorophenol	95-57-8	N.D.	100	200	5
10727	4-Chlorophenyl-phenylether	7005-72-3	N.D.	100	200	5
10727	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	100	200	5
Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.						
10727	Chrysene	218-01-9	400	20	100	5
10727	Dibenz(a,h)anthracene	53-70-3	87 J	20	100	5

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP01-S001 Grab Soil
Former Research Library

Brightfields, Inc.
ELLE Sample #: SW 9348103
ELLE Group #: 1882308
Matrix: Soil

Project Name: Former Research Laboratory / Chemical Plant

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 15:20

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles		SW-846 8270C	ug/kg	ug/kg	ug/kg	
10727	Dibenzofuran	132-64-9	N.D.	100	200	5
10727	3,3'-Dichlorobenzidine	91-94-1	N.D.	610	2,000	5
10727	2,4-Dichlorophenol	120-83-2	N.D.	100	200	5
10727	Diethylphthalate	84-66-2	N.D.	400	1,000	5
10727	2,4-Dimethylphenol	105-67-9	N.D.	100	200	5
10727	Dimethylphthalate	131-11-3	N.D.	400	1,000	5
10727	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	1,000	3,000	5
10727	2,4-Dinitrophenol	51-28-5	N.D.	1,800	6,100	5
10727	2,4-Dinitrotoluene	121-14-2	N.D.	400	1,000	5
10727	2,6-Dinitrotoluene	606-20-2	N.D.	100	200	5
10727	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	400	1,000	5
10727	Fluoranthene	206-44-0	480	20	100	5
10727	Fluorene	86-73-7	26 J	20	100	5
10727	Hexachlorobenzene	118-74-1	N.D.	20	100	5
10727	Hexachlorobutadiene	87-68-3	N.D.	100	200	5
10727	Hexachlorocyclopentadiene	77-47-4	N.D. Q1Q2Q9	1,000	3,000	5
10727	Hexachloroethane	67-72-1	N.D.	200	1,000	5
10727	Indeno(1,2,3-cd)pyrene	193-39-5	270	20	100	5
10727	Isophorone	78-59-1	N.D.	100	200	5
10727	2-Methylnaphthalene	91-57-6	31 J	20	100	5
10727	2-Methylphenol	95-48-7	N.D.	100	200	5
10727	4-Methylphenol	106-44-5	N.D.	100	200	5
3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.						
10727	Naphthalene	91-20-3	25 J	20	100	5
10727	2-Nitroaniline	88-74-4	N.D.	100	200	5
10727	3-Nitroaniline	99-09-2	N.D.	400	1,000	5
10727	4-Nitroaniline	100-01-6	N.D.	400	1,000	5
10727	Nitrobenzene	98-95-3	N.D.	100	200	5
10727	2-Nitrophenol	88-75-5	N.D.	100	200	5
10727	4-Nitrophenol	100-02-7	N.D.	1,000	3,000	5
10727	N-Nitroso-di-n-propylamine	621-64-7	N.D.	100	200	5
10727	N-Nitrosodiphenylamine	86-30-6	N.D.	100	200	5
N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.						
10727	Di-n-octylphthalate	117-84-0	N.D.	400	1,000	5
10727	Pentachlorophenol	87-86-5	N.D.	200	1,000	5
10727	Phenanthrene	85-01-8	160 Q3	20	100	5
10727	Phenol	108-95-2	N.D.	100	200	5
10727	Pyrene	129-00-0	570 Q3	20	100	5
10727	2,4,5-Trichlorophenol	95-95-4	N.D.	100	200	5

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP01-S001 Grab Soil
Former Research Library

Project Name: Former Research Laboratory / Chemical Plant

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 15:20

Brightfields, Inc.
ELLE Sample #: SW 9348103
ELLE Group #: 1882308
Matrix: Soil

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles						
	SW-846 8270C		ug/kg	ug/kg	ug/kg	
10727	2,4,6-Trichlorophenol	88-06-2	N.D.	100	200	5
Reporting limits were raised due to interference from the sample matrix.						
Wet Chemistry						
	SM 2540 G-1997		%	%	%	
	%Moisture Calc					
00111	Moisture	n.a.	18.7 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	X173462AA	12/12/2017 13:45	Linda C Pape	1.04
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733948208	11/30/2017 15:20	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733948208	11/30/2017 15:20	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733948208	11/30/2017 15:20	Client Supplied	1
10727	TCL 8270 (microwave)	SW-846 8270C	1	17341SLA026	12/08/2017 23:15	Anthony P Bauer	5
10809	BNA Soil Microwave	SW-846 3546	1	17341SLA026	12/07/2017 17:05	Ashley R Transue	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17341820002A	12/07/2017 11:15	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP01-S001 MS Grab Soil
Former Research Library

Brightfields, Inc.
ELLE Sample #: SW 9348104
ELLE Group #: 1882308
Matrix: Soil

Project Name: Former Research Laboratory / Chemical Plant

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 15:20

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Acetone	67-64-1	0.45 Q3	0.008	0.024	0.97
10237	Benzene	71-43-2	0.029 Q3	0.0006	0.006	0.97
10237	Bromodichloromethane	75-27-4	0.026	0.001	0.006	0.97
10237	Bromoform	75-25-2	0.025	0.001	0.006	0.97
10237	Bromomethane	74-83-9	0.026	0.002	0.006	0.97
10237	2-Butanone	78-93-3	0.30 Q3	0.005	0.012	0.97
10237	Carbon Disulfide	75-15-0	0.030 Q2	0.001	0.006	0.97
10237	Carbon Tetrachloride	56-23-5	0.028	0.001	0.006	0.97
10237	Chlorobenzene	108-90-7	0.028	0.001	0.006	0.97
10237	Chloroethane	75-00-3	0.028	0.002	0.006	0.97
10237	Chloroform	67-66-3	0.029 Q3	0.001	0.006	0.97
10237	Chloromethane	74-87-3	0.025	0.002	0.006	0.97
10237	Cyclohexane	110-82-7	0.023	0.001	0.006	0.97
10237	1,2-Dibromo-3-chloropropane	96-12-8	0.033 Q3	0.002	0.006	0.97
10237	Dibromochloromethane	124-48-1	0.030 Q3	0.001	0.006	0.97
10237	1,2-Dibromoethane	106-93-4	0.032 Q3	0.001	0.006	0.97
10237	1,2-Dichlorobenzene	95-50-1	0.026	0.001	0.006	0.97
10237	1,3-Dichlorobenzene	541-73-1	0.027 Q3	0.001	0.006	0.97
10237	1,4-Dichlorobenzene	106-46-7	0.027	0.001	0.006	0.97
10237	Dichlorodifluoromethane	75-71-8	0.022	0.002	0.006	0.97
10237	1,1-Dichloroethane	75-34-3	0.029 Q3	0.001	0.006	0.97
10237	1,2-Dichloroethane	107-06-2	0.029	0.001	0.006	0.97
10237	1,1-Dichloroethene	75-35-4	0.031 Q3	0.001	0.006	0.97
10237	cis-1,2-Dichloroethene	156-59-2	0.031 Q3	0.001	0.006	0.97
10237	trans-1,2-Dichloroethene	156-60-5	0.030 Q3	0.001	0.006	0.97
10237	1,2-Dichloropropane	78-87-5	0.029 Q3	0.001	0.006	0.97
10237	cis-1,3-Dichloropropene	10061-01-5	0.023	0.001	0.006	0.97
10237	trans-1,3-Dichloropropene	10061-02-6	0.028	0.001	0.006	0.97
10237	Ethylbenzene	100-41-4	0.028	0.001	0.006	0.97
10237	Freon 113	76-13-1	0.027	0.002	0.012	0.97
10237	2-Hexanone	591-78-6	0.20 Q3	0.004	0.012	0.97
10237	Isopropylbenzene	98-82-8	0.025	0.001	0.006	0.97
10237	Methyl Acetate	79-20-9	0.035 Q3	0.002	0.006	0.97
10237	Methyl Tertiary Butyl Ether	1634-04-4	0.030 Q3	0.0006	0.006	0.97
10237	4-Methyl-2-pentanone	108-10-1	0.17 Q3	0.004	0.012	0.97
10237	Methylcyclohexane	108-87-2	0.020	0.001	0.006	0.97
10237	Methylene Chloride	75-09-2	0.041 Q3	0.002	0.006	0.97
10237	Styrene	100-42-5	0.025	0.001	0.006	0.97
10237	1,1,2,2-Tetrachloroethane	79-34-5	0.044 Q3	0.001	0.006	0.97
10237	Tetrachloroethene	127-18-4	0.030	0.001	0.006	0.97
10237	Toluene	108-88-3	0.032 Q3	0.001	0.006	0.97
10237	1,2,4-Trichlorobenzene	120-82-1	0.011 Q2	0.001	0.006	0.97

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP01-S001 MS Grab Soil
Former Research Library

Brightfields, Inc.
ELLE Sample #: SW 9348104
ELLE Group #: 1882308
Matrix: Soil

Project Name: Former Research Laboratory / Chemical Plant

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 15:20

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260B			mg/kg	mg/kg	mg/kg	
10237	1,1,1-Trichloroethane	71-55-6	0.027	0.001	0.006	0.97
10237	1,1,2-Trichloroethane	79-00-5	0.034 Q3	0.001	0.006	0.97
10237	Trichloroethene	79-01-6	0.027	0.001	0.006	0.97
10237	Trichlorofluoromethane	75-69-4	0.028	0.002	0.006	0.97
10237	Vinyl Chloride	75-01-4	0.026	0.001	0.006	0.97
10237	Xylene (Total)	1330-20-7	0.082	0.001	0.006	0.97
GC/MS Semivolatiles SW-846 8270C			ug/kg	ug/kg	ug/kg	
10727	Acenaphthene	83-32-9	2,100	20	100	5
10727	Acenaphthylene	208-96-8	2,500	20	100	5
10727	Acetophenone	98-86-2	1,700	100	200	5
10727	Anthracene	120-12-7	2,200	20	100	5
10727	Atrazine	1912-24-9	1,700	200	1,000	5
10727	Benzaldehyde	100-52-7	1,400	410	1,000	5
10727	Benzo(a)anthracene	56-55-3	2,600	20	100	5
10727	Benzo(a)pyrene	50-32-8	2,400	20	100	5
10727	Benzo(b)fluoranthene	205-99-2	2,400	20	100	5
10727	Benzo(g,h,i)perylene	191-24-2	2,300	20	100	5
10727	Benzo(k)fluoranthene	207-08-9	2,100	20	100	5
10727	1,1'-Biphenyl	92-52-4	2,000	100	200	5
10727	4-Bromophenyl-phenylether	101-55-3	2,100	100	200	5
10727	Butylbenzylphthalate	85-68-7	2,300	410	1,000	5
10727	Di-n-butylphthalate	84-74-2	2,100	410	1,000	5
10727	Caprolactam	105-60-2	1,500	200	1,000	5
10727	Carbazole	86-74-8	2,000	100	200	5
10727	4-Chloro-3-methylphenol	59-50-7	1,800	100	200	5
10727	4-Chloroaniline	106-47-8	1,100	200	410	5
10727	bis(2-Chloroethoxy)methane	111-91-1	1,700	100	200	5
10727	bis(2-Chloroethyl)ether	111-44-4	1,600 Q2	100	200	5
10727	2-Chloronaphthalene	91-58-7	1,800	41	200	5
10727	2-Chlorophenol	95-57-8	1,900	100	200	5
10727	4-Chlorophenyl-phenylether	7005-72-3	1,800	100	200	5
10727	2,2'-oxybis(1-Chloropropane)	108-60-1	2,000	100	200	5
Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.						
10727	Chrysene	218-01-9	2,700	20	100	5
10727	Dibenz(a,h)anthracene	53-70-3	2,000	20	100	5
10727	Dibenzofuran	132-64-9	1,800	100	200	5
10727	3,3'-Dichlorobenzidine	91-94-1	1,600 J	610	2,000	5
10727	2,4-Dichlorophenol	120-83-2	2,000	100	200	5
10727	Diethylphthalate	84-66-2	1,900	410	1,000	5

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP01-S001 MS Grab Soil
Former Research Library

Brightfields, Inc.
ELLE Sample #: SW 9348104
ELLE Group #: 1882308
Matrix: Soil

Project Name: Former Research Laboratory / Chemical Plant

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 15:20

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles		SW-846 8270C	ug/kg	ug/kg	ug/kg	
10727	2,4-Dimethylphenol	105-67-9	1,500	100	200	5
10727	Dimethylphthalate	131-11-3	2,000	410	1,000	5
10727	4,6-Dinitro-2-methylphenol	534-52-1	1,900 J	1,000	3,100	5
10727	2,4-Dinitrophenol	51-28-5	2,400 J	1,800	6,100	5
10727	2,4-Dinitrotoluene	121-14-2	1,900	410	1,000	5
10727	2,6-Dinitrotoluene	606-20-2	2,000	100	200	5
10727	bis(2-Ethylhexyl)phthalate	117-81-7	2,100	410	1,000	5
10727	Fluoranthene	206-44-0	2,900	20	100	5
10727	Fluorene	86-73-7	2,000	20	100	5
10727	Hexachlorobenzene	118-74-1	2,100	20	100	5
10727	Hexachlorobutadiene	87-68-3	2,100	100	200	5
10727	Hexachlorocyclopentadiene	77-47-4	1,600 J Q1Q2Q9	1,000	3,100	5
10727	Hexachloroethane	67-72-1	1,800	200	1,000	5
10727	Indeno(1,2,3-cd)pyrene	193-39-5	2,300	20	100	5
10727	Isophorone	78-59-1	1,600	100	200	5
10727	2-Methylnaphthalene	91-57-6	1,900	20	100	5
10727	2-Methylphenol	95-48-7	1,800	100	200	5
10727	4-Methylphenol	106-44-5	1,800	100	200	5
3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.						
10727	Naphthalene	91-20-3	1,900	20	100	5
10727	2-Nitroaniline	88-74-4	2,200	100	200	5
10727	3-Nitroaniline	99-09-2	1,900	410	1,000	5
10727	4-Nitroaniline	100-01-6	1,600	410	1,000	5
10727	Nitrobenzene	98-95-3	1,600	100	200	5
10727	2-Nitrophenol	88-75-5	2,000	100	200	5
10727	4-Nitrophenol	100-02-7	1,400 J	1,000	3,100	5
10727	N-Nitroso-di-n-propylamine	621-64-7	1,700	100	200	5
10727	N-Nitrosodiphenylamine	86-30-6	2,000	100	200	5
N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.						
10727	Di-n-octylphthalate	117-84-0	1,800	410	1,000	5
10727	Pentachlorophenol	87-86-5	1,600	200	1,000	5
10727	Phenanthrene	85-01-8	2,700 Q3	20	100	5
10727	Phenol	108-95-2	1,700	100	200	5
10727	Pyrene	129-00-0	3,100 Q3	20	100	5
10727	2,4,5-Trichlorophenol	95-95-4	2,100	100	200	5
10727	2,4,6-Trichlorophenol	88-06-2	2,200	100	200	5
Wet Chemistry	SM 2540 G-1997		%	%	%	
	%Moisture Calc					

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP01-S001 MS Grab Soil
Former Research Library

Project Name: Former Research Laboratory / Chemical Plant

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 15:20

Brightfields, Inc.
ELLE Sample #: SW 9348104
ELLE Group #: 1882308
Matrix: Soil

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
	Wet Chemistry	SM 2540 G-1997	%	%	%	
		%Moisture Calc				
00118	Moisture	n.a.	18.7 Q8	0.50	0.50	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	X173462AA	12/12/2017 14:08	Linda C Pape	0.97
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733948208	11/30/2017 15:20	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733948208	11/30/2017 15:20	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733948208	11/30/2017 15:20	Client Supplied	1
10727	TCL 8270 (microwave)	SW-846 8270C	1	17341SLA026	12/08/2017 23:39	Anthony P Bauer	5
10809	BNA Soil Microwave	SW-846 3546	1	17341SLA026	12/07/2017 17:05	Ashley R Transue	1
00118	Moisture	SM 2540 G-1997 %Moisture Calc	1	17341820002A	12/07/2017 11:15	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP01-S001 MSD Grab Soil
Former Research Library

Brightfields, Inc.
ELLE Sample #: SW 9348105
ELLE Group #: 1882308
Matrix: Soil

Project Name: Former Research Laboratory / Chemical Plant

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 15:20

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	mg/kg	mg/kg	mg/kg	
10237	Acetone	67-64-1	0.42 Q3	0.009	0.025	1
10237	Benzene	71-43-2	0.029 Q3	0.0006	0.006	1
10237	Bromodichloromethane	75-27-4	0.026	0.001	0.006	1
10237	Bromoform	75-25-2	0.023	0.001	0.006	1
10237	Bromomethane	74-83-9	0.025	0.002	0.006	1
10237	2-Butanone	78-93-3	0.26 Q3	0.005	0.012	1
10237	Carbon Disulfide	75-15-0	0.040 Q2	0.001	0.006	1
10237	Carbon Tetrachloride	56-23-5	0.028	0.001	0.006	1
10237	Chlorobenzene	108-90-7	0.028	0.001	0.006	1
10237	Chloroethane	75-00-3	0.026	0.002	0.006	1
10237	Chloroform	67-66-3	0.028 Q3	0.001	0.006	1
10237	Chloromethane	74-87-3	0.023	0.002	0.006	1
10237	Cyclohexane	110-82-7	0.025	0.001	0.006	1
10237	1,2-Dibromo-3-chloropropane	96-12-8	0.032 Q3	0.002	0.006	1
10237	Dibromochloromethane	124-48-1	0.028 Q3	0.001	0.006	1
10237	1,2-Dibromoethane	106-93-4	0.029 Q3	0.001	0.006	1
10237	1,2-Dichlorobenzene	95-50-1	0.029	0.001	0.006	1
10237	1,3-Dichlorobenzene	541-73-1	0.030 Q3	0.001	0.006	1
10237	1,4-Dichlorobenzene	106-46-7	0.030	0.001	0.006	1
10237	Dichlorodifluoromethane	75-71-8	0.021	0.002	0.006	1
10237	1,1-Dichloroethane	75-34-3	0.028 Q3	0.001	0.006	1
10237	1,2-Dichloroethane	107-06-2	0.028	0.001	0.006	1
10237	1,1-Dichloroethene	75-35-4	0.030 Q3	0.001	0.006	1
10237	cis-1,2-Dichloroethene	156-59-2	0.029 Q3	0.001	0.006	1
10237	trans-1,2-Dichloroethene	156-60-5	0.029 Q3	0.001	0.006	1
10237	1,2-Dichloropropane	78-87-5	0.028 Q3	0.001	0.006	1
10237	cis-1,3-Dichloropropene	10061-01-5	0.023	0.001	0.006	1
10237	trans-1,3-Dichloropropene	10061-02-6	0.027	0.001	0.006	1
10237	Ethylbenzene	100-41-4	0.029	0.001	0.006	1
10237	Freon 113	76-13-1	0.028	0.002	0.012	1
10237	2-Hexanone	591-78-6	0.16 Q3	0.004	0.012	1
10237	Isopropylbenzene	98-82-8	0.027	0.001	0.006	1
10237	Methyl Acetate	79-20-9	0.029 Q3	0.002	0.006	1
10237	Methyl Tertiary Butyl Ether	1634-04-4	0.028 Q3	0.0006	0.006	1
10237	4-Methyl-2-pentanone	108-10-1	0.15 Q3	0.004	0.012	1
10237	Methylcyclohexane	108-87-2	0.020	0.001	0.006	1
10237	Methylene Chloride	75-09-2	0.035 Q3	0.002	0.006	1
10237	Styrene	100-42-5	0.026	0.001	0.006	1
10237	1,1,2,2-Tetrachloroethane	79-34-5	0.041 Q3	0.001	0.006	1
10237	Tetrachloroethene	127-18-4	0.030	0.001	0.006	1
10237	Toluene	108-88-3	0.032 Q3	0.001	0.006	1
10237	1,2,4-Trichlorobenzene	120-82-1	0.014 Q2	0.001	0.006	1

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP01-S001 MSD Grab Soil
Former Research Library

Brightfields, Inc.
ELLE Sample #: SW 9348105
ELLE Group #: 1882308
Matrix: Soil

Project Name: Former Research Laboratory / Chemical Plant

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 15:20

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	1,1,1-Trichloroethane	71-55-6	0.028	0.001	0.006	1
10237	1,1,2-Trichloroethane	79-00-5	0.031 Q3	0.001	0.006	1
10237	Trichloroethene	79-01-6	0.027	0.001	0.006	1
10237	Trichlorofluoromethane	75-69-4	0.027	0.002	0.006	1
10237	Vinyl Chloride	75-01-4	0.025	0.001	0.006	1
10237	Xylene (Total)	1330-20-7	0.086	0.001	0.006	1
GC/MS Semivolatiles			SW-846 8270C	ug/kg	ug/kg	
10727	Acenaphthene	83-32-9	2,000	20	100	5
10727	Acenaphthylene	208-96-8	2,400	20	100	5
10727	Acetophenone	98-86-2	1,600	100	200	5
10727	Anthracene	120-12-7	2,100	20	100	5
10727	Atrazine	1912-24-9	1,700	200	1,000	5
10727	Benzaldehyde	100-52-7	1,300	410	1,000	5
10727	Benzo(a)anthracene	56-55-3	2,400	20	100	5
10727	Benzo(a)pyrene	50-32-8	2,100	20	100	5
10727	Benzo(b)fluoranthene	205-99-2	2,300	20	100	5
10727	Benzo(g,h,i)perylene	191-24-2	2,300	20	100	5
10727	Benzo(k)fluoranthene	207-08-9	2,100	20	100	5
10727	1,1'-Biphenyl	92-52-4	2,100	100	200	5
10727	4-Bromophenyl-phenylether	101-55-3	2,100	100	200	5
10727	Butylbenzylphthalate	85-68-7	2,300	410	1,000	5
10727	Di-n-butylphthalate	84-74-2	2,000	410	1,000	5
10727	Caprolactam	105-60-2	1,600	200	1,000	5
10727	Carbazole	86-74-8	1,800	100	200	5
10727	4-Chloro-3-methylphenol	59-50-7	1,800	100	200	5
10727	4-Chloroaniline	106-47-8	1,000	200	410	5
10727	bis(2-Chloroethoxy)methane	111-91-1	1,600	100	200	5
10727	bis(2-Chloroethyl)ether	111-44-4	1,400 Q2	100	200	5
10727	2-Chloronaphthalene	91-58-7	2,300	41	200	5
10727	2-Chlorophenol	95-57-8	1,600	100	200	5
10727	4-Chlorophenyl-phenylether	7005-72-3	1,800	100	200	5
10727	2,2'-oxybis(1-Chloropropane)	108-60-1	1,700	100	200	5
Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.						
10727	Chrysene	218-01-9	2,400	20	100	5
10727	Dibenz(a,h)anthracene	53-70-3	2,000	20	100	5
10727	Dibenzofuran	132-64-9	1,700	100	200	5
10727	3,3'-Dichlorobenzidine	91-94-1	1,500 J	610	2,000	5
10727	2,4-Dichlorophenol	120-83-2	2,000	100	200	5
10727	Diethylphthalate	84-66-2	1,900	410	1,000	5

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP01-S001 MSD Grab Soil
Former Research Library

Brightfields, Inc.
ELLE Sample #: SW 9348105
ELLE Group #: 1882308
Matrix: Soil

Project Name: Former Research Laboratory / Chemical Plant

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 15:20

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles		SW-846 8270C	ug/kg	ug/kg	ug/kg	
10727	2,4-Dimethylphenol	105-67-9	1,300	100	200	5
10727	Dimethylphthalate	131-11-3	1,800	410	1,000	5
10727	4,6-Dinitro-2-methylphenol	534-52-1	1,700 J	1,000	3,100	5
10727	2,4-Dinitrophenol	51-28-5	2,500 J	1,800	6,100	5
10727	2,4-Dinitrotoluene	121-14-2	2,100	410	1,000	5
10727	2,6-Dinitrotoluene	606-20-2	2,000	100	200	5
10727	bis(2-Ethylhexyl)phthalate	117-81-7	2,000	410	1,000	5
10727	Fluoranthene	206-44-0	2,700	20	100	5
10727	Fluorene	86-73-7	1,800	20	100	5
10727	Hexachlorobenzene	118-74-1	2,100	20	100	5
10727	Hexachlorobutadiene	87-68-3	1,800	100	200	5
10727	Hexachlorocyclopentadiene	77-47-4	N.D. Q1Q2Q9	1,000	3,100	5
10727	Hexachloroethane	67-72-1	1,500	200	1,000	5
10727	Indeno(1,2,3-cd)pyrene	193-39-5	2,200	20	100	5
10727	Isophorone	78-59-1	1,500	100	200	5
10727	2-Methylnaphthalene	91-57-6	1,800	20	100	5
10727	2-Methylphenol	95-48-7	1,600	100	200	5
10727	4-Methylphenol	106-44-5	1,500	100	200	5
3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.						
10727	Naphthalene	91-20-3	1,900	20	100	5
10727	2-Nitroaniline	88-74-4	2,000	100	200	5
10727	3-Nitroaniline	99-09-2	1,900	410	1,000	5
10727	4-Nitroaniline	100-01-6	1,500	410	1,000	5
10727	Nitrobenzene	98-95-3	1,600	100	200	5
10727	2-Nitrophenol	88-75-5	1,800	100	200	5
10727	4-Nitrophenol	100-02-7	1,300 J	1,000	3,100	5
10727	N-Nitroso-di-n-propylamine	621-64-7	1,400	100	200	5
10727	N-Nitrosodiphenylamine	86-30-6	1,900	100	200	5
N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.						
10727	Di-n-octylphthalate	117-84-0	1,800	410	1,000	5
10727	Pentachlorophenol	87-86-5	1,500	200	1,000	5
10727	Phenanthrene	85-01-8	2,400 Q3	20	100	5
10727	Phenol	108-95-2	1,400	100	200	5
10727	Pyrene	129-00-0	2,700 Q3	20	100	5
10727	2,4,5-Trichlorophenol	95-95-4	1,800	100	200	5
10727	2,4,6-Trichlorophenol	88-06-2	1,700	100	200	5
Wet Chemistry	SM 2540 G-1997		%	%	%	
	%Moisture Calc					

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP01-S001 MSD Grab Soil
Former Research Library

Brightfields, Inc.
ELLE Sample #: SW 9348105
ELLE Group #: 1882308
Matrix: Soil

Project Name: Former Research Laboratory / Chemical Plant

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 15:20

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry		SM 2540 G-1997	%	%	%	
		%Moisture Calc				
00118	Moisture	n.a.	18.7 Q8	0.50	0.50	1
00121	Moisture Duplicate	n.a.	20.8 Q8	0.50	0.50	1
The duplicate moisture value is provided to assess the precision of the moisture test. For comparability purposes, the initial moisture determination is the value used to perform dry weight calculations.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	X173462AA	12/12/2017 14:32	Linda C Pape	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733948208	11/30/2017 15:20	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733948208	11/30/2017 15:20	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733948208	11/30/2017 15:20	Client Supplied	1
10727	TCL 8270 (microwave)	SW-846 8270C	1	17341SLA026	12/09/2017 00:03	Anthony P Bauer	5
10809	BNA Soil Microwave	SW-846 3546	1	17341SLA026	12/07/2017 17:05	Ashley R Transue	1
00118	Moisture	SM 2540 G-1997 %Moisture Calc	1	17341820002A	12/07/2017 11:15	Larry E Bevins	1
00121	Moisture Duplicate	SM 2540 G-1997 %Moisture Calc	1	17341820002A	12/07/2017 11:15	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP01-S002 Grab Soil
Former Research Library

Brightfields, Inc.
ELLE Sample #: SW 9348106
ELLE Group #: 1882308
Matrix: Soil

Project Name: Former Research Laboratory / Chemical Plant

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 15:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	mg/kg	mg/kg	mg/kg	
10237	Acetone	67-64-1	0.11 Q3	0.008	0.023	0.98
10237	Benzene	71-43-2	N.D. Q3	0.0006	0.006	0.98
10237	Bromodichloromethane	75-27-4	N.D.	0.001	0.006	0.98
10237	Bromoform	75-25-2	N.D.	0.001	0.006	0.98
10237	Bromomethane	74-83-9	N.D.	0.002	0.006	0.98
10237	2-Butanone	78-93-3	0.015 Q3	0.005	0.011	0.98
10237	Carbon Disulfide	75-15-0	N.D. Q2	0.001	0.006	0.98
10237	Carbon Tetrachloride	56-23-5	N.D.	0.001	0.006	0.98
10237	Chlorobenzene	108-90-7	N.D.	0.001	0.006	0.98
10237	Chloroethane	75-00-3	N.D.	0.002	0.006	0.98
10237	Chloroform	67-66-3	N.D. Q3	0.001	0.006	0.98
10237	Chloromethane	74-87-3	N.D.	0.002	0.006	0.98
10237	Cyclohexane	110-82-7	N.D.	0.001	0.006	0.98
10237	1,2-Dibromo-3-chloropropane	96-12-8	N.D. Q3	0.002	0.006	0.98
10237	Dibromochloromethane	124-48-1	N.D. Q3	0.001	0.006	0.98
10237	1,2-Dibromoethane	106-93-4	N.D. Q3	0.001	0.006	0.98
10237	1,2-Dichlorobenzene	95-50-1	N.D.	0.001	0.006	0.98
10237	1,3-Dichlorobenzene	541-73-1	N.D. Q3	0.001	0.006	0.98
10237	1,4-Dichlorobenzene	106-46-7	N.D.	0.001	0.006	0.98
10237	Dichlorodifluoromethane	75-71-8	N.D.	0.002	0.006	0.98
10237	1,1-Dichloroethane	75-34-3	N.D. Q3	0.001	0.006	0.98
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.006	0.98
10237	1,1-Dichloroethene	75-35-4	N.D. Q3	0.001	0.006	0.98
10237	cis-1,2-Dichloroethene	156-59-2	N.D. Q3	0.001	0.006	0.98
10237	trans-1,2-Dichloroethene	156-60-5	N.D. Q3	0.001	0.006	0.98
10237	1,2-Dichloropropane	78-87-5	N.D. Q3	0.001	0.006	0.98
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.001	0.006	0.98
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.001	0.006	0.98
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.006	0.98
10237	Freon 113	76-13-1	N.D.	0.002	0.011	0.98
10237	2-Hexanone	591-78-6	N.D. Q3	0.003	0.011	0.98
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.006	0.98
10237	Methyl Acetate	79-20-9	N.D. Q3	0.002	0.006	0.98
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D. Q3	0.0006	0.006	0.98
10237	4-Methyl-2-pentanone	108-10-1	N.D. Q3	0.003	0.011	0.98
10237	Methylcyclohexane	108-87-2	N.D.	0.001	0.006	0.98
10237	Methylene Chloride	75-09-2	N.D. Q3	0.002	0.006	0.98
10237	Styrene	100-42-5	N.D.	0.001	0.006	0.98
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D. Q3	0.001	0.006	0.98
10237	Tetrachloroethene	127-18-4	0.002 J	0.001	0.006	0.98
10237	Toluene	108-88-3	N.D. Q3	0.001	0.006	0.98
10237	1,2,4-Trichlorobenzene	120-82-1	N.D. Q2	0.001	0.006	0.98

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP01-S002 Grab Soil
Former Research Library

Brightfields, Inc.
ELLE Sample #: SW 9348106
ELLE Group #: 1882308
Matrix: Soil

Project Name: Former Research Laboratory / Chemical Plant

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 15:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	1,1,1-Trichloroethane	71-55-6	N.D.	0.001	0.006	0.98
10237	1,1,2-Trichloroethane	79-00-5	N.D. Q3	0.001	0.006	0.98
10237	Trichloroethene	79-01-6	N.D.	0.001	0.006	0.98
10237	Trichlorofluoromethane	75-69-4	N.D.	0.002	0.006	0.98
10237	Vinyl Chloride	75-01-4	N.D.	0.001	0.006	0.98
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.006	0.98

The recovery for the sample internal standard is outside the QC acceptance limits. The following corrective action was taken:
The sample was re-analyzed and the QC is again outside of the acceptance limits, indicating a matrix effect. The data is reported from the initial trial.

GC/MS Semivolatiles	SW-846 8270C	ug/kg	ug/kg	ug/kg		
10727	Acenaphthene	83-32-9	N.D.	19	98	5
10727	Acenaphthylene	208-96-8	50 J	19	98	5
10727	Acetophenone	98-86-2	N.D.	96	190	5
10727	Anthracene	120-12-7	48 J	19	98	5
10727	Atrazine	1912-24-9	N.D.	190	960	5
10727	Benzaldehyde	100-52-7	N.D.	380	960	5
10727	Benzo(a)anthracene	56-55-3	87 J	19	98	5
10727	Benzo(a)pyrene	50-32-8	100	19	98	5
10727	Benzo(b)fluoranthene	205-99-2	160	19	98	5
10727	Benzo(g,h,i)perylene	191-24-2	110	19	98	5
10727	Benzo(k)fluoranthene	207-08-9	71 J	19	98	5
10727	1,1'-Biphenyl	92-52-4	N.D.	96	190	5
10727	4-Bromophenyl-phenylether	101-55-3	N.D.	96	190	5
10727	Butylbenzylphthalate	85-68-7	N.D.	380	960	5
10727	Di-n-butylphthalate	84-74-2	N.D.	380	960	5
10727	Caprolactam	105-60-2	N.D.	190	960	5
10727	Carbazole	86-74-8	N.D.	96	190	5
10727	4-Chloro-3-methylphenol	59-50-7	N.D.	96	190	5
10727	4-Chloroaniline	106-47-8	N.D.	190	380	5
10727	bis(2-Chloroethoxy)methane	111-91-1	N.D.	96	190	5
10727	bis(2-Chloroethyl)ether	111-44-4	N.D. Q2	96	190	5
10727	2-Chloronaphthalene	91-58-7	N.D.	38	190	5
10727	2-Chlorophenol	95-57-8	N.D.	96	190	5
10727	4-Chlorophenyl-phenylether	7005-72-3	N.D.	96	190	5
10727	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	96	190	5
Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.						
10727	Chrysene	218-01-9	130	19	98	5
10727	Dibenz(a,h)anthracene	53-70-3	N.D.	19	98	5

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP01-S002 Grab Soil
Former Research Library

Project Name: Former Research Laboratory / Chemical Plant

Brightfields, Inc.
ELLE Sample #: SW 9348106
ELLE Group #: 1882308
Matrix: Soil

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 15:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles		SW-846 8270C	ug/kg	ug/kg	ug/kg	
10727	Dibenzofuran	132-64-9	N.D.	96	190	5
10727	3,3'-Dichlorobenzidine	91-94-1	N.D.	570	1,900	5
10727	2,4-Dichlorophenol	120-83-2	N.D.	96	190	5
10727	Diethylphthalate	84-66-2	N.D.	380	960	5
10727	2,4-Dimethylphenol	105-67-9	N.D.	96	190	5
10727	Dimethylphthalate	131-11-3	N.D.	380	960	5
10727	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	960	2,900	5
10727	2,4-Dinitrophenol	51-28-5	N.D.	1,700	5,700	5
10727	2,4-Dinitrotoluene	121-14-2	N.D.	380	960	5
10727	2,6-Dinitrotoluene	606-20-2	N.D.	96	190	5
10727	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	380	980	5
10727	Fluoranthene	206-44-0	150	19	98	5
10727	Fluorene	86-73-7	N.D.	19	98	5
10727	Hexachlorobenzene	118-74-1	N.D.	19	98	5
10727	Hexachlorobutadiene	87-68-3	N.D.	96	190	5
10727	Hexachlorocyclopentadiene	77-47-4	N.D. Q1Q2Q9	960	2,900	5
10727	Hexachloroethane	67-72-1	N.D.	190	960	5
10727	Indeno(1,2,3-cd)pyrene	193-39-5	72 J	19	98	5
10727	Isophorone	78-59-1	N.D.	96	190	5
10727	2-Methylnaphthalene	91-57-6	36 J	19	98	5
10727	2-Methylphenol	95-48-7	N.D.	96	190	5
10727	4-Methylphenol	106-44-5	N.D.	96	190	5
3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.						
10727	Naphthalene	91-20-3	33 J	19	98	5
10727	2-Nitroaniline	88-74-4	N.D.	96	190	5
10727	3-Nitroaniline	99-09-2	N.D.	380	960	5
10727	4-Nitroaniline	100-01-6	N.D.	380	960	5
10727	Nitrobenzene	98-95-3	N.D.	96	190	5
10727	2-Nitrophenol	88-75-5	N.D.	96	190	5
10727	4-Nitrophenol	100-02-7	N.D.	960	2,900	5
10727	N-Nitroso-di-n-propylamine	621-64-7	N.D.	96	190	5
10727	N-Nitrosodiphenylamine	86-30-6	N.D.	96	190	5
N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.						
10727	Di-n-octylphthalate	117-84-0	N.D.	380	960	5
10727	Pentachlorophenol	87-86-5	N.D.	190	980	5
10727	Phenanthrene	85-01-8	93 J Q3	19	98	5
10727	Phenol	108-95-2	N.D.	96	190	5
10727	Pyrene	129-00-0	160 Q3	19	98	5
10727	2,4,5-Trichlorophenol	95-95-4	N.D.	96	190	5

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP01-S002 Grab Soil
Former Research Library

Project Name: Former Research Laboratory / Chemical Plant

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 15:30

Brightfields, Inc.
ELLE Sample #: SW 9348106
ELLE Group #: 1882308
Matrix: Soil

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles						
	SW-846 8270C		ug/kg	ug/kg	ug/kg	
10727	2,4,6-Trichlorophenol	88-06-2	N.D.	96	190	5
Reporting limits were raised due to interference from the sample matrix.						
Wet Chemistry						
	SM 2540 G-1997		%	%	%	
	%Moisture Calc					
00111	Moisture	n.a.	13.6 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	X173462AA	12/12/2017 14:55	Linda C Pape	0.98
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733948208	11/30/2017 15:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733948208	11/30/2017 15:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733948208	11/30/2017 15:30	Client Supplied	1
10727	TCL 8270 (microwave)	SW-846 8270C	1	17341SLA026	12/09/2017 03:39	Anthony P Bauer	5
10809	BNA Soil Microwave	SW-846 3546	1	17341SLA026	12/07/2017 17:05	Ashley R Transue	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17341820002A	12/07/2017 11:15	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP02-S001 Grab Soil
Former Research Library

Project Name: Former Research Laboratory / Chemical Plant

Brightfields, Inc.
ELLE Sample #: SW 9348107
ELLE Group #: 1882308
Matrix: Soil

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 15:45

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	mg/kg	mg/kg	mg/kg	
10237	Acetone	67-64-1	0.055 Q3	0.007	0.021	0.95
10237	Benzene	71-43-2	N.D. Q3	0.0005	0.005	0.95
10237	Bromodichloromethane	75-27-4	N.D.	0.001	0.005	0.95
10237	Bromoform	75-25-2	N.D.	0.001	0.005	0.95
10237	Bromomethane	74-83-9	N.D.	0.002	0.005	0.95
10237	2-Butanone	78-93-3	N.D. Q3	0.004	0.010	0.95
10237	Carbon Disulfide	75-15-0	0.007 Q2	0.001	0.005	0.95
10237	Carbon Tetrachloride	56-23-5	N.D.	0.001	0.005	0.95
10237	Chlorobenzene	108-90-7	N.D.	0.001	0.005	0.95
10237	Chloroethane	75-00-3	N.D.	0.002	0.005	0.95
10237	Chloroform	67-66-3	N.D. Q3	0.001	0.005	0.95
10237	Chloromethane	74-87-3	N.D.	0.002	0.005	0.95
10237	Cyclohexane	110-82-7	N.D.	0.001	0.005	0.95
10237	1,2-Dibromo-3-chloropropane	96-12-8	N.D. Q3	0.002	0.005	0.95
10237	Dibromochloromethane	124-48-1	N.D. Q3	0.001	0.005	0.95
10237	1,2-Dibromoethane	106-93-4	N.D. Q3	0.001	0.005	0.95
10237	1,2-Dichlorobenzene	95-50-1	N.D.	0.001	0.005	0.95
10237	1,3-Dichlorobenzene	541-73-1	N.D. Q3	0.001	0.005	0.95
10237	1,4-Dichlorobenzene	106-46-7	N.D.	0.001	0.005	0.95
10237	Dichlorodifluoromethane	75-71-8	N.D.	0.002	0.005	0.95
10237	1,1-Dichloroethane	75-34-3	N.D. Q3	0.001	0.005	0.95
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	0.95
10237	1,1-Dichloroethene	75-35-4	N.D. Q3	0.001	0.005	0.95
10237	cis-1,2-Dichloroethene	156-59-2	N.D. Q3	0.001	0.005	0.95
10237	trans-1,2-Dichloroethene	156-60-5	N.D. Q3	0.001	0.005	0.95
10237	1,2-Dichloropropane	78-87-5	N.D. Q3	0.001	0.005	0.95
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.001	0.005	0.95
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.001	0.005	0.95
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	0.95
10237	Freon 113	76-13-1	N.D.	0.002	0.010	0.95
10237	2-Hexanone	591-78-6	N.D. Q3	0.003	0.010	0.95
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.005	0.95
10237	Methyl Acetate	79-20-9	N.D. Q3	0.002	0.005	0.95
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D. Q3	0.0005	0.005	0.95
10237	4-Methyl-2-pentanone	108-10-1	N.D. Q3	0.003	0.010	0.95
10237	Methylcyclohexane	108-87-2	N.D.	0.001	0.005	0.95
10237	Methylene Chloride	75-09-2	0.01 Q3	0.002	0.005	0.95
10237	Styrene	100-42-5	N.D.	0.001	0.005	0.95
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D. Q3	0.001	0.005	0.95
10237	Tetrachloroethene	127-18-4	0.001 J	0.001	0.005	0.95
10237	Toluene	108-88-3	0.001 J Q3	0.001	0.005	0.95
10237	1,2,4-Trichlorobenzene	120-82-1	N.D. Q2	0.001	0.005	0.95

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP02-S001 Grab Soil
Former Research Library

Brightfields, Inc.
ELLE Sample #: SW 9348107
ELLE Group #: 1882308
Matrix: Soil

Project Name: Former Research Laboratory / Chemical Plant

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 15:45

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	1,1,1-Trichloroethane	71-55-6	N.D.	0.001	0.005	0.95
10237	1,1,2-Trichloroethane	79-00-5	N.D. Q3	0.001	0.005	0.95
10237	Trichloroethene	79-01-6	N.D.	0.001	0.005	0.95
10237	Trichlorofluoromethane	75-69-4	N.D.	0.002	0.005	0.95
10237	Vinyl Chloride	75-01-4	N.D.	0.001	0.005	0.95
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	0.95

The recovery for the sample internal standard is outside the QC acceptance limits. The following corrective action was taken:
The sample was re-analyzed and the QC is again outside of the acceptance limits, indicating a matrix effect. The data is reported from the initial trial.

GC/MS Semivolatiles	SW-846 8270C	ug/kg	ug/kg	ug/kg		
10727	Acenaphthene	83-32-9	240	18	92	5
10727	Acenaphthylene	208-96-8	920	18	92	5
10727	Acetophenone	98-86-2	N.D.	91	180	5
10727	Anthracene	120-12-7	1,500	18	92	5
10727	Atrazine	1912-24-9	N.D.	180	910	5
10727	Benzaldehyde	100-52-7	N.D.	360	910	5
10727	Benzo(a)anthracene	56-55-3	3,100	18	92	5
10727	Benzo(a)pyrene	50-32-8	2,500	18	92	5
10727	Benzo(b)fluoranthene	205-99-2	3,100	18	92	5
10727	Benzo(g,h,i)perylene	191-24-2	1,700	18	92	5
10727	Benzo(k)fluoranthene	207-08-9	1,400	18	92	5
10727	1,1'-Biphenyl	92-52-4	N.D.	91	180	5
10727	4-Bromophenyl-phenylether	101-55-3	N.D.	91	180	5
10727	Butylbenzylphthalate	85-68-7	N.D.	360	910	5
10727	Di-n-butylphthalate	84-74-2	N.D.	360	910	5
10727	Caprolactam	105-60-2	N.D.	180	910	5
10727	Carbazole	86-74-8	220	91	180	5
10727	4-Chloro-3-methylphenol	59-50-7	N.D.	91	180	5
10727	4-Chloroaniline	106-47-8	N.D.	180	360	5
10727	bis(2-Chloroethoxy)methane	111-91-1	N.D.	91	180	5
10727	bis(2-Chloroethyl)ether	111-44-4	N.D. Q2	91	180	5
10727	2-Chloronaphthalene	91-58-7	N.D.	36	180	5
10727	2-Chlorophenol	95-57-8	N.D.	91	180	5
10727	4-Chlorophenyl-phenylether	7005-72-3	N.D.	91	180	5
10727	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	91	180	5
Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.						
10727	Chrysene	218-01-9	3,100	18	92	5
10727	Dibenz(a,h)anthracene	53-70-3	490	18	92	5

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP02-S001 Grab Soil
Former Research Library

Project Name: Former Research Laboratory / Chemical Plant

Brightfields, Inc.
ELLE Sample #: SW 9348107
ELLE Group #: 1882308
Matrix: Soil

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 15:45

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles		SW-846 8270C	ug/kg	ug/kg	ug/kg	
10727	Dibenzofuran	132-64-9	210	91	180	5
10727	3,3'-Dichlorobenzidine	91-94-1	N.D.	540	1,800	5
10727	2,4-Dichlorophenol	120-83-2	N.D.	91	180	5
10727	Diethylphthalate	84-66-2	N.D.	360	910	5
10727	2,4-Dimethylphenol	105-67-9	N.D.	91	180	5
10727	Dimethylphthalate	131-11-3	N.D.	360	910	5
10727	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	910	2,700	5
10727	2,4-Dinitrophenol	51-28-5	N.D.	1,600	5,400	5
10727	2,4-Dinitrotoluene	121-14-2	N.D.	360	910	5
10727	2,6-Dinitrotoluene	606-20-2	N.D.	91	180	5
10727	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	360	920	5
10727	Fluoranthene	206-44-0	7,200	18	92	5
10727	Fluorene	86-73-7	530	18	92	5
10727	Hexachlorobenzene	118-74-1	N.D.	18	92	5
10727	Hexachlorobutadiene	87-68-3	N.D.	91	180	5
10727	Hexachlorocyclopentadiene	77-47-4	N.D. Q1Q2Q9	910	2,700	5
10727	Hexachloroethane	67-72-1	N.D.	180	910	5
10727	Indeno(1,2,3-cd)pyrene	193-39-5	1,700	18	92	5
10727	Isophorone	78-59-1	N.D.	91	180	5
10727	2-Methylnaphthalene	91-57-6	81 J	18	92	5
10727	2-Methylphenol	95-48-7	N.D.	91	180	5
10727	4-Methylphenol	106-44-5	N.D.	91	180	5
3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.						
10727	Naphthalene	91-20-3	82 J	18	92	5
10727	2-Nitroaniline	88-74-4	N.D.	91	180	5
10727	3-Nitroaniline	99-09-2	N.D.	360	910	5
10727	4-Nitroaniline	100-01-6	N.D.	360	910	5
10727	Nitrobenzene	98-95-3	N.D.	91	180	5
10727	2-Nitrophenol	88-75-5	N.D.	91	180	5
10727	4-Nitrophenol	100-02-7	N.D.	910	2,700	5
10727	N-Nitroso-di-n-propylamine	621-64-7	N.D.	91	180	5
10727	N-Nitrosodiphenylamine	86-30-6	N.D.	91	180	5
N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.						
10727	Di-n-octylphthalate	117-84-0	N.D.	360	910	5
10727	Pentachlorophenol	87-86-5	N.D.	180	920	5
10727	Phenanthrene	85-01-8	4,800 Q3	18	92	5
10727	Phenol	108-95-2	N.D.	91	180	5
10727	Pyrene	129-00-0	6,100 Q3	18	92	5
10727	2,4,5-Trichlorophenol	95-95-4	N.D.	91	180	5

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP02-S001 Grab Soil
Former Research Library

Project Name: Former Research Laboratory / Chemical Plant

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 15:45

Brightfields, Inc.
ELLE Sample #: SW 9348107
ELLE Group #: 1882308
Matrix: Soil

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles						
	SW-846 8270C		ug/kg	ug/kg	ug/kg	
10727	2,4,6-Trichlorophenol	88-06-2	N.D.	91	180	5
Reporting limits were raised due to interference from the sample matrix.						
Wet Chemistry						
	SM 2540 G-1997		%	%	%	
	%Moisture Calc					
00111	Moisture	n.a.	9.2 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	X173462AA	12/12/2017 15:18	Linda C Pape	0.95
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733948208	11/30/2017 15:45	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733948208	11/30/2017 15:45	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733948208	11/30/2017 15:45	Client Supplied	1
10727	TCL 8270 (microwave)	SW-846 8270C	1	17341SLA026	12/09/2017 04:03	Anthony P Bauer	5
10809	BNA Soil Microwave	SW-846 3546	1	17341SLA026	12/07/2017 17:05	Ashley R Transue	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17341820002A	12/07/2017 11:15	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP02-S002 Grab Soil
Former Research Library

Project Name: Former Research Laboratory / Chemical Plant

Brightfields, Inc.
ELLE Sample #: SW 9348108
ELLE Group #: 1882308
Matrix: Soil

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 15:55

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	mg/kg	mg/kg	mg/kg	
10237	Acetone	67-64-1	0.024 Q3	0.008	0.023	1.04
10237	Benzene	71-43-2	N.D. Q3	0.0006	0.006	1.04
10237	Bromodichloromethane	75-27-4	N.D.	0.001	0.006	1.04
10237	Bromoform	75-25-2	N.D.	0.001	0.006	1.04
10237	Bromomethane	74-83-9	N.D.	0.002	0.006	1.04
10237	2-Butanone	78-93-3	N.D. Q3	0.005	0.011	1.04
10237	Carbon Disulfide	75-15-0	N.D. Q2	0.001	0.006	1.04
10237	Carbon Tetrachloride	56-23-5	0.001 J	0.001	0.006	1.04
10237	Chlorobenzene	108-90-7	N.D.	0.001	0.006	1.04
10237	Chloroethane	75-00-3	N.D.	0.002	0.006	1.04
10237	Chloroform	67-66-3	N.D. Q3	0.001	0.006	1.04
10237	Chloromethane	74-87-3	N.D.	0.002	0.006	1.04
10237	Cyclohexane	110-82-7	N.D.	0.001	0.006	1.04
10237	1,2-Dibromo-3-chloropropane	96-12-8	N.D. Q3	0.002	0.006	1.04
10237	Dibromochloromethane	124-48-1	N.D. Q3	0.001	0.006	1.04
10237	1,2-Dibromoethane	106-93-4	N.D. Q3	0.001	0.006	1.04
10237	1,2-Dichlorobenzene	95-50-1	N.D.	0.001	0.006	1.04
10237	1,3-Dichlorobenzene	541-73-1	N.D. Q3	0.001	0.006	1.04
10237	1,4-Dichlorobenzene	106-46-7	N.D.	0.001	0.006	1.04
10237	Dichlorodifluoromethane	75-71-8	N.D.	0.002	0.006	1.04
10237	1,1-Dichloroethane	75-34-3	N.D. Q3	0.001	0.006	1.04
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.006	1.04
10237	1,1-Dichloroethene	75-35-4	N.D. Q3	0.001	0.006	1.04
10237	cis-1,2-Dichloroethene	156-59-2	N.D. Q3	0.001	0.006	1.04
10237	trans-1,2-Dichloroethene	156-60-5	N.D. Q3	0.001	0.006	1.04
10237	1,2-Dichloropropane	78-87-5	N.D. Q3	0.001	0.006	1.04
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.001	0.006	1.04
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.001	0.006	1.04
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.006	1.04
10237	Freon 113	76-13-1	N.D.	0.002	0.011	1.04
10237	2-Hexanone	591-78-6	N.D. Q3	0.003	0.011	1.04
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.006	1.04
10237	Methyl Acetate	79-20-9	N.D. Q3	0.002	0.006	1.04
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D. Q3	0.0006	0.006	1.04
10237	4-Methyl-2-pentanone	108-10-1	N.D. Q3	0.003	0.011	1.04
10237	Methylcyclohexane	108-87-2	N.D.	0.001	0.006	1.04
10237	Methylene Chloride	75-09-2	N.D. Q3	0.002	0.006	1.04
10237	Styrene	100-42-5	N.D.	0.001	0.006	1.04
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D. Q3	0.001	0.006	1.04
10237	Tetrachloroethene	127-18-4	N.D.	0.001	0.006	1.04
10237	Toluene	108-88-3	N.D. Q3	0.001	0.006	1.04
10237	1,2,4-Trichlorobenzene	120-82-1	N.D. Q2	0.001	0.006	1.04

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP02-S002 Grab Soil
Former Research Library

Project Name: Former Research Laboratory / Chemical Plant

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 15:55

Brightfields, Inc.
ELLE Sample #: SW 9348108
ELLE Group #: 1882308
Matrix: Soil

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	1,1,1-Trichloroethane	71-55-6	N.D.	0.001	0.006	1.04
10237	1,1,2-Trichloroethane	79-00-5	N.D. Q3	0.001	0.006	1.04
10237	Trichloroethene	79-01-6	N.D.	0.001	0.006	1.04
10237	Trichlorofluoromethane	75-69-4	N.D.	0.002	0.006	1.04
10237	Vinyl Chloride	75-01-4	N.D.	0.001	0.006	1.04
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.006	1.04

The recovery for the sample internal standard is outside the QC acceptance limits. The following corrective action was taken:
The sample was re-analyzed and the QC is again outside of the acceptance limits, indicating a matrix effect. The data is reported from the initial trial.

GC/MS Semivolatiles	SW-846 8270C	ug/kg	ug/kg	ug/kg		
10727	Acenaphthene	83-32-9	6 J	4	18	
10727	Acenaphthylene	208-96-8	40	4	18	
10727	Acetophenone	98-86-2	21 J	18	36	
10727	Anthracene	120-12-7	33	4	18	
10727	Atrazine	1912-24-9	N.D.	36	180	
10727	Benzaldehyde	100-52-7	N.D.	72	180	
10727	Benzo(a)anthracene	56-55-3	65	4	18	
10727	Benzo(a)pyrene	50-32-8	66	4	18	
10727	Benzo(b)fluoranthene	205-99-2	110	4	18	
10727	Benzo(g,h,i)perylene	191-24-2	67	4	18	
10727	Benzo(k)fluoranthene	207-08-9	51	4	18	
10727	1,1'-Biphenyl	92-52-4	N.D.	18	36	
10727	4-Bromophenyl-phenylether	101-55-3	N.D.	18	36	
10727	Butylbenzylphthalate	85-68-7	N.D.	72	180	
10727	Di-n-butylphthalate	84-74-2	410	72	180	
10727	Caprolactam	105-60-2	N.D.	36	180	
10727	Carbazole	86-74-8	N.D.	18	36	
10727	4-Chloro-3-methylphenol	59-50-7	N.D.	18	36	
10727	4-Chloroaniline	106-47-8	N.D.	36	72	
10727	bis(2-Chloroethoxy)methane	111-91-1	N.D.	18	36	
10727	bis(2-Chloroethyl)ether	111-44-4	N.D. Q2	18	36	
10727	2-Chloronaphthalene	91-58-7	N.D.	7	36	
10727	2-Chlorophenol	95-57-8	N.D.	18	36	
10727	4-Chlorophenyl-phenylether	7005-72-3	N.D.	18	36	
10727	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	18	36	
Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.						
10727	Chrysene	218-01-9	110	4	18	
10727	Dibenz(a,h)anthracene	53-70-3	22	4	18	

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP02-S002 Grab Soil
Former Research Library

Project Name: Former Research Laboratory / Chemical Plant

Brightfields, Inc.
ELLE Sample #: SW 9348108
ELLE Group #: 1882308
Matrix: Soil

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 15:55

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles		SW-846 8270C	ug/kg	ug/kg	ug/kg	
10727	Dibenzofuran	132-64-9	N.D.	18	36	1
10727	3,3'-Dichlorobenzidine	91-94-1	N.D.	110	360	1
10727	2,4-Dichlorophenol	120-83-2	N.D.	18	36	1
10727	Diethylphthalate	84-66-2	N.D.	72	180	1
10727	2,4-Dimethylphenol	105-67-9	N.D.	18	36	1
10727	Dimethylphthalate	131-11-3	N.D.	72	180	1
10727	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	180	540	1
10727	2,4-Dinitrophenol	51-28-5	N.D.	320	1,100	1
10727	2,4-Dinitrotoluene	121-14-2	N.D.	72	180	1
10727	2,6-Dinitrotoluene	606-20-2	N.D.	18	36	1
10727	bis(2-Ethylhexyl)phthalate	117-81-7	75 J	72	180	1
10727	Fluoranthene	206-44-0	150	4	18	1
10727	Fluorene	86-73-7	7 J	4	18	1
10727	Hexachlorobenzene	118-74-1	N.D.	4	18	1
10727	Hexachlorobutadiene	87-68-3	N.D.	18	36	1
10727	Hexachlorocyclopentadiene	77-47-4	N.D. Q1Q2Q9	180	540	1
10727	Hexachloroethane	67-72-1	N.D.	36	180	1
10727	Indeno(1,2,3-cd)pyrene	193-39-5	55	4	18	1
10727	Isophorone	78-59-1	N.D.	18	36	1
10727	2-Methylnaphthalene	91-57-6	15 J	4	18	1
10727	2-Methylphenol	95-48-7	N.D.	18	36	1
10727	4-Methylphenol	106-44-5	N.D.	18	36	1
3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.						
10727	Naphthalene	91-20-3	26	4	18	1
10727	2-Nitroaniline	88-74-4	N.D.	18	36	1
10727	3-Nitroaniline	99-09-2	N.D.	72	180	1
10727	4-Nitroaniline	100-01-6	N.D.	72	180	1
10727	Nitrobenzene	98-95-3	N.D.	18	36	1
10727	2-Nitrophenol	88-75-5	N.D.	18	36	1
10727	4-Nitrophenol	100-02-7	N.D.	180	540	1
10727	N-Nitroso-di-n-propylamine	621-64-7	N.D.	18	36	1
10727	N-Nitrosodiphenylamine	86-30-6	N.D.	18	36	1
N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.						
10727	Di-n-octylphthalate	117-84-0	N.D.	72	180	1
10727	Pentachlorophenol	87-86-5	N.D.	36	180	1
10727	Phenanthrene	85-01-8	67 Q3	4	18	1
10727	Phenol	108-95-2	23 J	18	36	1
10727	Pyrene	129-00-0	130 Q3	4	18	1
10727	2,4,5-Trichlorophenol	95-95-4	N.D.	18	36	1

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP02-S002 Grab Soil
Former Research Library

Project Name: Former Research Laboratory / Chemical Plant

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 15:55

Brightfields, Inc.
ELLE Sample #: SW 9348108
ELLE Group #: 1882308
Matrix: Soil

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles						
10727	2,4,6-Trichlorophenol	SW-846 8270C 88-06-2	ug/kg N.D.	ug/kg 18	ug/kg 36	1
Wet Chemistry						
00111	Moisture	SM 2540 G-1997 %Moisture Calc n.a.	% 7.5 Q8	% 0.50	% 0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	X173462AA	12/12/2017 15:41	Linda C Pape	1.04
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733948208	11/30/2017 15:55	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733948208	11/30/2017 15:55	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733948208	11/30/2017 15:55	Client Supplied	1
10727	TCL 8270 (microwave)	SW-846 8270C	1	17341SLA026	12/09/2017 04:27	Anthony P Bauer	1
10809	BNA Soil Microwave	SW-846 3546	1	17341SLA026	12/07/2017 17:05	Ashley R Transue	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17341820002A	12/07/2017 11:15	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP03-S001 Grab Soil
Former Research Library

Project Name: Former Research Laboratory / Chemical Plant

Brightfields, Inc.
ELLE Sample #: SW 9348109
ELLE Group #: 1882308
Matrix: Soil

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 16:10

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	mg/kg	mg/kg	mg/kg	
10237	Acetone	67-64-1	0.061 Q3	0.007	0.021	1.05
10237	Benzene	71-43-2	N.D. Q3	0.0005	0.005	1.05
10237	Bromodichloromethane	75-27-4	N.D.	0.001	0.005	1.05
10237	Bromoform	75-25-2	N.D.	0.001	0.005	1.05
10237	Bromomethane	74-83-9	N.D.	0.002	0.005	1.05
10237	2-Butanone	78-93-3	0.006 J Q3	0.004	0.011	1.05
10237	Carbon Disulfide	75-15-0	N.D. Q2	0.001	0.005	1.05
10237	Carbon Tetrachloride	56-23-5	N.D.	0.001	0.005	1.05
10237	Chlorobenzene	108-90-7	N.D.	0.001	0.005	1.05
10237	Chloroethane	75-00-3	N.D.	0.002	0.005	1.05
10237	Chloroform	67-66-3	N.D. Q3	0.001	0.005	1.05
10237	Chloromethane	74-87-3	N.D.	0.002	0.005	1.05
10237	Cyclohexane	110-82-7	N.D.	0.001	0.005	1.05
10237	1,2-Dibromo-3-chloropropane	96-12-8	N.D. Q3	0.002	0.005	1.05
10237	Dibromochloromethane	124-48-1	N.D. Q3	0.001	0.005	1.05
10237	1,2-Dibromoethane	106-93-4	N.D. Q3	0.001	0.005	1.05
10237	1,2-Dichlorobenzene	95-50-1	N.D.	0.001	0.005	1.05
10237	1,3-Dichlorobenzene	541-73-1	N.D. Q3	0.001	0.005	1.05
10237	1,4-Dichlorobenzene	106-46-7	N.D.	0.001	0.005	1.05
10237	Dichlorodifluoromethane	75-71-8	N.D.	0.002	0.005	1.05
10237	1,1-Dichloroethane	75-34-3	N.D. Q3	0.001	0.005	1.05
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	1.05
10237	1,1-Dichloroethene	75-35-4	N.D. Q3	0.001	0.005	1.05
10237	cis-1,2-Dichloroethene	156-59-2	N.D. Q3	0.001	0.005	1.05
10237	trans-1,2-Dichloroethene	156-60-5	N.D. Q3	0.001	0.005	1.05
10237	1,2-Dichloropropane	78-87-5	N.D. Q3	0.001	0.005	1.05
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.001	0.005	1.05
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.001	0.005	1.05
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	1.05
10237	Freon 113	76-13-1	N.D.	0.002	0.011	1.05
10237	2-Hexanone	591-78-6	N.D. Q3	0.003	0.011	1.05
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.005	1.05
10237	Methyl Acetate	79-20-9	N.D. Q3	0.002	0.005	1.05
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D. Q3	0.0005	0.005	1.05
10237	4-Methyl-2-pentanone	108-10-1	N.D. Q3	0.003	0.011	1.05
10237	Methylcyclohexane	108-87-2	N.D.	0.001	0.005	1.05
10237	Methylene Chloride	75-09-2	N.D. Q3	0.002	0.005	1.05
10237	Styrene	100-42-5	N.D.	0.001	0.005	1.05
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D. Q3	0.001	0.005	1.05
10237	Tetrachloroethene	127-18-4	N.D.	0.001	0.005	1.05
10237	Toluene	108-88-3	N.D. Q3	0.001	0.005	1.05
10237	1,2,4-Trichlorobenzene	120-82-1	N.D. Q2	0.001	0.005	1.05

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP03-S001 Grab Soil
Former Research Library

Brightfields, Inc.
ELLE Sample #: SW 9348109
ELLE Group #: 1882308
Matrix: Soil

Project Name: Former Research Laboratory / Chemical Plant

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 16:10

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	1,1,1-Trichloroethane	71-55-6	N.D.	0.001	0.005	1.05
10237	1,1,2-Trichloroethane	79-00-5	N.D. Q3	0.001	0.005	1.05
10237	Trichloroethene	79-01-6	N.D.	0.001	0.005	1.05
10237	Trichlorofluoromethane	75-69-4	N.D.	0.002	0.005	1.05
10237	Vinyl Chloride	75-01-4	N.D.	0.001	0.005	1.05
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	1.05

The recovery for the sample internal standard is outside the QC acceptance limits. The following corrective action was taken:
The sample was re-analyzed and the QC is again outside of the acceptance limits, indicating a matrix effect. The data is reported from the initial trial.

GC/MS Semivolatiles	SW-846 8270C	ug/kg	ug/kg	ug/kg		
10727	Acenaphthene	83-32-9	27	3	17	1
10727	Acenaphthylene	208-96-8	20	3	17	1
10727	Acetophenone	98-86-2	N.D.	17	34	1
10727	Anthracene	120-12-7	100	3	17	1
10727	Atrazine	1912-24-9	N.D.	34	170	1
10727	Benzaldehyde	100-52-7	N.D.	68	170	1
10727	Benzo(a)anthracene	56-55-3	240	3	17	1
10727	Benzo(a)pyrene	50-32-8	190	3	17	1
10727	Benzo(b)fluoranthene	205-99-2	280	3	17	1
10727	Benzo(g,h,i)perylene	191-24-2	150	3	17	1
10727	Benzo(k)fluoranthene	207-08-9	100	3	17	1
10727	1,1'-Biphenyl	92-52-4	N.D.	17	34	1
10727	4-Bromophenyl-phenylether	101-55-3	N.D.	17	34	1
10727	Butylbenzylphthalate	85-68-7	N.D.	68	170	1
10727	Di-n-butylphthalate	84-74-2	N.D.	68	170	1
10727	Caprolactam	105-60-2	N.D.	34	170	1
10727	Carbazole	86-74-8	N.D.	17	34	1
10727	4-Chloro-3-methylphenol	59-50-7	N.D.	17	34	1
10727	4-Chloroaniline	106-47-8	N.D.	34	68	1
10727	bis(2-Chloroethoxy)methane	111-91-1	N.D.	17	34	1
10727	bis(2-Chloroethyl)ether	111-44-4	N.D. Q2	17	34	1
10727	2-Chloronaphthalene	91-58-7	N.D.	7	34	1
10727	2-Chlorophenol	95-57-8	N.D.	17	34	1
10727	4-Chlorophenyl-phenylether	7005-72-3	N.D.	17	34	1
10727	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	17	34	1
Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.						
10727	Chrysene	218-01-9	250	3	17	1
10727	Dibenz(a,h)anthracene	53-70-3	34	3	17	1

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP03-S001 Grab Soil
Former Research Library

Project Name: Former Research Laboratory / Chemical Plant

Brightfields, Inc.
ELLE Sample #: SW 9348109
ELLE Group #: 1882308
Matrix: Soil

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 16:10

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles		SW-846 8270C	ug/kg	ug/kg	ug/kg	
10727	Dibenzofuran	132-64-9	N.D.	17	34	1
10727	3,3'-Dichlorobenzidine	91-94-1	N.D.	100	340	1
10727	2,4-Dichlorophenol	120-83-2	N.D.	17	34	1
10727	Diethylphthalate	84-66-2	N.D.	68	170	1
10727	2,4-Dimethylphenol	105-67-9	N.D.	17	34	1
10727	Dimethylphthalate	131-11-3	N.D.	68	170	1
10727	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	170	510	1
10727	2,4-Dinitrophenol	51-28-5	N.D.	310	1,000	1
10727	2,4-Dinitrotoluene	121-14-2	N.D.	68	170	1
10727	2,6-Dinitrotoluene	606-20-2	N.D.	17	34	1
10727	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	68	170	1
10727	Fluoranthene	206-44-0	480	3	17	1
10727	Fluorene	86-73-7	29	3	17	1
10727	Hexachlorobenzene	118-74-1	N.D.	3	17	1
10727	Hexachlorobutadiene	87-68-3	N.D.	17	34	1
10727	Hexachlorocyclopentadiene	77-47-4	N.D. Q1Q2Q9	170	510	1
10727	Hexachloroethane	67-72-1	N.D.	34	170	1
10727	Indeno(1,2,3-cd)pyrene	193-39-5	130	3	17	1
10727	Isophorone	78-59-1	N.D.	17	34	1
10727	2-Methylnaphthalene	91-57-6	8 J	3	17	1
10727	2-Methylphenol	95-48-7	N.D.	17	34	1
10727	4-Methylphenol	106-44-5	N.D.	17	34	1
3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.						
10727	Naphthalene	91-20-3	13 J	3	17	1
10727	2-Nitroaniline	88-74-4	N.D.	17	34	1
10727	3-Nitroaniline	99-09-2	N.D.	68	170	1
10727	4-Nitroaniline	100-01-6	N.D.	68	170	1
10727	Nitrobenzene	98-95-3	N.D.	17	34	1
10727	2-Nitrophenol	88-75-5	N.D.	17	34	1
10727	4-Nitrophenol	100-02-7	N.D.	170	510	1
10727	N-Nitroso-di-n-propylamine	621-64-7	N.D.	17	34	1
10727	N-Nitrosodiphenylamine	86-30-6	N.D.	17	34	1
N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.						
10727	Di-n-octylphthalate	117-84-0	N.D.	68	170	1
10727	Pentachlorophenol	87-86-5	N.D.	34	170	1
10727	Phenanthrene	85-01-8	360 Q3	3	17	1
10727	Phenol	108-95-2	N.D.	17	34	1
10727	Pyrene	129-00-0	420 Q3	3	17	1
10727	2,4,5-Trichlorophenol	95-95-4	N.D.	17	34	1

*=This limit was used in the evaluation of the final result

Sample Description:	FRL-GP03-S001 Grab Soil Former Research Library	Brightfields, Inc.	
		ELLE Sample #:	SW 9348109
		ELLE Group #:	1882308
Project Name:	Former Research Laboratory / Chemical Plant	Matrix:	Soil
Submission Date/Time:	12/04/2017 17:25		
Collection Date/Time:	11/30/2017 16:10		

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles						
	SW-846 8270C		ug/kg	ug/kg	ug/kg	
10727	2,4,6-Trichlorophenol	88-06-2	N.D.	17	34	1
Wet Chemistry						
	SM 2540 G-1997		%	%	%	
	%Moisture Calc					
00111	Moisture	n.a.	2.1 Q8	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	X173462AA	12/12/2017 16:04	Linda C Pape	1.05
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733948208	11/30/2017 16:10	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733948208	11/30/2017 16:10	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733948208	11/30/2017 16:10	Client Supplied	1
10727	TCL 8270 (microwave)	SW-846 8270C	1	17341SLA026	12/09/2017 04:51	Anthony P Bauer	1
10809	BNA Soil Microwave	SW-846 3546	1	17341SLA026	12/07/2017 17:05	Ashley R Transue	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17341820002A	12/07/2017 11:15	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP03-S002 Grab Soil
Former Research Library

Brightfields, Inc.
ELLE Sample #: SW 9348110
ELLE Group #: 1882308
Matrix: Soil

Project Name: Former Research Laboratory / Chemical Plant

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 16:20

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	mg/kg	mg/kg	mg/kg	
10237	Acetone	67-64-1	0.068 Q3	0.009	0.025	1.02
10237	Benzene	71-43-2	N.D. Q3	0.0006	0.006	1.02
10237	Bromodichloromethane	75-27-4	N.D.	0.001	0.006	1.02
10237	Bromoform	75-25-2	N.D.	0.001	0.006	1.02
10237	Bromomethane	74-83-9	N.D.	0.002	0.006	1.02
10237	2-Butanone	78-93-3	N.D. Q3	0.005	0.012	1.02
10237	Carbon Disulfide	75-15-0	N.D. Q2	0.001	0.006	1.02
10237	Carbon Tetrachloride	56-23-5	N.D.	0.001	0.006	1.02
10237	Chlorobenzene	108-90-7	N.D.	0.001	0.006	1.02
10237	Chloroethane	75-00-3	N.D.	0.002	0.006	1.02
10237	Chloroform	67-66-3	N.D. Q3	0.001	0.006	1.02
10237	Chloromethane	74-87-3	N.D.	0.002	0.006	1.02
10237	Cyclohexane	110-82-7	N.D.	0.001	0.006	1.02
10237	1,2-Dibromo-3-chloropropane	96-12-8	N.D. Q3	0.002	0.006	1.02
10237	Dibromochloromethane	124-48-1	N.D. Q3	0.001	0.006	1.02
10237	1,2-Dibromoethane	106-93-4	N.D. Q3	0.001	0.006	1.02
10237	1,2-Dichlorobenzene	95-50-1	N.D.	0.001	0.006	1.02
10237	1,3-Dichlorobenzene	541-73-1	N.D. Q3	0.001	0.006	1.02
10237	1,4-Dichlorobenzene	106-46-7	N.D.	0.001	0.006	1.02
10237	Dichlorodifluoromethane	75-71-8	N.D.	0.002	0.006	1.02
10237	1,1-Dichloroethane	75-34-3	N.D. Q3	0.001	0.006	1.02
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.006	1.02
10237	1,1-Dichloroethene	75-35-4	N.D. Q3	0.001	0.006	1.02
10237	cis-1,2-Dichloroethene	156-59-2	N.D. Q3	0.001	0.006	1.02
10237	trans-1,2-Dichloroethene	156-60-5	N.D. Q3	0.001	0.006	1.02
10237	1,2-Dichloropropane	78-87-5	N.D. Q3	0.001	0.006	1.02
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.001	0.006	1.02
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.001	0.006	1.02
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.006	1.02
10237	Freon 113	76-13-1	N.D.	0.002	0.012	1.02
10237	2-Hexanone	591-78-6	N.D. Q3	0.004	0.012	1.02
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.006	1.02
10237	Methyl Acetate	79-20-9	N.D. Q3	0.002	0.006	1.02
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D. Q3	0.0006	0.006	1.02
10237	4-Methyl-2-pentanone	108-10-1	N.D. Q3	0.004	0.012	1.02
10237	Methylcyclohexane	108-87-2	N.D.	0.001	0.006	1.02
10237	Methylene Chloride	75-09-2	N.D. Q3	0.002	0.006	1.02
10237	Styrene	100-42-5	N.D.	0.001	0.006	1.02
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D. Q3	0.001	0.006	1.02
10237	Tetrachloroethene	127-18-4	N.D.	0.001	0.006	1.02
10237	Toluene	108-88-3	0.001 J Q3	0.001	0.006	1.02
10237	1,2,4-Trichlorobenzene	120-82-1	N.D. Q2	0.001	0.006	1.02

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP03-S002 Grab Soil
Former Research Library

Project Name: Former Research Laboratory / Chemical Plant

Brightfields, Inc.
ELLE Sample #: SW 9348110
ELLE Group #: 1882308
Matrix: Soil

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 16:20

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	1,1,1-Trichloroethane	71-55-6	N.D.	0.001	0.006	1.02
10237	1,1,2-Trichloroethane	79-00-5	N.D. Q3	0.001	0.006	1.02
10237	Trichloroethene	79-01-6	N.D.	0.001	0.006	1.02
10237	Trichlorofluoromethane	75-69-4	N.D.	0.002	0.006	1.02
10237	Vinyl Chloride	75-01-4	N.D.	0.001	0.006	1.02
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.006	1.02

The recovery for the sample internal standard is outside the QC acceptance limits. The following corrective action was taken:
The sample was re-analyzed and the QC is again outside of the acceptance limits, indicating a matrix effect. The data is reported from the initial trial.

GC/MS Semivolatiles	SW-846 8270C	ug/kg	ug/kg	ug/kg		
10727	Acenaphthene	83-32-9	N.D.	4	21	1
10727	Acenaphthylene	208-96-8	37	4	21	1
10727	Acetophenone	98-86-2	N.D.	20	41	1
10727	Anthracene	120-12-7	32	4	21	1
10727	Atrazine	1912-24-9	N.D.	41	200	1
10727	Benzaldehyde	100-52-7	N.D.	81	200	1
10727	Benzo(a)anthracene	56-55-3	71	4	21	1
10727	Benzo(a)pyrene	50-32-8	73	4	21	1
10727	Benzo(b)fluoranthene	205-99-2	120	4	21	1
10727	Benzo(g,h,i)perylene	191-24-2	69	4	21	1
10727	Benzo(k)fluoranthene	207-08-9	46	4	21	1
10727	1,1'-Biphenyl	92-52-4	N.D.	20	41	1
10727	4-Bromophenyl-phenylether	101-55-3	N.D.	20	41	1
10727	Butylbenzylphthalate	85-68-7	N.D.	81	200	1
10727	Di-n-butylphthalate	84-74-2	N.D.	81	200	1
10727	Caprolactam	105-60-2	N.D.	41	200	1
10727	Carbazole	86-74-8	N.D.	20	41	1
10727	4-Chloro-3-methylphenol	59-50-7	N.D.	20	41	1
10727	4-Chloroaniline	106-47-8	N.D.	41	81	1
10727	bis(2-Chloroethoxy)methane	111-91-1	N.D.	20	41	1
10727	bis(2-Chloroethyl)ether	111-44-4	N.D. Q2	20	41	1
10727	2-Chloronaphthalene	91-58-7	N.D.	8	41	1
10727	2-Chlorophenol	95-57-8	N.D.	20	41	1
10727	4-Chlorophenyl-phenylether	7005-72-3	N.D.	20	41	1
10727	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	20	41	1
Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.						
10727	Chrysene	218-01-9	97	4	21	1
10727	Dibenz(a,h)anthracene	53-70-3	20 J	4	21	1

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP03-S002 Grab Soil
Former Research Library

Project Name: Former Research Laboratory / Chemical Plant

Brightfields, Inc.
ELLE Sample #: SW 9348110
ELLE Group #: 1882308
Matrix: Soil

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 16:20

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles		SW-846 8270C	ug/kg	ug/kg	ug/kg	
10727	Dibenzofuran	132-64-9	N.D.	20	41	1
10727	3,3'-Dichlorobenzidine	91-94-1	N.D.	120	410	1
10727	2,4-Dichlorophenol	120-83-2	N.D.	20	41	1
10727	Diethylphthalate	84-66-2	N.D.	81	200	1
10727	2,4-Dimethylphenol	105-67-9	N.D.	20	41	1
10727	Dimethylphthalate	131-11-3	N.D.	81	200	1
10727	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	200	610	1
10727	2,4-Dinitrophenol	51-28-5	N.D.	370	1,200	1
10727	2,4-Dinitrotoluene	121-14-2	N.D.	81	200	1
10727	2,6-Dinitrotoluene	606-20-2	N.D.	20	41	1
10727	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	81	210	1
10727	Fluoranthene	206-44-0	130	4	21	1
10727	Fluorene	86-73-7	6 J	4	21	1
10727	Hexachlorobenzene	118-74-1	N.D.	4	21	1
10727	Hexachlorobutadiene	87-68-3	N.D.	20	41	1
10727	Hexachlorocyclopentadiene	77-47-4	N.D. Q1Q2Q9	200	610	1
10727	Hexachloroethane	67-72-1	N.D.	41	200	1
10727	Indeno(1,2,3-cd)pyrene	193-39-5	72	4	21	1
10727	Isophorone	78-59-1	N.D.	20	41	1
10727	2-Methylnaphthalene	91-57-6	30	4	21	1
10727	2-Methylphenol	95-48-7	N.D.	20	41	1
10727	4-Methylphenol	106-44-5	N.D.	20	41	1
3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.						
10727	Naphthalene	91-20-3	64	4	21	1
10727	2-Nitroaniline	88-74-4	N.D.	20	41	1
10727	3-Nitroaniline	99-09-2	N.D.	81	200	1
10727	4-Nitroaniline	100-01-6	N.D.	81	200	1
10727	Nitrobenzene	98-95-3	N.D.	20	41	1
10727	2-Nitrophenol	88-75-5	N.D.	20	41	1
10727	4-Nitrophenol	100-02-7	N.D.	200	610	1
10727	N-Nitroso-di-n-propylamine	621-64-7	N.D.	20	41	1
10727	N-Nitrosodiphenylamine	86-30-6	N.D.	20	41	1
N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.						
10727	Di-n-octylphthalate	117-84-0	N.D.	81	200	1
10727	Pentachlorophenol	87-86-5	N.D.	41	210	1
10727	Phenanthrene	85-01-8	68 Q3	4	21	1
10727	Phenol	108-95-2	N.D.	20	41	1
10727	Pyrene	129-00-0	130 Q3	4	21	1
10727	2,4,5-Trichlorophenol	95-95-4	N.D.	20	41	1

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP03-S002 Grab Soil
Former Research Library

Project Name: Former Research Laboratory / Chemical Plant

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 16:20

Brightfields, Inc.
ELLE Sample #: SW 9348110
ELLE Group #: 1882308
Matrix: Soil

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles						
10727	2,4,6-Trichlorophenol	88-06-2	N.D.	20 ug/kg	41 ug/kg	1
Wet Chemistry						
00111	Moisture	n.a.	18.2 Q8	0.50 %	0.50 %	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	X173462AA	12/12/2017 16:28	Linda C Pape	1.02
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733948208	11/30/2017 16:20	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733948208	11/30/2017 16:20	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733948208	11/30/2017 16:20	Client Supplied	1
10727	TCL 8270 (microwave)	SW-846 8270C	1	17341SLA026	12/09/2017 05:15	Anthony P Bauer	1
10809	BNA Soil Microwave	SW-846 3546	1	17341SLA026	12/07/2017 17:05	Ashley R Transue	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17341820002A	12/07/2017 11:15	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP03-S102 Grab Soil
Former Research Library

Brightfields, Inc.
ELLE Sample #: SW 9348111
ELLE Group #: 1882308
Matrix: Soil

Project Name: Former Research Laboratory / Chemical Plant

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 16:22

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	mg/kg	mg/kg	mg/kg	
10237	Acetone	67-64-1	0.054 Q3	0.008	0.023	0.98
10237	Benzene	71-43-2	N.D. Q3	0.0006	0.006	0.98
10237	Bromodichloromethane	75-27-4	N.D.	0.001	0.006	0.98
10237	Bromoform	75-25-2	N.D.	0.001	0.006	0.98
10237	Bromomethane	74-83-9	N.D.	0.002	0.006	0.98
10237	2-Butanone	78-93-3	N.D. Q3	0.005	0.012	0.98
10237	Carbon Disulfide	75-15-0	N.D. Q2	0.001	0.006	0.98
10237	Carbon Tetrachloride	56-23-5	N.D.	0.001	0.006	0.98
10237	Chlorobenzene	108-90-7	N.D.	0.001	0.006	0.98
10237	Chloroethane	75-00-3	N.D.	0.002	0.006	0.98
10237	Chloroform	67-66-3	N.D. Q3	0.001	0.006	0.98
10237	Chloromethane	74-87-3	N.D.	0.002	0.006	0.98
10237	Cyclohexane	110-82-7	N.D.	0.001	0.006	0.98
10237	1,2-Dibromo-3-chloropropane	96-12-8	N.D. Q3	0.002	0.006	0.98
10237	Dibromochloromethane	124-48-1	N.D. Q3	0.001	0.006	0.98
10237	1,2-Dibromoethane	106-93-4	N.D. Q3	0.001	0.006	0.98
10237	1,2-Dichlorobenzene	95-50-1	N.D.	0.001	0.006	0.98
10237	1,3-Dichlorobenzene	541-73-1	N.D. Q3	0.001	0.006	0.98
10237	1,4-Dichlorobenzene	106-46-7	N.D.	0.001	0.006	0.98
10237	Dichlorodifluoromethane	75-71-8	N.D.	0.002	0.006	0.98
10237	1,1-Dichloroethane	75-34-3	N.D. Q3	0.001	0.006	0.98
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.006	0.98
10237	1,1-Dichloroethene	75-35-4	N.D. Q3	0.001	0.006	0.98
10237	cis-1,2-Dichloroethene	156-59-2	N.D. Q3	0.001	0.006	0.98
10237	trans-1,2-Dichloroethene	156-60-5	N.D. Q3	0.001	0.006	0.98
10237	1,2-Dichloropropane	78-87-5	N.D. Q3	0.001	0.006	0.98
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.001	0.006	0.98
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.001	0.006	0.98
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.006	0.98
10237	Freon 113	76-13-1	N.D.	0.002	0.012	0.98
10237	2-Hexanone	591-78-6	N.D. Q3	0.004	0.012	0.98
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.006	0.98
10237	Methyl Acetate	79-20-9	N.D. Q3	0.002	0.006	0.98
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D. Q3	0.0006	0.006	0.98
10237	4-Methyl-2-pentanone	108-10-1	N.D. Q3	0.004	0.012	0.98
10237	Methylcyclohexane	108-87-2	N.D.	0.001	0.006	0.98
10237	Methylene Chloride	75-09-2	0.003 J Q3	0.002	0.006	0.98
10237	Styrene	100-42-5	N.D.	0.001	0.006	0.98
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D. Q3	0.001	0.006	0.98
10237	Tetrachloroethene	127-18-4	N.D.	0.001	0.006	0.98
10237	Toluene	108-88-3	0.001 J Q3	0.001	0.006	0.98
10237	1,2,4-Trichlorobenzene	120-82-1	N.D. Q2	0.001	0.006	0.98

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP03-S102 Grab Soil
Former Research Library

Project Name: Former Research Laboratory / Chemical Plant

Brightfields, Inc.
ELLE Sample #: SW 9348111
ELLE Group #: 1882308
Matrix: Soil

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 16:22

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	1,1,1-Trichloroethane	71-55-6	N.D.	0.001	0.006	0.98
10237	1,1,2-Trichloroethane	79-00-5	N.D. Q3	0.001	0.006	0.98
10237	Trichloroethene	79-01-6	N.D.	0.001	0.006	0.98
10237	Trichlorofluoromethane	75-69-4	N.D.	0.002	0.006	0.98
10237	Vinyl Chloride	75-01-4	N.D.	0.001	0.006	0.98
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.006	0.98

The secondary vial was analyzed and no valid data was collected during re-analysis. Therefore the matrix effects observed in the initial analysis could not be confirmed. The values reported here are from the initial analysis.

GC/MS Semivolatiles	SW-846 8270C	ug/kg	ug/kg	ug/kg		
10727	Acenaphthene	83-32-9	8 J	4	20	1
10727	Acenaphthylene	208-96-8	31	4	20	1
10727	Acetophenone	98-86-2	N.D.	20	40	1
10727	Anthracene	120-12-7	27	4	20	1
10727	Atrazine	1912-24-9	N.D.	40	200	1
10727	Benzaldehyde	100-52-7	N.D.	80	200	1
10727	Benzo(a)anthracene	56-55-3	91	4	20	1
10727	Benzo(a)pyrene	50-32-8	71	4	20	1
10727	Benzo(b)fluoranthene	205-99-2	120	4	20	1
10727	Benzo(g,h,i)perylene	191-24-2	69	4	20	1
10727	Benzo(k)fluoranthene	207-08-9	47	4	20	1
10727	1,1'-Biphenyl	92-52-4	N.D.	20	40	1
10727	4-Bromophenyl-phenylether	101-55-3	N.D.	20	40	1
10727	Butylbenzylphthalate	85-68-7	N.D.	80	200	1
10727	Di-n-butylphthalate	84-74-2	N.D.	80	200	1
10727	Caprolactam	105-60-2	N.D.	40	200	1
10727	Carbazole	86-74-8	N.D.	20	40	1
10727	4-Chloro-3-methylphenol	59-50-7	N.D.	20	40	1
10727	4-Chloroaniline	106-47-8	N.D.	40	80	1
10727	bis(2-Chloroethoxy)methane	111-91-1	N.D.	20	40	1
10727	bis(2-Chloroethyl)ether	111-44-4	N.D. Q2	20	40	1
10727	2-Chloronaphthalene	91-58-7	N.D.	8	40	1
10727	2-Chlorophenol	95-57-8	N.D.	20	40	1
10727	4-Chlorophenyl-phenylether	7005-72-3	N.D.	20	40	1
10727	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	20	40	1
Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.						
10727	Chrysene	218-01-9	110	4	20	1
10727	Dibenz(a,h)anthracene	53-70-3	19 J	4	20	1
10727	Dibenzofuran	132-64-9	N.D.	20	40	1

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP03-S102 Grab Soil
Former Research Library

Project Name: Former Research Laboratory / Chemical Plant

Brightfields, Inc.
ELLE Sample #: SW 9348111
ELLE Group #: 1882308
Matrix: Soil

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 16:22

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles SW-846 8270C			ug/kg	ug/kg	ug/kg	
10727	3,3'-Dichlorobenzidine	91-94-1	N.D.	120	400	1
10727	2,4-Dichlorophenol	120-83-2	N.D.	20	40	1
10727	Diethylphthalate	84-66-2	N.D.	80	200	1
10727	2,4-Dimethylphenol	105-67-9	N.D.	20	40	1
10727	Dimethylphthalate	131-11-3	N.D.	80	200	1
10727	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	200	600	1
10727	2,4-Dinitrophenol	51-28-5	N.D.	360	1,200	1
10727	2,4-Dinitrotoluene	121-14-2	N.D.	80	200	1
10727	2,6-Dinitrotoluene	606-20-2	N.D.	20	40	1
10727	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	80	200	1
10727	Fluoranthene	206-44-0	140	4	20	1
10727	Fluorene	86-73-7	10 J	4	20	1
10727	Hexachlorobenzene	118-74-1	N.D.	4	20	1
10727	Hexachlorobutadiene	87-68-3	N.D.	20	40	1
10727	Hexachlorocyclopentadiene	77-47-4	N.D. Q1Q2Q9	200	600	1
10727	Hexachloroethane	67-72-1	N.D.	40	200	1
10727	Indeno(1,2,3-cd)pyrene	193-39-5	57	4	20	1
10727	Isophorone	78-59-1	N.D.	20	40	1
10727	2-Methylnaphthalene	91-57-6	23	4	20	1
10727	2-Methylphenol	95-48-7	N.D.	20	40	1
10727	4-Methylphenol	106-44-5	N.D.	20	40	1
3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.						
10727	Naphthalene	91-20-3	67	4	20	1
10727	2-Nitroaniline	88-74-4	N.D.	20	40	1
10727	3-Nitroaniline	99-09-2	N.D.	80	200	1
10727	4-Nitroaniline	100-01-6	N.D.	80	200	1
10727	Nitrobenzene	98-95-3	N.D.	20	40	1
10727	2-Nitrophenol	88-75-5	N.D.	20	40	1
10727	4-Nitrophenol	100-02-7	N.D.	200	600	1
10727	N-Nitroso-di-n-propylamine	621-64-7	N.D.	20	40	1
10727	N-Nitrosodiphenylamine	86-30-6	N.D.	20	40	1
N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.						
10727	Di-n-octylphthalate	117-84-0	N.D.	80	200	1
10727	Pentachlorophenol	87-86-5	N.D.	40	200	1
10727	Phenanthrene	85-01-8	70 Q3	4	20	1
10727	Phenol	108-95-2	N.D.	20	40	1
10727	Pyrene	129-00-0	140 Q3	4	20	1
10727	2,4,5-Trichlorophenol	95-95-4	N.D.	20	40	1
10727	2,4,6-Trichlorophenol	88-06-2	N.D.	20	40	1

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP03-S102 Grab Soil
Former Research Library

Project Name: Former Research Laboratory / Chemical Plant

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 16:22

Brightfields, Inc.
ELLE Sample #: SW 9348111
ELLE Group #: 1882308
Matrix: Soil

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry						
		SM 2540 G-1997	%	%	%	
		%Moisture Calc				
00111	Moisture	n.a.	16.6 Q8	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	X173462AA	12/12/2017 16:51	Linda C Pape	0.98
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733948208	11/30/2017 16:22	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733948208	11/30/2017 16:22	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733948208	11/30/2017 16:22	Client Supplied	1
10727	TCL 8270 (microwave)	SW-846 8270C	1	17341SLA026	12/09/2017 05:39	Anthony P Bauer	1
10809	BNA Soil Microwave	SW-846 3546	1	17341SLA026	12/07/2017 17:05	Ashley R Transue	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17341820002A	12/07/2017 11:15	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP04-S001 Grab Soil
Former Research Library

Project Name: Former Research Laboratory / Chemical Plant

Brightfields, Inc.
ELLE Sample #: SW 9348112
ELLE Group #: 1882308
Matrix: Soil

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 16:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	mg/kg	mg/kg	mg/kg	
10237	Acetone	67-64-1	0.056 Q3	0.008	0.023	1.03
10237	Benzene	71-43-2	N.D. Q3	0.0006	0.006	1.03
10237	Bromodichloromethane	75-27-4	N.D.	0.001	0.006	1.03
10237	Bromoform	75-25-2	N.D.	0.001	0.006	1.03
10237	Bromomethane	74-83-9	N.D.	0.002	0.006	1.03
10237	2-Butanone	78-93-3	N.D. Q3	0.005	0.011	1.03
10237	Carbon Disulfide	75-15-0	0.004 J Q2	0.001	0.006	1.03
10237	Carbon Tetrachloride	56-23-5	N.D.	0.001	0.006	1.03
10237	Chlorobenzene	108-90-7	N.D.	0.001	0.006	1.03
10237	Chloroethane	75-00-3	N.D.	0.002	0.006	1.03
10237	Chloroform	67-66-3	N.D. Q3	0.001	0.006	1.03
10237	Chloromethane	74-87-3	N.D.	0.002	0.006	1.03
10237	Cyclohexane	110-82-7	N.D.	0.001	0.006	1.03
10237	1,2-Dibromo-3-chloropropane	96-12-8	N.D. Q3	0.002	0.006	1.03
10237	Dibromochloromethane	124-48-1	N.D. Q3	0.001	0.006	1.03
10237	1,2-Dibromoethane	106-93-4	N.D. Q3	0.001	0.006	1.03
10237	1,2-Dichlorobenzene	95-50-1	N.D.	0.001	0.006	1.03
10237	1,3-Dichlorobenzene	541-73-1	N.D. Q3	0.001	0.006	1.03
10237	1,4-Dichlorobenzene	106-46-7	N.D.	0.001	0.006	1.03
10237	Dichlorodifluoromethane	75-71-8	N.D.	0.002	0.006	1.03
10237	1,1-Dichloroethane	75-34-3	N.D. Q3	0.001	0.006	1.03
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.006	1.03
10237	1,1-Dichloroethene	75-35-4	N.D. Q3	0.001	0.006	1.03
10237	cis-1,2-Dichloroethene	156-59-2	N.D. Q3	0.001	0.006	1.03
10237	trans-1,2-Dichloroethene	156-60-5	N.D. Q3	0.001	0.006	1.03
10237	1,2-Dichloropropane	78-87-5	N.D. Q3	0.001	0.006	1.03
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.001	0.006	1.03
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.001	0.006	1.03
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.006	1.03
10237	Freon 113	76-13-1	N.D.	0.002	0.011	1.03
10237	2-Hexanone	591-78-6	N.D. Q3	0.003	0.011	1.03
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.006	1.03
10237	Methyl Acetate	79-20-9	N.D. Q3	0.002	0.006	1.03
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D. Q3	0.0006	0.006	1.03
10237	4-Methyl-2-pentanone	108-10-1	N.D. Q3	0.003	0.011	1.03
10237	Methylcyclohexane	108-87-2	N.D.	0.001	0.006	1.03
10237	Methylene Chloride	75-09-2	N.D. Q3	0.002	0.006	1.03
10237	Styrene	100-42-5	N.D.	0.001	0.006	1.03
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D. Q3	0.001	0.006	1.03
10237	Tetrachloroethene	127-18-4	N.D.	0.001	0.006	1.03
10237	Toluene	108-88-3	N.D. Q3	0.001	0.006	1.03
10237	1,2,4-Trichlorobenzene	120-82-1	N.D. Q2	0.001	0.006	1.03

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP04-S001 Grab Soil
Former Research Library

Brightfields, Inc.
ELLE Sample #: SW 9348112
ELLE Group #: 1882308
Matrix: Soil

Project Name: Former Research Laboratory / Chemical Plant

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 16:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	1,1,1-Trichloroethane	71-55-6	N.D.	0.001	0.006	1.03
10237	1,1,2-Trichloroethane	79-00-5	N.D. Q3	0.001	0.006	1.03
10237	Trichloroethene	79-01-6	N.D.	0.001	0.006	1.03
10237	Trichlorofluoromethane	75-69-4	N.D.	0.002	0.006	1.03
10237	Vinyl Chloride	75-01-4	N.D.	0.001	0.006	1.03
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.006	1.03

The recovery for the sample internal standard is outside the QC acceptance limits. The following corrective action was taken:
The sample was re-analyzed and the QC is again outside of the acceptance limits, indicating a matrix effect. The data is reported from the initial trial.

GC/MS Semivolatiles	SW-846 8270C	ug/kg	ug/kg	ug/kg		
10727	Acenaphthene	83-32-9	160	18	93	5
10727	Acenaphthylene	208-96-8	1,400	18	93	5
10727	Acetophenone	98-86-2	N.D.	91	180	5
10727	Anthracene	120-12-7	1,100	18	93	5
10727	Atrazine	1912-24-9	N.D.	180	910	5
10727	Benzaldehyde	100-52-7	N.D.	360	910	5
10727	Benzo(a)anthracene	56-55-3	3,600	18	93	5
10727	Benzo(a)pyrene	50-32-8	3,300	18	93	5
10727	Benzo(b)fluoranthene	205-99-2	4,300	18	93	5
10727	Benzo(g,h,i)perylene	191-24-2	2,300	18	93	5
10727	Benzo(k)fluoranthene	207-08-9	2,000	18	93	5
10727	1,1'-Biphenyl	92-52-4	N.D.	91	180	5
10727	4-Bromophenyl-phenylether	101-55-3	N.D.	91	180	5
10727	Butylbenzylphthalate	85-68-7	N.D.	360	910	5
10727	Di-n-butylphthalate	84-74-2	N.D.	360	910	5
10727	Caprolactam	105-60-2	N.D.	180	910	5
10727	Carbazole	86-74-8	150 J	91	180	5
10727	4-Chloro-3-methylphenol	59-50-7	N.D.	91	180	5
10727	4-Chloroaniline	106-47-8	N.D.	180	360	5
10727	bis(2-Chloroethoxy)methane	111-91-1	N.D.	91	180	5
10727	bis(2-Chloroethyl)ether	111-44-4	N.D. Q2	91	180	5
10727	2-Chloronaphthalene	91-58-7	N.D.	37	180	5
10727	2-Chlorophenol	95-57-8	N.D.	91	180	5
10727	4-Chlorophenyl-phenylether	7005-72-3	N.D.	91	180	5
10727	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	91	180	5
Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.						
10727	Chrysene	218-01-9	4,000	18	93	5
10727	Dibenz(a,h)anthracene	53-70-3	740	18	93	5

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP04-S001 Grab Soil
Former Research Library

Brightfields, Inc.
ELLE Sample #: SW 9348112
ELLE Group #: 1882308
Matrix: Soil

Project Name: Former Research Laboratory / Chemical Plant

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 16:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles		SW-846 8270C	ug/kg	ug/kg	ug/kg	
10727	Dibenzofuran	132-64-9	N.D.	91	180	5
10727	3,3'-Dichlorobenzidine	91-94-1	N.D.	550	1,800	5
10727	2,4-Dichlorophenol	120-83-2	N.D.	91	180	5
10727	Diethylphthalate	84-66-2	N.D.	360	910	5
10727	2,4-Dimethylphenol	105-67-9	N.D.	91	180	5
10727	Dimethylphthalate	131-11-3	N.D.	360	910	5
10727	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	910	2,700	5
10727	2,4-Dinitrophenol	51-28-5	N.D.	1,600	5,500	5
10727	2,4-Dinitrotoluene	121-14-2	N.D.	360	910	5
10727	2,6-Dinitrotoluene	606-20-2	N.D.	91	180	5
10727	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	360	930	5
10727	Fluoranthene	206-44-0	5,600	18	93	5
10727	Fluorene	86-73-7	210	18	93	5
10727	Hexachlorobenzene	118-74-1	N.D.	18	93	5
10727	Hexachlorobutadiene	87-68-3	N.D.	91	180	5
10727	Hexachlorocyclopentadiene	77-47-4	N.D. Q1Q2Q9	910	2,700	5
10727	Hexachloroethane	67-72-1	N.D.	180	910	5
10727	Indeno(1,2,3-cd)pyrene	193-39-5	2,200	18	93	5
10727	Isophorone	78-59-1	N.D.	91	180	5
10727	2-Methylnaphthalene	91-57-6	28 J	18	93	5
10727	2-Methylphenol	95-48-7	N.D.	91	180	5
10727	4-Methylphenol	106-44-5	N.D.	91	180	5
3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.						
10727	Naphthalene	91-20-3	81 J	18	93	5
10727	2-Nitroaniline	88-74-4	N.D.	91	180	5
10727	3-Nitroaniline	99-09-2	N.D.	360	910	5
10727	4-Nitroaniline	100-01-6	N.D.	360	910	5
10727	Nitrobenzene	98-95-3	N.D.	91	180	5
10727	2-Nitrophenol	88-75-5	N.D.	91	180	5
10727	4-Nitrophenol	100-02-7	N.D.	910	2,700	5
10727	N-Nitroso-di-n-propylamine	621-64-7	N.D.	91	180	5
10727	N-Nitrosodiphenylamine	86-30-6	N.D.	91	180	5
N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.						
10727	Di-n-octylphthalate	117-84-0	N.D.	360	910	5
10727	Pentachlorophenol	87-86-5	N.D.	180	930	5
10727	Phenanthrene	85-01-8	2,500 Q3	18	93	5
10727	Phenol	108-95-2	N.D.	91	180	5
10727	Pyrene	129-00-0	5,400 Q3	18	93	5
10727	2,4,5-Trichlorophenol	95-95-4	N.D.	91	180	5

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP04-S001 Grab Soil
Former Research Library

Project Name: Former Research Laboratory / Chemical Plant

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 16:30

Brightfields, Inc.
ELLE Sample #: SW 9348112
ELLE Group #: 1882308
Matrix: Soil

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles						
	SW-846 8270C		ug/kg	ug/kg	ug/kg	
10727	2,4,6-Trichlorophenol	88-06-2	N.D.	91	180	5
Reporting limits were raised due to interference from the sample matrix.						
Wet Chemistry						
	SM 2540 G-1997		%	%	%	
	%Moisture Calc					
00111	Moisture	n.a.	9.8 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	X173462AA	12/12/2017 17:14	Linda C Pape	1.03
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733948208	11/30/2017 16:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733948208	11/30/2017 16:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733948208	11/30/2017 16:30	Client Supplied	1
10727	TCL 8270 (microwave)	SW-846 8270C	1	17341SLA026	12/09/2017 06:03	Anthony P Bauer	5
10809	BNA Soil Microwave	SW-846 3546	1	17341SLA026	12/07/2017 17:05	Ashley R Transue	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17341820002A	12/07/2017 11:15	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP04-S301 MeOH
Former Research Library

Brightfields, Inc.
ELLE Sample #: SW 9348113
ELLE Group #: 1882308
Matrix: MeOH

Project Name: Former Research Laboratory / Chemical Plant

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 16:40

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method	As Received Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	mg/kg		mg/kg	mg/kg	
10237	Acetone	67-64-1	N.D. Q3		0.007	0.020	1
10237	Benzene	71-43-2	N.D. Q3		0.0005	0.005	1
10237	Bromodichloromethane	75-27-4	N.D.		0.001	0.005	1
10237	Bromoform	75-25-2	N.D.		0.001	0.005	1
10237	Bromomethane	74-83-9	N.D.		0.002	0.005	1
10237	2-Butanone	78-93-3	N.D. Q3		0.004	0.010	1
10237	Carbon Disulfide	75-15-0	N.D. Q2		0.001	0.005	1
10237	Carbon Tetrachloride	56-23-5	N.D.		0.001	0.005	1
10237	Chlorobenzene	108-90-7	N.D.		0.001	0.005	1
10237	Chloroethane	75-00-3	N.D.		0.002	0.005	1
10237	Chloroform	67-66-3	N.D. Q3		0.001	0.005	1
10237	Chloromethane	74-87-3	N.D.		0.002	0.005	1
10237	Cyclohexane	110-82-7	N.D.		0.001	0.005	1
10237	1,2-Dibromo-3-chloropropane	96-12-8	N.D. Q3		0.002	0.005	1
10237	Dibromochloromethane	124-48-1	N.D. Q3		0.001	0.005	1
10237	1,2-Dibromoethane	106-93-4	N.D. Q3		0.001	0.005	1
10237	1,2-Dichlorobenzene	95-50-1	N.D.		0.001	0.005	1
10237	1,3-Dichlorobenzene	541-73-1	N.D. Q3		0.001	0.005	1
10237	1,4-Dichlorobenzene	106-46-7	N.D.		0.001	0.005	1
10237	Dichlorodifluoromethane	75-71-8	N.D.		0.002	0.005	1
10237	1,1-Dichloroethane	75-34-3	N.D. Q3		0.001	0.005	1
10237	1,2-Dichloroethane	107-06-2	N.D.		0.001	0.005	1
10237	1,1-Dichloroethene	75-35-4	N.D. Q3		0.001	0.005	1
10237	cis-1,2-Dichloroethene	156-59-2	N.D. Q3		0.001	0.005	1
10237	trans-1,2-Dichloroethene	156-60-5	N.D. Q3		0.001	0.005	1
10237	1,2-Dichloropropane	78-87-5	N.D. Q3		0.001	0.005	1
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.		0.001	0.005	1
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.		0.001	0.005	1
10237	Ethylbenzene	100-41-4	N.D.		0.001	0.005	1
10237	Freon 113	76-13-1	N.D.		0.002	0.010	1
10237	2-Hexanone	591-78-6	N.D. Q3		0.003	0.010	1
10237	Isopropylbenzene	98-82-8	N.D.		0.001	0.005	1
10237	Methyl Acetate	79-20-9	N.D. Q3		0.002	0.005	1
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D. Q3		0.0005	0.005	1
10237	4-Methyl-2-pentanone	108-10-1	N.D. Q3		0.003	0.010	1
10237	Methylcyclohexane	108-87-2	N.D.		0.001	0.005	1
10237	Methylene Chloride	75-09-2	N.D. Q3		0.002	0.005	1
10237	Styrene	100-42-5	N.D.		0.001	0.005	1
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D. Q3		0.001	0.005	1
10237	Tetrachloroethene	127-18-4	N.D.		0.001	0.005	1
10237	Toluene	108-88-3	0.001 J Q3		0.001	0.005	1
10237	1,2,4-Trichlorobenzene	120-82-1	N.D. Q2		0.001	0.005	1

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP04-S301 MeOH
Former Research Library

Brightfields, Inc.
ELLE Sample #: SW 9348113
ELLE Group #: 1882308
Matrix: MeOH

Project Name: Former Research Laboratory / Chemical Plant

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 16:40

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	mg/kg	mg/kg	mg/kg	
10237	1,1,1-Trichloroethane	71-55-6	N.D.	0.001	0.005	1
10237	1,1,2-Trichloroethane	79-00-5	N.D. Q3	0.001	0.005	1
10237	Trichloroethene	79-01-6	N.D.	0.001	0.005	1
10237	Trichlorofluoromethane	75-69-4	N.D.	0.002	0.005	1
10237	Vinyl Chloride	75-01-4	N.D.	0.001	0.005	1
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	X173462AA	12/12/2017 12:52	Linda C Pape	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733948208	11/30/2017 16:40	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733948208	11/30/2017 16:40	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733948208	11/30/2017 16:40	Client Supplied	1

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP05-S001 Grab Soil
Former Research Library

Brightfields, Inc.
ELLE Sample #: SW 9348114
ELLE Group #: 1882308
Matrix: Soil

Project Name: Former Research Laboratory / Chemical Plant

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 16:45

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Acetone	67-64-1	N.D.	0.40	1.2	53.42
10237	Benzene	71-43-2	N.D.	0.029	0.29	53.42
10237	Bromodichloromethane	75-27-4	N.D.	0.058	0.29	53.42
10237	Bromoform	75-25-2	N.D.	0.058	0.29	53.42
10237	Bromomethane	74-83-9	N.D.	0.12	0.29	53.42
10237	2-Butanone	78-93-3	N.D.	0.23	0.58	53.42
10237	Carbon Disulfide	75-15-0	N.D.	0.058	0.29	53.42
10237	Carbon Tetrachloride	56-23-5	N.D.	0.058	0.29	53.42
10237	Chlorobenzene	108-90-7	N.D.	0.058	0.29	53.42
10237	Chloroethane	75-00-3	N.D.	0.12	0.29	53.42
10237	Chloroform	67-66-3	N.D.	0.058	0.29	53.42
10237	Chloromethane	74-87-3	N.D.	0.12	0.29	53.42
10237	Cyclohexane	110-82-7	N.D.	0.058	0.29	53.42
10237	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.12	0.29	53.42
10237	Dibromochloromethane	124-48-1	N.D.	0.058	0.29	53.42
10237	1,2-Dibromoethane	106-93-4	N.D.	0.058	0.29	53.42
10237	1,2-Dichlorobenzene	95-50-1	N.D.	0.058	0.29	53.42
10237	1,3-Dichlorobenzene	541-73-1	N.D.	0.058	0.29	53.42
10237	1,4-Dichlorobenzene	106-46-7	N.D.	0.058	0.29	53.42
10237	Dichlorodifluoromethane	75-71-8	N.D.	0.12	0.29	53.42
10237	1,1-Dichloroethane	75-34-3	N.D.	0.058	0.29	53.42
10237	1,2-Dichloroethane	107-06-2	N.D.	0.058	0.29	53.42
10237	1,1-Dichloroethene	75-35-4	N.D.	0.058	0.29	53.42
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.058	0.29	53.42
10237	trans-1,2-Dichloroethene	156-60-5	N.D.	0.058	0.29	53.42
10237	1,2-Dichloropropane	78-87-5	N.D.	0.058	0.29	53.42
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.058	0.29	53.42
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.058	0.29	53.42
10237	Ethylbenzene	100-41-4	N.D.	0.058	0.29	53.42
10237	Freon 113	76-13-1	N.D.	0.12	0.58	53.42
10237	2-Hexanone	591-78-6	N.D.	0.17	0.58	53.42
10237	Isopropylbenzene	98-82-8	N.D.	0.058	0.29	53.42
10237	Methyl Acetate	79-20-9	N.D.	0.12	0.29	53.42
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.029	0.29	53.42
10237	4-Methyl-2-pentanone	108-10-1	N.D.	0.17	0.58	53.42
10237	Methylcyclohexane	108-87-2	N.D.	0.058	0.29	53.42
10237	Methylene Chloride	75-09-2	N.D.	0.12	0.29	53.42
10237	Styrene	100-42-5	N.D.	0.058	0.29	53.42
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.058	0.29	53.42
10237	Tetrachloroethene	127-18-4	N.D.	0.058	0.29	53.42
10237	Toluene	108-88-3	N.D.	0.058	0.29	53.42
10237	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.058	0.29	53.42

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP05-S001 Grab Soil
Former Research Library

Project Name: Former Research Laboratory / Chemical Plant

Brightfields, Inc.
ELLE Sample #: SW 9348114
ELLE Group #: 1882308
Matrix: Soil

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 16:45

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	1,1,1-Trichloroethane	71-55-6	N.D.	0.058	0.29	53.42
10237	1,1,2-Trichloroethane	79-00-5	N.D.	0.058	0.29	53.42
10237	Trichloroethene	79-01-6	N.D.	0.058	0.29	53.42
10237	Trichlorofluoromethane	75-69-4	N.D.	0.12	0.29	53.42
10237	Vinyl Chloride	75-01-4	N.D.	0.058	0.29	53.42
10237	Xylene (Total)	1330-20-7	N.D.	0.058	0.29	53.42
Reporting limits were raised due to interference from the sample matrix.						
GC/MS Semivolatiles			ug/kg	ug/kg	ug/kg	
SW-846 8270C						
10727	Acenaphthene	83-32-9	4,700	18	91	5
10727	Acenaphthylene	208-96-8	610	18	91	5
10727	Acetophenone	98-86-2	N.D.	90	180	5
10727	Anthracene	120-12-7	13,000	18	91	5
10727	Atrazine	1912-24-9	N.D.	180	900	5
10727	Benzaldehyde	100-52-7	N.D.	360	900	5
10727	Benzo(a)anthracene	56-55-3	19,000	18	91	5
10727	Benzo(a)pyrene	50-32-8	14,000	18	91	5
10727	Benzo(b)fluoranthene	205-99-2	17,000	18	91	5
10727	Benzo(g,h,i)perylene	191-24-2	9,100	18	91	5
10727	Benzo(k)fluoranthene	207-08-9	7,800	18	91	5
10727	1,1'-Biphenyl	92-52-4	700	90	180	5
10727	4-Bromophenyl-phenylether	101-55-3	N.D.	90	180	5
10727	Butylbenzylphthalate	85-68-7	N.D.	360	900	5
10727	Di-n-butylphthalate	84-74-2	N.D.	360	900	5
10727	Caprolactam	105-60-2	N.D.	180	900	5
10727	Carbazole	86-74-8	5,900	90	180	5
10727	4-Chloro-3-methylphenol	59-50-7	N.D.	90	180	5
10727	4-Chloroaniline	106-47-8	N.D.	180	360	5
10727	bis(2-Chloroethoxy)methane	111-91-1	N.D.	90	180	5
10727	bis(2-Chloroethyl)ether	111-44-4	N.D. Q2	90	180	5
10727	2-Chloronaphthalene	91-58-7	N.D.	36	180	5
10727	2-Chlorophenol	95-57-8	N.D.	90	180	5
10727	4-Chlorophenyl-phenylether	7005-72-3	N.D.	90	180	5
10727	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	90	180	5
Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.						
10727	Chrysene	218-01-9	18,000	18	91	5
10727	Dibenz(a,h)anthracene	53-70-3	2,500	18	91	5
10727	Dibenzofuran	132-64-9	4,100	90	180	5
10727	3,3'-Dichlorobenzidine	91-94-1	N.D.	540	1,800	5
10727	2,4-Dichlorophenol	120-83-2	N.D.	90	180	5
10727	Diethylphthalate	84-66-2	N.D.	360	900	5

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP05-S001 Grab Soil
Former Research Library

Project Name: Former Research Laboratory / Chemical Plant

Brightfields, Inc.
ELLE Sample #: SW 9348114
ELLE Group #: 1882308
Matrix: Soil

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 16:45

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles		SW-846 8270C	ug/kg	ug/kg	ug/kg	
10727	2,4-Dimethylphenol	105-67-9	190	90	180	5
10727	Dimethylphthalate	131-11-3	N.D.	360	900	5
10727	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	900	2,700	5
10727	2,4-Dinitrophenol	51-28-5	N.D.	1,600	5,400	5
10727	2,4-Dinitrotoluene	121-14-2	N.D.	360	900	5
10727	2,6-Dinitrotoluene	606-20-2	N.D.	90	180	5
10727	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	360	910	5
10727	Fluoranthene	206-44-0	50,000	90	460	25
10727	Fluorene	86-73-7	5,400	18	91	5
10727	Hexachlorobenzene	118-74-1	N.D.	18	91	5
10727	Hexachlorobutadiene	87-68-3	N.D.	90	180	5
10727	Hexachlorocyclopentadiene	77-47-4	N.D. Q1Q2Q9	900	2,700	5
10727	Hexachloroethane	67-72-1	N.D.	180	900	5
10727	Indeno(1,2,3-cd)pyrene	193-39-5	8,900	18	91	5
10727	Isophorone	78-59-1	N.D.	90	180	5
10727	2-Methylnaphthalene	91-57-6	2,500	18	91	5
10727	2-Methylphenol	95-48-7	120 J	90	180	5
10727	4-Methylphenol	106-44-5	370	90	180	5
3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.						
10727	Naphthalene	91-20-3	7,100	18	91	5
10727	2-Nitroaniline	88-74-4	N.D.	90	180	5
10727	3-Nitroaniline	99-09-2	N.D.	360	900	5
10727	4-Nitroaniline	100-01-6	N.D.	360	900	5
10727	Nitrobenzene	98-95-3	N.D.	90	180	5
10727	2-Nitrophenol	88-75-5	N.D.	90	180	5
10727	4-Nitrophenol	100-02-7	N.D.	900	2,700	5
10727	N-Nitroso-di-n-propylamine	621-64-7	N.D.	90	180	5
10727	N-Nitrosodiphenylamine	86-30-6	N.D.	90	180	5
N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.						
10727	Di-n-octylphthalate	117-84-0	N.D.	360	900	5
10727	Pentachlorophenol	87-86-5	N.D.	180	910	5
10727	Phenanthrene	85-01-8	51,000 Q3	90	460	25
10727	Phenol	108-95-2	190	90	180	5
10727	Pyrene	129-00-0	39,000 Q3	90	460	25
10727	2,4,5-Trichlorophenol	95-95-4	N.D.	90	180	5
10727	2,4,6-Trichlorophenol	88-06-2	N.D.	90	180	5
Wet Chemistry	SM 2540 G-1997		%	%	%	
	%Moisture Calc					

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP05-S001 Grab Soil
Former Research Library

Project Name: Former Research Laboratory / Chemical Plant

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 16:45

Brightfields, Inc.
ELLE Sample #: SW 9348114
ELLE Group #: 1882308
Matrix: Soil

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry		SM 2540 G-1997	%	%	%	
		%Moisture Calc				
00111	Moisture	n.a.	7.3 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	Q173463AA	12/12/2017 23:53	Stephen C Nolte	53.42
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733948208	11/30/2017 16:45	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733948208	11/30/2017 16:45	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733948208	11/30/2017 16:45	Client Supplied	1
10727	TCL 8270 (microwave)	SW-846 8270C	1	17341SLA026	12/09/2017 06:27	Anthony P Bauer	5
10727	TCL 8270 (microwave)	SW-846 8270C	1	17341SLA026	12/10/2017 22:38	Anthony P Bauer	25
10809	BNA Soil Microwave	SW-846 3546	1	17341SLA026	12/07/2017 17:05	Ashley R Transue	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17341820002A	12/07/2017 11:15	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP05-S002 Grab Soil
Former Research Library

Project Name: Former Research Laboratory / Chemical Plant

Brightfields, Inc.
ELLE Sample #: SW 9348115
ELLE Group #: 1882308
Matrix: Soil

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 16:50

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	mg/kg	mg/kg	mg/kg	
10237	Acetone	67-64-1	0.069 Q3	0.008	0.024	0.93
10237	Benzene	71-43-2	N.D. Q3	0.0006	0.006	0.93
10237	Bromodichloromethane	75-27-4	N.D.	0.001	0.006	0.93
10237	Bromoform	75-25-2	N.D.	0.001	0.006	0.93
10237	Bromomethane	74-83-9	N.D.	0.002	0.006	0.93
10237	2-Butanone	78-93-3	N.D. Q3	0.005	0.012	0.93
10237	Carbon Disulfide	75-15-0	N.D. Q2	0.001	0.006	0.93
10237	Carbon Tetrachloride	56-23-5	N.D.	0.001	0.006	0.93
10237	Chlorobenzene	108-90-7	N.D.	0.001	0.006	0.93
10237	Chloroethane	75-00-3	N.D.	0.002	0.006	0.93
10237	Chloroform	67-66-3	N.D. Q3	0.001	0.006	0.93
10237	Chloromethane	74-87-3	N.D.	0.002	0.006	0.93
10237	Cyclohexane	110-82-7	N.D.	0.001	0.006	0.93
10237	1,2-Dibromo-3-chloropropane	96-12-8	N.D. Q3	0.002	0.006	0.93
10237	Dibromochloromethane	124-48-1	N.D. Q3	0.001	0.006	0.93
10237	1,2-Dibromoethane	106-93-4	N.D. Q3	0.001	0.006	0.93
10237	1,2-Dichlorobenzene	95-50-1	N.D.	0.001	0.006	0.93
10237	1,3-Dichlorobenzene	541-73-1	N.D. Q3	0.001	0.006	0.93
10237	1,4-Dichlorobenzene	106-46-7	N.D.	0.001	0.006	0.93
10237	Dichlorodifluoromethane	75-71-8	N.D.	0.002	0.006	0.93
10237	1,1-Dichloroethane	75-34-3	N.D. Q3	0.001	0.006	0.93
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.006	0.93
10237	1,1-Dichloroethene	75-35-4	N.D. Q3	0.001	0.006	0.93
10237	cis-1,2-Dichloroethene	156-59-2	N.D. Q3	0.001	0.006	0.93
10237	trans-1,2-Dichloroethene	156-60-5	N.D. Q3	0.001	0.006	0.93
10237	1,2-Dichloropropane	78-87-5	N.D. Q3	0.001	0.006	0.93
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.001	0.006	0.93
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.001	0.006	0.93
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.006	0.93
10237	Freon 113	76-13-1	N.D.	0.002	0.012	0.93
10237	2-Hexanone	591-78-6	N.D. Q3	0.004	0.012	0.93
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.006	0.93
10237	Methyl Acetate	79-20-9	0.003 J Q3	0.002	0.006	0.93
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D. Q3	0.0006	0.006	0.93
10237	4-Methyl-2-pentanone	108-10-1	N.D. Q3	0.004	0.012	0.93
10237	Methylcyclohexane	108-87-2	N.D.	0.001	0.006	0.93
10237	Methylene Chloride	75-09-2	N.D. Q3	0.002	0.006	0.93
10237	Styrene	100-42-5	N.D.	0.001	0.006	0.93
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D. Q3	0.001	0.006	0.93
10237	Tetrachloroethene	127-18-4	N.D.	0.001	0.006	0.93
10237	Toluene	108-88-3	N.D. Q3	0.001	0.006	0.93
10237	1,2,4-Trichlorobenzene	120-82-1	N.D. Q2	0.001	0.006	0.93

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP05-S002 Grab Soil
Former Research Library

Brightfields, Inc.
ELLE Sample #: SW 9348115
ELLE Group #: 1882308
Matrix: Soil

Project Name: Former Research Laboratory / Chemical Plant

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 16:50

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	mg/kg	mg/kg	mg/kg	
10237	1,1,1-Trichloroethane	71-55-6	N.D.	0.001	0.006	0.93
10237	1,1,2-Trichloroethane	79-00-5	N.D. Q3	0.001	0.006	0.93
10237	Trichloroethene	79-01-6	N.D.	0.001	0.006	0.93
10237	Trichlorofluoromethane	75-69-4	N.D.	0.002	0.006	0.93
10237	Vinyl Chloride	75-01-4	N.D.	0.001	0.006	0.93
10237	Xylene (Total)	1330-20-7	0.001 J	0.001	0.006	0.93
GC/MS Semivolatiles		SW-846 8270C	ug/kg	ug/kg	ug/kg	
10727	Acenaphthene	83-32-9	10 J	4	22	1
10727	Acenaphthylene	208-96-8	28	4	22	1
10727	Acetophenone	98-86-2	N.D.	21	42	1
10727	Anthracene	120-12-7	16 J	4	22	1
10727	Atrazine	1912-24-9	N.D.	42	210	1
10727	Benzaldehyde	100-52-7	N.D.	85	210	1
10727	Benzo(a)anthracene	56-55-3	37	4	22	1
10727	Benzo(a)pyrene	50-32-8	40	4	22	1
10727	Benzo(b)fluoranthene	205-99-2	50	4	22	1
10727	Benzo(g,h,i)perylene	191-24-2	46	4	22	1
10727	Benzo(k)fluoranthene	207-08-9	25	4	22	1
10727	1,1'-Biphenyl	92-52-4	N.D.	21	42	1
10727	4-Bromophenyl-phenylether	101-55-3	N.D.	21	42	1
10727	Butylbenzylphthalate	85-68-7	N.D.	85	210	1
10727	Di-n-butylphthalate	84-74-2	N.D.	85	210	1
10727	Caprolactam	105-60-2	N.D.	42	210	1
10727	Carbazole	86-74-8	N.D.	21	42	1
10727	4-Chloro-3-methylphenol	59-50-7	N.D.	21	42	1
10727	4-Chloroaniline	106-47-8	N.D.	42	85	1
10727	bis(2-Chloroethoxy)methane	111-91-1	N.D.	21	42	1
10727	bis(2-Chloroethyl)ether	111-44-4	N.D. Q2	21	42	1
10727	2-Chloronaphthalene	91-58-7	N.D.	8	42	1
10727	2-Chlorophenol	95-57-8	N.D.	21	42	1
10727	4-Chlorophenyl-phenylether	7005-72-3	N.D.	21	42	1
10727	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	21	42	1
Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.						
10727	Chrysene	218-01-9	48	4	22	1
10727	Dibenz(a,h)anthracene	53-70-3	N.D.	4	22	1
10727	Dibenzofuran	132-64-9	N.D.	21	42	1
10727	3,3'-Dichlorobenzidine	91-94-1	N.D.	130	420	1
10727	2,4-Dichlorophenol	120-83-2	N.D.	21	42	1
10727	Diethylphthalate	84-66-2	N.D.	85	210	1

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP05-S002 Grab Soil
Former Research Library

Project Name: Former Research Laboratory / Chemical Plant

Brightfields, Inc.
ELLE Sample #: SW 9348115
ELLE Group #: 1882308
Matrix: Soil

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 16:50

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles		SW-846 8270C	ug/kg	ug/kg	ug/kg	
10727	2,4-Dimethylphenol	105-67-9	N.D.	21	42	1
10727	Dimethylphthalate	131-11-3	N.D.	85	210	1
10727	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	210	640	1
10727	2,4-Dinitrophenol	51-28-5	N.D.	380	1,300	1
10727	2,4-Dinitrotoluene	121-14-2	N.D.	85	210	1
10727	2,6-Dinitrotoluene	606-20-2	N.D.	21	42	1
10727	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	85	220	1
10727	Fluoranthene	206-44-0	70	4	22	1
10727	Fluorene	86-73-7	12 J	4	22	1
10727	Hexachlorobenzene	118-74-1	N.D.	4	22	1
10727	Hexachlorobutadiene	87-68-3	N.D.	21	42	1
10727	Hexachlorocyclopentadiene	77-47-4	N.D. Q1Q2Q9	210	640	1
10727	Hexachloroethane	67-72-1	N.D.	42	210	1
10727	Indeno(1,2,3-cd)pyrene	193-39-5	29	4	22	1
10727	Isophorone	78-59-1	N.D.	21	42	1
10727	2-Methylnaphthalene	91-57-6	9 J	4	22	1
10727	2-Methylphenol	95-48-7	N.D.	21	42	1
10727	4-Methylphenol	106-44-5	N.D.	21	42	1
3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.						
10727	Naphthalene	91-20-3	19 J	4	22	1
10727	2-Nitroaniline	88-74-4	N.D.	21	42	1
10727	3-Nitroaniline	99-09-2	N.D.	85	210	1
10727	4-Nitroaniline	100-01-6	N.D.	85	210	1
10727	Nitrobenzene	98-95-3	N.D.	21	42	1
10727	2-Nitrophenol	88-75-5	N.D.	21	42	1
10727	4-Nitrophenol	100-02-7	N.D.	210	640	1
10727	N-Nitroso-di-n-propylamine	621-64-7	N.D.	21	42	1
10727	N-Nitrosodiphenylamine	86-30-6	N.D.	21	42	1
N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.						
10727	Di-n-octylphthalate	117-84-0	N.D.	85	210	1
10727	Pentachlorophenol	87-86-5	N.D.	42	220	1
10727	Phenanthrene	85-01-8	53 Q3	4	22	1
10727	Phenol	108-95-2	N.D.	21	42	1
10727	Pyrene	129-00-0	70 Q3	4	22	1
10727	2,4,5-Trichlorophenol	95-95-4	N.D.	21	42	1
10727	2,4,6-Trichlorophenol	88-06-2	N.D.	21	42	1
Wet Chemistry	SM 2540 G-1997		%	%	%	
	%Moisture Calc					

*=This limit was used in the evaluation of the final result

Sample Description: FRL-GP05-S002 Grab Soil
Former Research Library

Project Name: Former Research Laboratory / Chemical Plant

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 16:50

Brightfields, Inc.
ELLE Sample #: SW 9348115
ELLE Group #: 1882308
Matrix: Soil

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry		SM 2540 G-1997	%	%	%	
		%Moisture Calc				
00111	Moisture	n.a.	21.5 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	X173462AA	12/12/2017 17:37	Linda C Pape	0.93
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733948208	11/30/2017 16:50	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733948208	11/30/2017 16:50	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733948208	11/30/2017 16:50	Client Supplied	1
10727	TCL 8270 (microwave)	SW-846 8270C	1	17341SLA026	12/09/2017 06:51	Anthony P Bauer	1
10809	BNA Soil Microwave	SW-846 3546	1	17341SLA026	12/07/2017 17:05	Ashley R Transue	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17341820002A	12/07/2017 11:15	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/14/2017 21:05

Group Number: 1882308

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	MDL**	LOQ
	mg/kg	mg/kg	mg/kg
Batch number: Q173463AA	Sample number(s): 9348114		
Acetone	N.D.	0.35	1.0
Benzene	N.D.	0.025	0.25
Bromodichloromethane	N.D.	0.050	0.25
Bromoform	N.D.	0.050	0.25
Bromomethane	N.D.	0.10	0.25
2-Butanone	N.D.	0.20	0.50
Carbon Disulfide	N.D.	0.050	0.25
Carbon Tetrachloride	N.D.	0.050	0.25
Chlorobenzene	N.D.	0.050	0.25
Chloroethane	N.D.	0.10	0.25
Chloroform	N.D.	0.050	0.25
Chloromethane	N.D.	0.10	0.25
Cyclohexane	N.D.	0.050	0.25
1,2-Dibromo-3-chloropropane	N.D.	0.10	0.25
Dibromochloromethane	N.D.	0.050	0.25
1,2-Dibromoethane	N.D.	0.050	0.25
1,2-Dichlorobenzene	N.D.	0.050	0.25
1,3-Dichlorobenzene	N.D.	0.050	0.25
1,4-Dichlorobenzene	N.D.	0.050	0.25
Dichlorodifluoromethane	N.D.	0.10	0.25
1,1-Dichloroethane	N.D.	0.050	0.25
1,2-Dichloroethane	N.D.	0.050	0.25
1,1-Dichloroethene	N.D.	0.050	0.25
cis-1,2-Dichloroethene	N.D.	0.050	0.25
trans-1,2-Dichloroethene	N.D.	0.050	0.25
1,2-Dichloropropane	N.D.	0.050	0.25
cis-1,3-Dichloropropene	N.D.	0.050	0.25
trans-1,3-Dichloropropene	N.D.	0.050	0.25
Ethylbenzene	N.D.	0.050	0.25
Freon 113	N.D.	0.10	0.50
2-Hexanone	N.D.	0.15	0.50
Isopropylbenzene	N.D.	0.050	0.25
Methyl Acetate	N.D.	0.10	0.25
Methyl Tertiary Butyl Ether	N.D.	0.025	0.25
4-Methyl-2-pentanone	N.D.	0.15	0.50
Methylcyclohexane	N.D.	0.050	0.25
Methylene Chloride	N.D.	0.10	0.25
Styrene	N.D.	0.050	0.25
1,1,1,2-Tetrachloroethane	N.D.	0.050	0.25

*- Outside of specification

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(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/14/2017 21:05

Group Number: 1882308

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	mg/kg	mg/kg	mg/kg
Tetrachloroethene	N.D.	0.050	0.25
Toluene	N.D.	0.050	0.25
1,2,4-Trichlorobenzene	N.D.	0.050	0.25
1,1,1-Trichloroethane	N.D.	0.050	0.25
1,1,2-Trichloroethane	N.D.	0.050	0.25
Trichloroethene	N.D.	0.050	0.25
Trichlorofluoromethane	N.D.	0.10	0.25
Vinyl Chloride	N.D.	0.050	0.25
Xylene (Total)	N.D.	0.050	0.25
Batch number: X173462AA	Sample number(s): 9348103-9348113,9348115		
Acetone	N.D.	0.007	0.020
Benzene	N.D.	0.0005	0.005
Bromodichloromethane	N.D.	0.001	0.005
Bromoform	N.D.	0.001	0.005
Bromomethane	N.D.	0.002	0.005
2-Butanone	N.D.	0.004	0.010
Carbon Disulfide	N.D.	0.001	0.005
Carbon Tetrachloride	N.D.	0.001	0.005
Chlorobenzene	N.D.	0.001	0.005
Chloroethane	N.D.	0.002	0.005
Chloroform	N.D.	0.001	0.005
Chloromethane	N.D.	0.002	0.005
Cyclohexane	N.D.	0.001	0.005
1,2-Dibromo-3-chloropropane	N.D.	0.002	0.005
Dibromochloromethane	N.D.	0.001	0.005
1,2-Dibromoethane	N.D.	0.001	0.005
1,2-Dichlorobenzene	N.D.	0.001	0.005
1,3-Dichlorobenzene	N.D.	0.001	0.005
1,4-Dichlorobenzene	N.D.	0.001	0.005
Dichlorodifluoromethane	N.D.	0.002	0.005
1,1-Dichloroethane	N.D.	0.001	0.005
1,2-Dichloroethane	N.D.	0.001	0.005
1,1-Dichloroethene	N.D.	0.001	0.005
cis-1,2-Dichloroethene	N.D.	0.001	0.005
trans-1,2-Dichloroethene	N.D.	0.001	0.005
1,2-Dichloropropane	N.D.	0.001	0.005
cis-1,3-Dichloropropene	N.D.	0.001	0.005
trans-1,3-Dichloropropene	N.D.	0.001	0.005
Ethylbenzene	N.D.	0.001	0.005
Freon 113	N.D.	0.002	0.010
2-Hexanone	N.D.	0.003	0.010
Isopropylbenzene	N.D.	0.001	0.005
Methyl Acetate	N.D.	0.002	0.005
Methyl Tertiary Butyl Ether	N.D.	0.0005	0.005

*- Outside of specification

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/14/2017 21:05

Group Number: 1882308

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	mg/kg	mg/kg	mg/kg
4-Methyl-2-pentanone	N.D.	0.003	0.010
Methylcyclohexane	N.D.	0.001	0.005
Methylene Chloride	N.D.	0.002	0.005
Styrene	N.D.	0.001	0.005
1,1,2,2-Tetrachloroethane	N.D.	0.001	0.005
Tetrachloroethene	N.D.	0.001	0.005
Toluene	N.D.	0.001	0.005
1,2,4-Trichlorobenzene	N.D.	0.001	0.005
1,1,1-Trichloroethane	N.D.	0.001	0.005
1,1,2-Trichloroethane	N.D.	0.001	0.005
Trichloroethene	N.D.	0.001	0.005
Trichlorofluoromethane	N.D.	0.002	0.005
Vinyl Chloride	N.D.	0.001	0.005
Xylene (Total)	N.D.	0.001	0.005

	ug/kg	ug/kg	ug/kg
Batch number: 17341SLA026	Sample number(s): 9348103-9348112,9348114-9348115		
Acenaphthene	N.D.	3	17
Acenaphthylene	N.D.	3	17
Acetophenone	N.D.	17	33
Anthracene	N.D.	3	17
Atrazine	N.D.	33	170
Benzaldehyde	N.D.	67	170
Benzo(a)anthracene	N.D.	3	17
Benzo(a)pyrene	N.D.	3	17
Benzo(b)fluoranthene	N.D.	3	17
Benzo(g,h,i)perylene	N.D.	3	17
Benzo(k)fluoranthene	N.D.	3	17
1,1'-Biphenyl	N.D.	17	33
4-Bromophenyl-phenylether	N.D.	17	33
Butylbenzylphthalate	N.D.	67	170
Di-n-butylphthalate	N.D.	67	170
Caprolactam	N.D.	33	170
Carbazole	N.D.	17	33
4-Chloro-3-methylphenol	N.D.	17	33
4-Chloroaniline	N.D.	33	67
bis(2-Chloroethoxy)methane	N.D.	17	33
bis(2-Chloroethyl)ether	N.D.	17	33
2-Chloronaphthalene	N.D.	7	33
2-Chlorophenol	N.D.	17	33
4-Chlorophenyl-phenylether	N.D.	17	33
2,2'-oxybis(1-Chloropropane)	N.D.	17	33
Chrysene	N.D.	3	17
Dibenz(a,h)anthracene	N.D.	3	17
Dibenzofuran	N.D.	17	33

*- Outside of specification

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/14/2017 21:05

Group Number: 1882308

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	ug/kg	ug/kg	ug/kg
3,3'-Dichlorobenzidine	N.D.	100	330
2,4-Dichlorophenol	N.D.	17	33
Diethylphthalate	N.D.	67	170
2,4-Dimethylphenol	N.D.	17	33
Dimethylphthalate	N.D.	67	170
4,6-Dinitro-2-methylphenol	N.D.	170	500
2,4-Dinitrophenol	N.D.	300	1,000
2,4-Dinitrotoluene	N.D.	67	170
2,6-Dinitrotoluene	N.D.	17	33
bis(2-Ethylhexyl)phthalate	N.D.	67	170
Fluoranthene	N.D.	3	17
Fluorene	N.D.	3	17
Hexachlorobenzene	N.D.	3	17
Hexachlorobutadiene	N.D.	17	33
Hexachlorocyclopentadiene	N.D.	170	500
Hexachloroethane	N.D.	33	170
Indeno(1,2,3-cd)pyrene	N.D.	3	17
Isophorone	N.D.	17	33
2-Methylnaphthalene	N.D.	3	17
2-Methylphenol	N.D.	17	33
4-Methylphenol	N.D.	17	33
Naphthalene	N.D.	3	17
2-Nitroaniline	N.D.	17	33
3-Nitroaniline	N.D.	67	170
4-Nitroaniline	N.D.	67	170
Nitrobenzene	N.D.	17	33
2-Nitrophenol	N.D.	17	33
4-Nitrophenol	N.D.	170	500
N-Nitroso-di-n-propylamine	N.D.	17	33
N-Nitrosodiphenylamine	N.D.	17	33
Di-n-octylphthalate	N.D.	67	170
Pentachlorophenol	N.D.	33	170
Phenanthrene	N.D.	3	17
Phenol	N.D.	17	33
Pyrene	N.D.	3	17
2,4,5-Trichlorophenol	N.D.	17	33
2,4,6-Trichlorophenol	N.D.	17	33

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/14/2017 21:05

Group Number: 1882308

LCS/LCSD

Analysis Name	LCS Spike Added mg/kg	LCS Conc mg/kg	LCSD Spike Added mg/kg	LCSD Conc mg/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: Q173463AA	Sample number(s): 9348114								
Acetone	7.50	5.59	7.50	5.73	75	76	32-144	2	30
Benzene	1.00	1.08	1.00	1.07	108	107	80-120	1	30
Bromodichloromethane	1.00	0.835	1.00	0.830	84	83	70-120	1	30
Bromoform	1.00	0.583	1.00	0.595	58	60	54-120	2	30
Bromomethane	1.00	1.05	1.00	1.13	105	113	31-160	7	30
2-Butanone	7.50	5.76	7.50	6.14	77	82	49-128	6	30
Carbon Disulfide	1.00	1.16	1.00	1.14	116	114	60-128	2	30
Carbon Tetrachloride	1.00	0.814	1.00	0.782	81	78	62-129	4	30
Chlorobenzene	1.00	0.979	1.00	0.989	98	99	80-120	1	30
Chloroethane	1.00	1.00	1.00	0.988	100	99	43-137	2	30
Chloroform	1.00	1.01	1.00	1.01	101	101	80-120	0	30
Chloromethane	1.00	1.13	1.00	1.12	113	112	56-120	1	30
Cyclohexane	1.00	1.08	1.00	1.06	108	106	58-126	2	30
1,2-Dibromo-3-chloropropane	1.00	0.808	1.00	0.808	81	81	47-126	0	30
Dibromochloromethane	1.00	0.699	1.00	0.703	70	70	65-120	1	30
1,2-Dibromoethane	1.00	0.929	1.00	0.960	93	96	74-120	3	30
1,2-Dichlorobenzene	1.00	0.958	1.00	0.998	96	100	80-120	4	30
1,3-Dichlorobenzene	1.00	0.940	1.00	0.958	94	96	80-120	2	30
1,4-Dichlorobenzene	1.00	0.948	1.00	0.983	95	98	80-120	4	30
Dichlorodifluoromethane	1.00	0.874	1.00	0.855	87	86	10-133	2	30
1,1-Dichloroethane	1.00	1.06	1.00	1.06	106	106	77-120	0	30
1,2-Dichloroethane	1.00	1.03	1.00	1.02	103	102	71-128	1	30
1,1-Dichloroethene	1.00	1.20	1.00	1.19	120	119	73-129	1	30
cis-1,2-Dichloroethene	1.00	1.08	1.00	1.09	108	109	80-120	1	30
trans-1,2-Dichloroethene	1.00	1.14	1.00	1.14	114	114	80-125	1	30
1,2-Dichloropropane	1.00	1.07	1.00	1.08	107	108	76-120	0	30
cis-1,3-Dichloropropene	1.00	0.950	1.00	0.928	95	93	66-120	2	30
trans-1,3-Dichloropropene	1.00	0.879	1.00	0.875	88	87	63-124	0	30
Ethylbenzene	1.00	0.968	1.00	0.963	97	96	80-120	1	30
Freon 113	1.00	1.25	1.00	1.26	125	126	59-139	1	30
2-Hexanone	5.00	4.97	5.00	5.04	99	101	51-131	1	30
Isopropylbenzene	1.00	0.952	1.00	0.947	95	95	76-120	0	30
Methyl Acetate	1.00	1.03	1.00	1.06	103	106	54-146	3	30
Methyl Tertiary Butyl Ether	1.00	1.05	1.00	1.04	105	104	66-123	0	30
4-Methyl-2-pentanone	5.00	5.16	5.00	5.11	103	102	53-134	1	30
Methylcyclohexane	1.00	1.05	1.00	1.04	105	104	61-124	1	30
Methylene Chloride	1.00	1.08	1.00	1.07	108	107	76-122	1	30
Styrene	1.00	0.947	1.00	0.953	95	95	76-120	1	30
1,1,2,2-Tetrachloroethane	1.00	0.953	1.00	0.940	95	94	61-131	1	30
Tetrachloroethene	1.00	0.947	1.00	0.958	95	96	73-120	1	30
Toluene	1.00	0.996	1.00	1.02	100	102	80-120	3	30
1,2,4-Trichlorobenzene	1.00	1.07	1.00	1.04	107	104	62-127	3	30
1,1,1-Trichloroethane	1.00	0.945	1.00	0.923	94	92	61-125	2	30

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P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/14/2017 21:05

Group Number: 1882308

LCS/LCSD (continued)

Analysis Name	LCS Spike Added mg/kg	LCS Conc mg/kg	LCSD Spike Added mg/kg	LCSD Conc mg/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
1,1,2-Trichloroethane	1.00	1.00	1.00	0.998	100	100	80-120	0	30
Trichloroethene	1.00	1.01	1.00	1.01	101	101	80-120	0	30
Trichlorofluoromethane	1.00	0.776	1.00	0.901	78	90	47-132	15	30
Vinyl Chloride	1.00	1.14	1.00	1.10	114	110	59-120	3	30
Xylene (Total)	3.00	2.93	3.00	2.93	98	98	80-120	0	30
Batch number: X173462AA	Sample number(s): 9348103-9348113,9348115								
Acetone	0.150	0.125	0.150	0.137	83	91	32-144	9	30
Benzene	0.0200	0.0166	0.0200	0.0195	83	97	80-120	16	30
Bromodichloromethane	0.0200	0.0159	0.0200	0.0187	79	94	70-120	16	30
Bromoform	0.0200	0.0149	0.0200	0.0174	75	87	54-120	15	30
Bromomethane	0.0200	0.0149	0.0200	0.0172	74	86	31-160	14	30
2-Butanone	0.150	0.122	0.150	0.140	81	93	49-128	14	30
Carbon Disulfide	0.0200	0.0152	0.0200	0.0169	76	84	60-128	10	30
Carbon Tetrachloride	0.0200	0.0158	0.0200	0.0185	79	93	62-129	16	30
Chlorobenzene	0.0200	0.0171	0.0200	0.0198	85	99	80-120	15	30
Chloroethane	0.0200	0.0148	0.0200	0.0176	74	88	43-137	17	30
Chloroform	0.0200	0.0166	0.0200	0.0194	83	97	80-120	15	30
Chloromethane	0.0200	0.0136	0.0200	0.0158	68	79	56-120	15	30
Cyclohexane	0.0200	0.0146	0.0200	0.0170	73	85	58-126	15	30
1,2-Dibromo-3-chloropropane	0.0200	0.0146	0.0200	0.0180	73	90	47-126	21	30
Dibromochloromethane	0.0200	0.0159	0.0200	0.0187	80	93	65-120	16	30
1,2-Dibromoethane	0.0200	0.0165	0.0200	0.0189	82	95	74-120	14	30
1,2-Dichlorobenzene	0.0200	0.0169	0.0200	0.0198	84	99	80-120	16	30
1,3-Dichlorobenzene	0.0200	0.0165	0.0200	0.0197	83	98	80-120	17	30
1,4-Dichlorobenzene	0.0200	0.0169	0.0200	0.0199	85	99	80-120	16	30
Dichlorodifluoromethane	0.0200	0.0114	0.0200	0.0134	57	67	10-133	16	30
1,1-Dichloroethane	0.0200	0.0163	0.0200	0.0191	81	95	77-120	16	30
1,2-Dichloroethane	0.0200	0.0165	0.0200	0.0191	83	95	71-128	14	30
1,1-Dichloroethene	0.0200	0.0165	0.0200	0.0180	83	90	73-129	9	30
cis-1,2-Dichloroethene	0.0200	0.0175	0.0200	0.0203	87	101	80-120	15	30
trans-1,2-Dichloroethene	0.0200	0.0168	0.0200	0.0193	84	96	80-125	14	30
1,2-Dichloropropane	0.0200	0.0169	0.0200	0.0201	85	101	76-120	17	30
cis-1,3-Dichloropropene	0.0200	0.0153	0.0200	0.0182	77	91	66-120	17	30
trans-1,3-Dichloropropene	0.0200	0.0154	0.0200	0.0186	77	93	63-124	19	30
Ethylbenzene	0.0200	0.0168	0.0200	0.0197	84	98	80-120	16	30
Freon 113	0.0200	0.0154	0.0200	0.0168	77	84	59-139	8	30
2-Hexanone	0.100	0.0759	0.100	0.0882	76	88	51-131	15	30
Isopropylbenzene	0.0200	0.0170	0.0200	0.0201	85	101	76-120	17	30
Methyl Acetate	0.0200	0.0158	0.0200	0.0187	79	94	54-146	17	30
Methyl Tertiary Butyl Ether	0.0200	0.0163	0.0200	0.0185	82	93	66-123	13	30
4-Methyl-2-pentanone	0.100	0.0768	0.100	0.0893	77	89	53-134	15	30
Methylcyclohexane	0.0200	0.0163	0.0200	0.0193	81	97	61-124	17	30
Methylene Chloride	0.0200	0.0169	0.0200	0.0194	84	97	76-122	14	30

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/14/2017 21:05

Group Number: 1882308

LCS/LCSD (continued)

Analysis Name	LCS Spike Added mg/kg	LCS Conc mg/kg	LCSD Spike Added mg/kg	LCSD Conc mg/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Styrene	0.0200	0.0171	0.0200	0.0202	86	101	76-120	17	30
1,1,2,2-Tetrachloroethane	0.0200	0.0167	0.0200	0.0195	83	97	61-131	16	30
Tetrachloroethene	0.0200	0.0155	0.0200	0.0179	78	90	73-120	14	30
Toluene	0.0200	0.0168	0.0200	0.0195	84	98	80-120	15	30
1,2,4-Trichlorobenzene	0.0200	0.0151	0.0200	0.0185	76	93	62-127	20	30
1,1,1-Trichloroethane	0.0200	0.0162	0.0200	0.0186	81	93	61-125	14	30
1,1,2-Trichloroethane	0.0200	0.0175	0.0200	0.0202	88	101	80-120	14	30
Trichloroethene	0.0200	0.0161	0.0200	0.0187	80	93	80-120	15	30
Trichlorofluoromethane	0.0200	0.0148	0.0200	0.0171	74	86	47-132	14	30
Vinyl Chloride	0.0200	0.0139	0.0200	0.0162	69	81	59-120	15	30
Xylene (Total)	0.0600	0.0509	0.0600	0.0598	85	100	80-120	16	30
	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 17341SLA026	Sample number(s): 9348103-9348112,9348114-9348115								
Acenaphthene	1666.67	1661.56			100		78-119		
Acenaphthylene	1666.67	1873.69			112		76-119		
Acetophenone	1666.67	1309.73			79		68-115		
Anthracene	1666.67	1573.63			94		82-118		
Atrazine	1666.67	1385.08			83		58-126		
Benzaldehyde	1666.67	1027.22			62		17-129		
Benzo(a)anthracene	1666.67	1555.72			93		76-119		
Benzo(a)pyrene	1666.67	1442.81			87		78-117		
Benzo(b)fluoranthene	1666.67	1451.39			87		74-127		
Benzo(g,h,i)perylene	1666.67	1438.08			86		72-118		
Benzo(k)fluoranthene	1666.67	1397.21			84		71-123		
1,1'-Biphenyl	1666.67	1690.92			101		78-115		
4-Bromophenyl-phenylether	1666.67	1573.16			94		78-122		
Butylbenzylphthalate	1666.67	1709.17			103		75-123		
Di-n-butylphthalate	1666.67	1638.36			98		77-121		
Caprolactam	1666.67	1525.29			92		63-121		
Carbazole	1666.67	1507.5			90		74-118		
4-Chloro-3-methylphenol	1666.67	1722.56			103		70-128		
4-Chloroaniline	1666.67	638.56			38		10-112		
bis(2-Chloroethoxy)methane	1666.67	1407.01			84		69-122		
bis(2-Chloroethyl)ether	1666.67	1217.11			73		68-115		
2-Chloronaphthalene	1666.67	1532.48			92		51-150		
2-Chlorophenol	1666.67	1548.75			93		75-124		
4-Chlorophenyl-phenylether	1666.67	1589.59			95		73-119		
2,2'-oxybis(1-Chloropropane)	1666.67	1513.9			91		53-121		
Chrysene	1666.67	1614.22			97		72-121		
Dibenz(a,h)anthracene	1666.67	1484.88			89		72-129		
Dibenzofuran	1666.67	1620.1			97		79-114		
3,3'-Dichlorobenzidine	1666.67	895.98			54		20-121		
2,4-Dichlorophenol	1666.67	1836.27			110		79-125		

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/14/2017 21:05

Group Number: 1882308

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Diethylphthalate	1666.67	1683.54			101		74-120		
2,4-Dimethylphenol	1666.67	1387.01			83		57-102		
Dimethylphthalate	1666.67	1684.65			101		77-116		
4,6-Dinitro-2-methylphenol	1666.67	1530.31			92		60-128		
2,4-Dinitrophenol	3333.33	3563.55			107		27-136		
2,4-Dinitrotoluene	1666.67	1765.58			106		72-127		
2,6-Dinitrotoluene	1666.67	1783.02			107		80-120		
bis(2-Ethylhexyl)phthalate	1666.67	1611.72			97		73-123		
Fluoranthene	1666.67	1466.6			88		72-120		
Fluorene	1666.67	1545.25			93		75-118		
Hexachlorobenzene	1666.67	1618.34			97		73-120		
Hexachlorobutadiene	1666.67	1561.2			94		72-120		
Hexachlorocyclopentadiene	3333.33	4520.45			136*		30-133		
Hexachloroethane	1666.67	1298.16			78		69-116		
Indeno(1,2,3-cd)pyrene	1666.67	1562.33			94		69-125		
Isophorone	1666.67	1306.65			78		65-120		
2-Methylnaphthalene	1666.67	1636.37			98		77-116		
2-Methylphenol	1666.67	1505.08			90		74-128		
4-Methylphenol	1666.67	1446.17			87		66-121		
Naphthalene	1666.67	1634.98			98		75-113		
2-Nitroaniline	1666.67	1788.91			107		75-130		
3-Nitroaniline	1666.67	1527.74			92		60-125		
4-Nitroaniline	1666.67	1187.62			71		50-112		
Nitrobenzene	1666.67	1352.5			81		70-122		
2-Nitrophenol	1666.67	1850.62			111		77-123		
4-Nitrophenol	1666.67	1374.43			82		44-131		
N-Nitroso-di-n-propylamine	1666.67	1192.67			72		60-123		
N-Nitrosodiphenylamine	1666.67	1477.77			89		83-118		
Di-n-octylphthalate	1666.67	1557.12			93		76-135		
Pentachlorophenol	1666.67	1728.61			104		33-141		
Phenanthrene	1666.67	1540.45			92		74-114		
Phenol	1666.67	1318			79		63-125		
Pyrene	1666.67	1554.59			93		74-112		
2,4,5-Trichlorophenol	1666.67	1818.75			109		79-123		
2,4,6-Trichlorophenol	1666.67	1873.91			112		81-123		
	%	%	%	%					
Batch number: 17341820002A	Sample number(s): 9348103-9348112,9348114-9348115								
Moisture	89.5	89.44			100		99-101		
Moisture	89.5	89.44			100		99-101		
Moisture Duplicate	89.5	89.44			100		99-101		

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/14/2017 21:05

Group Number: 1882308

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: X173462AA	Sample number(s): 9348103-9348113,9348115 UNSPK: 9348103									
Acetone	0.131	0.146	0.368	0.151	0.343	162*	141	32-144	7	30
Benzene	N.D.	0.0195	0.0237	0.0201	0.0232	121*	116	80-120	2	30
Bromodichloromethane	N.D.	0.0195	0.0211	0.0201	0.0209	108	104	70-120	1	30
Bromoform	N.D.	0.0195	0.0205	0.0201	0.0190	105	95	54-120	7	30
Bromomethane	N.D.	0.0195	0.0213	0.0201	0.0200	109	100	31-160	6	30
2-Butanone	0.0128	0.146	0.240	0.151	0.208	156*	129*	49-128	15	30
Carbon Disulfide	0.0336	0.0195	0.0248	0.0201	0.0322	-44*	-6*	60-128	26	30
Carbon Tetrachloride	N.D.	0.0195	0.0228	0.0201	0.0231	117	115	62-129	1	30
Chlorobenzene	N.D.	0.0195	0.0225	0.0201	0.0230	116	114	80-120	2	30
Chloroethane	N.D.	0.0195	0.0224	0.0201	0.0212	115	106	43-137	6	30
Chloroform	N.D.	0.0195	0.0236	0.0201	0.0228	121*	114	80-120	3	30
Chloromethane	N.D.	0.0195	0.0200	0.0201	0.0190	103	95	56-120	5	30
Cyclohexane	N.D.	0.0195	0.0184	0.0201	0.0200	94	99	58-126	8	30
1,2-Dibromo-3-chloropropane	N.D.	0.0195	0.0272	0.0201	0.0260	139*	129*	47-126	4	30
Dibromochloromethane	N.D.	0.0195	0.0243	0.0201	0.0227	125*	113	65-120	7	30
1,2-Dibromoethane	N.D.	0.0195	0.0259	0.0201	0.0237	133*	118	74-120	9	30
1,2-Dichlorobenzene	N.D.	0.0195	0.0214	0.0201	0.0234	110	117	80-120	9	30
1,3-Dichlorobenzene	N.D.	0.0195	0.0218	0.0201	0.0244	112	121*	80-120	11	30
1,4-Dichlorobenzene	N.D.	0.0195	0.0220	0.0201	0.0241	113	120	80-120	9	30
Dichlorodifluoromethane	N.D.	0.0195	0.0182	0.0201	0.0171	93	85	10-133	6	30
1,1-Dichloroethane	N.D.	0.0195	0.0237	0.0201	0.0230	121*	115	77-120	3	30
1,2-Dichloroethane	N.D.	0.0195	0.0237	0.0201	0.0228	122	113	71-128	4	30
1,1-Dichloroethene	N.D.	0.0195	0.0256	0.0201	0.0248	131*	123	73-129	3	30
cis-1,2-Dichloroethene	N.D.	0.0195	0.0249	0.0201	0.0240	128*	119	80-120	4	30
trans-1,2-Dichloroethene	N.D.	0.0195	0.0245	0.0201	0.0237	126*	118	80-125	3	30
1,2-Dichloropropane	N.D.	0.0195	0.0237	0.0201	0.0228	121*	114	76-120	3	30
cis-1,3-Dichloropropene	N.D.	0.0195	0.0186	0.0201	0.0190	95	95	66-120	2	30
trans-1,3-Dichloropropene	N.D.	0.0195	0.0225	0.0201	0.0220	115	110	63-124	2	30
Ethylbenzene	N.D.	0.0195	0.0230	0.0201	0.0236	118	117	80-120	3	30
Freon 113	N.D.	0.0195	0.0217	0.0201	0.0229	111	114	59-139	5	30
2-Hexanone	N.D.	0.0975	0.160	0.100	0.134	165*	133*	51-131	18	30
Isopropylbenzene	N.D.	0.0195	0.0206	0.0201	0.0217	106	108	76-120	5	30
Methyl Acetate	N.D.	0.0195	0.0286	0.0201	0.0236	147*	117	54-146	19	30
Methyl Tertiary Butyl Ether	N.D.	0.0195	0.0243	0.0201	0.0229	125*	114	66-123	6	30
4-Methyl-2-pentanone	N.D.	0.0975	0.138	0.100	0.120	142*	120	53-134	14	30
Methylcyclohexane	N.D.	0.0195	0.0159	0.0201	0.0163	82	81	61-124	2	30
Methylene Chloride	0.00316	0.0195	0.0335	0.0201	0.0285	156*	126*	76-122	16	30
Styrene	N.D.	0.0195	0.0200	0.0201	0.0213	103	106	76-120	6	30
1,1,1,2-Tetrachloroethane	N.D.	0.0195	0.0354	0.0201	0.0333	182*	166*	61-131	6	30
Tetrachloroethene	0.00168	0.0195	0.0241	0.0201	0.0244	115	113	73-120	1	30
Toluene	N.D.	0.0195	0.0260	0.0201	0.0262	133*	130*	80-120	1	30

*- Outside of specification

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(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/14/2017 21:05

Group Number: 1882308

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
1,2,4-Trichlorobenzene	N.D.	0.0195	0.00871	0.0201	0.0115	45*	57*	62-127	28	30
1,1,1-Trichloroethane	N.D.	0.0195	0.0223	0.0201	0.0231	114	115	61-125	4	30
1,1,2-Trichloroethane	N.D.	0.0195	0.0277	0.0201	0.0255	142*	127*	80-120	8	30
Trichloroethene	N.D.	0.0195	0.0217	0.0201	0.0218	111	109	80-120	1	30
Trichlorofluoromethane	N.D.	0.0195	0.0229	0.0201	0.0222	118	110	47-132	3	30
Vinyl Chloride	N.D.	0.0195	0.0211	0.0201	0.0203	108	101	59-120	4	30
Xylene (Total)	N.D.	0.0585	0.0663	0.0602	0.0696	113	115	80-120	5	30
	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 17341SLA026	Sample number(s): 9348103-9348112,9348114-9348115 UNSPK: 9348103									
Acenaphthene	19.98	1656.73	1674.08	1660.03	1589.55	100	95	78-119	5	30
Acenaphthylene	146.71	1656.73	2002.78	1660.03	1938.69	112	108	76-119	3	30
Acetophenone	N.D.	1656.73	1386.22	1660.03	1274.63	84	77	68-115	8	30
Anthracene	85.25	1656.73	1808.13	1660.03	1671.31	104	96	82-118	8	30
Atrazine	N.D.	1656.73	1379.84	1660.03	1349.2	83	81	58-126	2	30
Benzaldehyde	N.D.	1656.73	1158.57	1660.03	1091.61	70	66	17-129	6	30
Benzo(a)anthracene	308.94	1656.73	2094.65	1660.03	1932.03	108	98	76-119	8	30
Benzo(a)pyrene	299.6	1656.73	1975.56	1660.03	1731.28	101	86	78-117	13	30
Benzo(b)fluoranthene	403.46	1656.73	1991.3	1660.03	1843.19	96	87	74-127	8	30
Benzo(g,h,i)perylene	271.58	1656.73	1849.6	1660.03	1838.1	95	94	72-118	1	30
Benzo(k)fluoranthene	148.57	1656.73	1730.05	1660.03	1699.96	95	93	71-123	2	30
1,1'-Biphenyl	N.D.	1656.73	1665.35	1660.03	1689.59	101	102	78-115	1	30
4-Bromophenyl-phenylether	N.D.	1656.73	1708.09	1660.03	1667.62	103	100	78-122	2	30
Butylbenzylphthalate	N.D.	1656.73	1860.11	1660.03	1859.57	112	112	75-123	0	30
Di-n-butylphthalate	N.D.	1656.73	1678	1660.03	1599.72	101	96	77-121	5	30
Caprolactam	N.D.	1656.73	1222.16	1660.03	1302.68	74	78	63-121	6	30
Carbazole	N.D.	1656.73	1615.28	1660.03	1476.47	97	89	74-118	9	30
4-Chloro-3-methylphenol	N.D.	1656.73	1475.28	1660.03	1473.29	89	89	70-128	0	30
4-Chloroaniline	N.D.	1656.73	915.27	1660.03	852.92	55	51	10-112	7	30
bis(2-Chloroethoxy)methane	N.D.	1656.73	1386.93	1660.03	1280.75	84	77	69-122	8	30
bis(2-Chloroethyl)ether	N.D.	1656.73	1281.84	1660.03	1110.55	77	67*	68-115	14	30
2-Chloronaphthalene	N.D.	1656.73	1502.6	1660.03	1855.5	91	112	51-150	21	30
2-Chlorophenol	N.D.	1656.73	1504.89	1660.03	1303.17	91	79	75-124	14	30
4-Chlorophenyl-phenylether	N.D.	1656.73	1462.01	1660.03	1482.31	88	89	73-119	1	30
2,2'-oxybis(1-Chloropropane)	N.D.	1656.73	1620.13	1660.03	1407.76	98	85	53-121	14	30
Chrysene	325.41	1656.73	2220.38	1660.03	1961.68	114	99	72-121	12	30
Dibenz(a,h)anthracene	70.57	1656.73	1601.65	1660.03	1619.67	92	93	72-129	1	30
Dibenzofuran	N.D.	1656.73	1495.88	1660.03	1417.38	90	85	79-114	5	30
3,3'-Dichlorobenzidine	N.D.	1656.73	1264.19	1660.03	1250.01	76	75	20-121	1	30
2,4-Dichlorophenol	N.D.	1656.73	1616.44	1660.03	1644.15	98	99	79-125	2	30
Diethylphthalate	N.D.	1656.73	1560.91	1660.03	1569.29	94	95	74-120	1	30
2,4-Dimethylphenol	N.D.	1656.73	1258.36	1660.03	1082.07	76	65	57-102	15	30
Dimethylphthalate	N.D.	1656.73	1607.32	1660.03	1475.56	97	89	77-116	9	30

*- Outside of specification

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(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/14/2017 21:05

Group Number: 1882308

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
4,6-Dinitro-2-methylphenol	N.D.	1656.73	1520.32	1660.03	1350.77	92	81	60-128	12	30
2,4-Dinitrophenol	N.D.	3313.45	1918.41	3320.05	2004.89	58	60	27-136	4	30
2,4-Dinitrotoluene	N.D.	1656.73	1528.27	1660.03	1687.69	92	102	72-127	10	30
2,6-Dinitrotoluene	N.D.	1656.73	1618.68	1660.03	1607.67	98	97	80-120	1	30
bis(2-Ethylhexyl)phthalate	N.D.	1656.73	1721.63	1660.03	1643.09	104	99	73-123	5	30
Fluoranthene	392.12	1656.73	2330.62	1660.03	2198.37	117	109	72-120	6	30
Fluorene	21.27	1656.73	1638.18	1660.03	1453.91	98	86	75-118	12	30
Hexachlorobenzene	N.D.	1656.73	1739.74	1660.03	1735.73	105	105	73-120	0	30
Hexachlorobutadiene	N.D.	1656.73	1699.77	1660.03	1492.38	103	90	72-120	13	30
Hexachlorocyclopentadiene	N.D.	3313.45	1266.2	3320.05	N.D.	38	0*	30-133	200*	30
Hexachloroethane	N.D.	1656.73	1466.88	1660.03	1259.67	89	76	69-116	15	30
Indeno(1,2,3-cd)pyrene	222.42	1656.73	1861.43	1660.03	1799.29	99	95	69-125	3	30
Isophorone	N.D.	1656.73	1282.48	1660.03	1180.43	77	71	65-120	8	30
2-Methylnaphthalene	25.15	1656.73	1522.85	1660.03	1473.76	90	87	77-116	3	30
2-Methylphenol	N.D.	1656.73	1443.98	1660.03	1299.08	87	78	74-128	11	30
4-Methylphenol	N.D.	1656.73	1453.38	1660.03	1211.66	88	73	66-121	18	30
Naphthalene	20.04	1656.73	1564.66	1660.03	1576.11	93	94	75-113	1	30
2-Nitroaniline	N.D.	1656.73	1762.48	1660.03	1660.37	106	100	75-130	6	30
3-Nitroaniline	N.D.	1656.73	1584.47	1660.03	1545.75	96	93	60-125	2	30
4-Nitroaniline	N.D.	1656.73	1293.43	1660.03	1252.84	78	75	50-112	3	30
Nitrobenzene	N.D.	1656.73	1300.39	1660.03	1281.55	78	77	70-122	1	30
2-Nitrophenol	N.D.	1656.73	1632.67	1660.03	1431.97	99	86	77-123	13	30
4-Nitrophenol	N.D.	1656.73	1139.59	1660.03	1035.12	69	62	44-131	10	30
N-Nitroso-di-n-propylamine	N.D.	1656.73	1345.85	1660.03	1136.02	81	68	60-123	17	30
N-Nitrosodiphenylamine	N.D.	1656.73	1609.33	1660.03	1548.44	97	93	83-118	4	30
Di-n-octylphthalate	N.D.	1656.73	1494.98	1660.03	1446.24	90	87	76-135	3	30
Pentachlorophenol	N.D.	1656.73	1297.59	1660.03	1184.21	78	71	33-141	9	30
Phenanthrene	131.31	1656.73	2190.01	1660.03	1920	124*	108	74-114	13	30
Phenol	N.D.	1656.73	1350.36	1660.03	1166.15	82	70	63-125	15	30
Pyrene	460.82	1656.73	2537.83	1660.03	2224.69	125*	106	74-112	13	30
2,4,5-Trichlorophenol	N.D.	1656.73	1681.37	1660.03	1441.27	101	87	79-123	15	30
2,4,6-Trichlorophenol	N.D.	1656.73	1759.93	1660.03	1348.71	106	81	81-123	26	30

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc %	DUP Conc %	DUP RPD	DUP RPD Max
Batch number: 17341820002A	Sample number(s): 9348103-9348112,9348114-9348115 BKG: 9348103, P348103			

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/14/2017 21:05

Group Number: 1882308

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc %	DUP Conc %	DUP RPD	DUP RPD Max
Moisture	18.7	20.82	11*	5
Moisture	18.7	20.82	11*	5
Moisture Duplicate	18.7	20.82	11*	5

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report. For dual column analyses, the surrogate (at least one surrogate for multi-surrogate tests) must be within the acceptance limits on at least one of the two columns.

Analysis Name: VOCs- Solid by 8260B
Batch number: Q173463AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9348114	69	79	73	67
Blank	92	101	93	84
LCS	111	120	109	93
LCSD	110	115	110	94
Limits:	50-141	54-135	52-141	50-131

Analysis Name: VOCs- Solid by 8260B
Batch number: X173462AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9348103	104	107	102	75
9348104	105	113	113	85
9348105	101	104	113	85
9348106	105	106	108	72
9348107	108	108	117	56
9348108	108	110	104	75
9348109	111	114	105	69
9348110	110	110	100	75
9348111	112	112	116	63
9348112	108	108	103	75
9348113	105	109	96	91
9348115	105	106	99	85
Blank	101	102	99	90
LCS	100	104	101	100
LCSD	99	101	101	100
MS	105	113	113	85
MSD	101	104	113	85

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/14/2017 21:05

Group Number: 1882308

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report. For dual column analyses, the surrogate (at least one surrogate for multi-surrogate tests) must be within the acceptance limits on at least one of the two columns.

Analysis Name: VOCs- Solid by 8260B
Batch number: X173462AA

Limits: 50-141 54-135 52-141 50-131

Analysis Name: TCL 8270 (microwave)
Batch number: 17341SLA026

	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
9348103	79	82	104	75	97	98
9348104	80	88	96	72	100	97
9348105	66	75	80	69	99	96
9348106	66	71	68	69	94	86
9348107	63	72	95	71	92	87
9348108	73	80	87	74	103	96
9348109	78	87	111	75	103	94
9348110	72	79	90	70	96	98
9348111	70	78	95	74	106	99
9348112	61	67	99	67	91	92
9348114	70	79	99	71	101	95
9348115	68	81	109	74	99	99
Blank	69	80	137*	76	98	101
LCS	79	87	126	76	99	98
MS	80	88	96	72	100	97
MSD	66	75	80	69	99	96
Limits:	46-125	51-123	34-129	49-118	57-116	55-118

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.



Client: Brightfields

Delivery and Receipt Information

Delivery Method: ELLE Courier Arrival Timestamp: 12/04/2017 17:25
 Number of Packages: 2 Number of Projects: 1
 State/Province of Origin: PA

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace \geq 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	3
Paperwork Enclosed:	Yes	Trip Blank Type:	See Below
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Trip Blank Type(s): 1 MeOH, 2 Sodium Bisulfate

Unpacked by Timothy Cubberley (6520) at 06:18 on 12/05/2017

Samples Chilled Details

Thermometer Types: *DT = Digital (Temp. Bottle)* *IR = Infrared (Surface Temp)* *All Temperatures in °C.*

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT42-03	4.9	DT	Wet	Y	Bagged	N
2	DT42-03	3.5	DT	Wet	Y	Bagged	N

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	mg	milligram(s)
C	degrees Celsius	mL	milliliter(s)
cfu	colony forming units	MPN	Most Probable Number
CP Units	cobalt-chloroplatinate units	N.D.	non-detect
F	degrees Fahrenheit	ng	nanogram(s)
g	gram(s)	NTU	nephelometric turbidity units
IU	International Units	pg/L	picogram/liter
kg	kilogram(s)	RL	Reporting Limit
L	liter(s)	TNTC	Too Numerous To Count
lb.	pound(s)	µg	microgram(s)
m3	cubic meter(s)	µL	microliter(s)
meq	milliequivalents	umhos/cm	micromhos/cm
<	less than		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
J (or G, I, X)	Estimated value \geq the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report
B	Detection in the Blank
Q0	LCS/LCSD Low
Q1	LCS/LCSD High
Q2	MS/MSD Low
Q3	MS/MSD High
Q7	LCS/LCSD RPD
Q8	DUP RPD
Q9	MS/MSD RPD

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Appendix E.5

Eurofins Analytical Data Packages Klingel Cleaners and West Main Street PCE Sites



ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Brightfields, Inc.
801 Industrial St.
Suite 1
Wilmington DE 19801

Report Date: December 12, 2017 21:26

Project: Klingel Cleaners and West Main Street PCE Sites

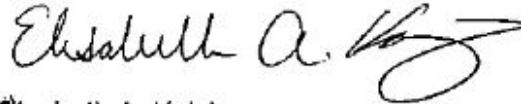
Account #: 04549
Group Number: 1881302
PO Number: 14726
State of Sample Origin: PA

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/>. To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To Brightfields, Inc.
Electronic Copy To Brightfields, Inc.

Attn: James Thompson
Attn: Victoria Bisbing

Respectfully Submitted,



Elisabeth A. Knisley
Project Manager

(717) 556-7262



SAMPLE INFORMATION

<u>Client Sample Description</u>	<u>Sample Collection Date/Time</u>	<u>ELLE#</u>
WMP-GP01-S001 Grab Soil	11/29/2017 15:30	9343128
WMP-GP01-S002 Grab Soil	11/29/2017 15:40	9343129
WMP-GP01-W001 Grab Groundwater	11/29/2017 16:10	9343130
WMP-GP02-S001 Grab Soil	11/30/2017 08:10	9343131
WMP-GP02-S001 MS Grab Soil	11/30/2017 08:10	9343132
WMP-GP02-S001 MSD Grab Soil	11/30/2017 08:10	9343133
WMP-GP02-S002 Grab Soil	11/30/2017 08:20	9343134
WMP-GP02-W001 Grab Groundwater	11/30/2017 08:45	9343135
WMP-GP02-W001 MS Grab Groundwater	11/30/2017 08:45	9343136
WMP-GP02-W001 MSD Grab Groundwater	11/30/2017 08:45	9343137
WMP-GP03-S001 Grab Soil	11/30/2017 09:30	9343138
WMP-GP03-S002 Grab Soil	11/30/2017 09:40	9343139
WMP-GP04-S001 Grab Soil	11/30/2017 10:18	9343140
WMP-GP04-S101 Grab Soil	11/30/2017 10:20	9343141
WMP-GP04-S002 Grab Soil	11/30/2017 10:30	9343142
WMP-GP03-W001 Grab Groundwater	11/30/2017 09:50	9343143
WMP-GP04-W001 Grab Groundwater	11/30/2017 10:40	9343144
WMP-GP04-W101 Grab Groundwater	11/30/2017 10:42	9343145
WMP-GP04-W301 Water	11/30/2017 10:45	9343146
WMP-GP04-S301 MeOH	11/30/2017 10:50	9343147

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Sample Description: WMP-GP01-S001 Grab Soil
West Main Street PCE

Project Name: Klingel Cleaners and West Main Street PCE Sites

Submission Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/29/2017 15:30

Brightfields, Inc.
ELLE Sample #: SW 9343128
ELLE Group #: 1881302
Matrix: Soil

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	mg/kg	mg/kg	mg/kg	
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.001	0.005	0.86
10237	Tetrachloroethene	127-18-4	0.002 J Q3	0.001	0.005	0.86
10237	Trichloroethene	79-01-6	N.D.	0.001	0.005	0.86
10237	Vinyl Chloride	75-01-4	N.D. Q3	0.001	0.005	0.86
Wet Chemistry		SM 2540 G-1997	%	%	%	
		%Moisture Calc				
00111	Moisture	n.a.	12.0 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	TCE/PCE/VC/cis-1,2-DCE	SW-846 8260B	1	X173391AA	12/05/2017 13:03	Linda C Pape	0.86
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733548159	11/29/2017 15:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733548159	11/29/2017 15:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733548159	11/29/2017 15:30	Client Supplied	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17340820005A	12/06/2017 13:04	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: WMP-GP01-S002 Grab Soil
West Main Street PCE

Project Name: Klingel Cleaners and West Main Street PCE Sites

Submittal Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/29/2017 15:40

Brightfields, Inc.
ELLE Sample #: SW 9343129
ELLE Group #: 1881302
Matrix: Soil

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B			
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.001 mg/kg	0.005 mg/kg	0.91
10237	Tetrachloroethene	127-18-4	0.022 Q3	0.001 mg/kg	0.005 mg/kg	0.91
10237	Trichloroethene	79-01-6	N.D.	0.001 mg/kg	0.005 mg/kg	0.91
10237	Vinyl Chloride	75-01-4	N.D. Q3	0.001 mg/kg	0.005 mg/kg	0.91
Wet Chemistry			SM 2540 G-1997			
			%Moisture Calc			
00111	Moisture	n.a.	10.8 Q8	0.50 %	0.50 %	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	TCE/PCE/VC/cis-1,2-DCE	SW-846 8260B	1	X173391AA	12/05/2017 13:27	Linda C Pape	0.91
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733548159	11/29/2017 15:40	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733548159	11/29/2017 15:40	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733548159	11/29/2017 15:40	Client Supplied	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17340820005A	12/06/2017 13:04	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: WMP-GP01-W001 Grab Groundwater
West Main Street PCE

Brightfields, Inc.
ELLE Sample #: WW 9343130
ELLE Group #: 1881302
Matrix: Groundwater

Project Name: Klingel Cleaners and West Main Street PCE Sites

Submittal Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/29/2017 16:10

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10335	cis-1,2-Dichloroethene	156-59-2	N.D.	0.5	1	1
10335	Tetrachloroethene	127-18-4	2	0.5	1	1
10335	Trichloroethene	79-01-6	N.D.	0.5	1	1
10335	Vinyl Chloride	75-01-4	N.D.	0.5	1	1
GC Miscellaneous		RSKSOP-175 modified	ug/l	ug/l	ug/l	
07105	Ethene	74-85-1	N.D.	1.0	5.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs- 5ml Water by 8260B	SW-846 8260B	1	P173422AA	12/08/2017 12:48	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P173422AA	12/08/2017 12:48	Daniel H Heller	1
07105	Volatile Headspace Hydrocarbon	RSKSOP-175 modified	1	173380008A	12/04/2017 12:36	Johanna C Kennedy	1

*=This limit was used in the evaluation of the final result

Sample Description: WMP-GP02-S001 Grab Soil
West Main Street PCE

Brightfields, Inc.
ELLE Sample #: SW 9343131
ELLE Group #: 1881302
Matrix: Soil

Project Name: Klingel Cleaners and West Main Street PCE Sites

Submittal Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/30/2017 08:10

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	mg/kg	mg/kg	mg/kg	
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.001	0.005	0.88
10237	Tetrachloroethene	127-18-4	0.015 Q3	0.001	0.005	0.88
10237	Trichloroethene	79-01-6	N.D.	0.001	0.005	0.88
10237	Vinyl Chloride	75-01-4	N.D. Q3	0.001	0.005	0.88

The recovery for the sample internal standard is outside the QC acceptance limits. The following corrective action was taken: Similar results were obtained for the internal standard in the background, matrix spike and matrix spike duplicate indicating a matrix effect.

Wet Chemistry		SM 2540 G-1997	%	%	%	
		%Moisture Calc				
00111	Moisture	n.a.	19.0 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	TCE/PCE/VC/cis-1,2-DCE	SW-846 8260B	1	X173391AA	12/05/2017 13:50	Linda C Pape	0.88
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733548159	11/30/2017 08:10	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733548159	11/30/2017 08:10	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733548159	11/30/2017 08:10	Client Supplied	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17340820005A	12/06/2017 13:04	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: WMP-GP02-S001 MS Grab Soil
West Main Street PCE

Project Name: Klingel Cleaners and West Main Street PCE Sites

Submission Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/30/2017 08:10

Brightfields, Inc.
ELLE Sample #: SW 9343132
ELLE Group #: 1881302
Matrix: Soil

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	cis-1,2-Dichloroethene	156-59-2	0.025	0.001	0.006	1.02
10237	Tetrachloroethene	127-18-4	0.054 Q3	0.001	0.006	1.02
10237	Trichloroethene	79-01-6	0.024	0.001	0.006	1.02
10237	Vinyl Chloride	75-01-4	0.025 Q3	0.001	0.006	1.02
Wet Chemistry			SM 2540 G-1997	%	%	
			%Moisture Calc			
00118	Moisture	n.a.	19.0 Q8	0.50	0.50	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	TCE/PCE/VC/cis-1,2-DCE	SW-846 8260B	1	X173391AA	12/05/2017 14:13	Linda C Pape	1.02
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733548159	11/30/2017 08:10	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733548159	11/30/2017 08:10	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733548159	11/30/2017 08:10	Client Supplied	1
00118	Moisture	SM 2540 G-1997 %Moisture Calc	1	17340820005A	12/06/2017 13:04	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: WMP-GP02-S001 MSD Grab Soil
West Main Street PCE

Brightfields, Inc.
ELLE Sample #: SW 9343133
ELLE Group #: 1881302
Matrix: Soil

Project Name: Klingel Cleaners and West Main Street PCE Sites

Submission Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/30/2017 08:10

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	cis-1,2-Dichloroethene	156-59-2	0.028	0.001	0.006	0.97
10237	Tetrachloroethene	127-18-4	0.054 Q3	0.001	0.006	0.97
10237	Trichloroethene	79-01-6	0.028	0.001	0.006	0.97
10237	Vinyl Chloride	75-01-4	0.034 Q3	0.001	0.006	0.97
Wet Chemistry			SM 2540 G-1997	%	%	
			%Moisture Calc			
00118	Moisture	n.a.	19.0 Q8	0.50	0.50	1
00121	Moisture Duplicate	n.a.	17.6 Q8	0.50	0.50	1
The duplicate moisture value is provided to assess the precision of the moisture test. For comparability purposes, the initial moisture determination is the value used to perform dry weight calculations.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	TCE/PCE/VC/cis-1,2-DCE	SW-846 8260B	1	X173391AA	12/05/2017 14:36	Linda C Pape	0.97
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733548159	11/30/2017 08:10	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733548159	11/30/2017 08:10	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733548159	11/30/2017 08:10	Client Supplied	1
00118	Moisture	SM 2540 G-1997 %Moisture Calc	1	17340820005A	12/06/2017 13:04	Larry E Bevins	1
00121	Moisture Duplicate	SM 2540 G-1997 %Moisture Calc	1	17340820005A	12/06/2017 13:04	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: WMP-GP02-S002 Grab Soil
West Main Street PCE

Brightfields, Inc.
ELLE Sample #: SW 9343134
ELLE Group #: 1881302
Matrix: Soil

Project Name: Klingel Cleaners and West Main Street PCE Sites

Submission Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/30/2017 08:20

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260B	mg/kg	mg/kg	mg/kg	
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.001	0.005	0.97
10237	Tetrachloroethene	127-18-4	0.002 J Q3	0.001	0.005	0.97
10237	Trichloroethene	79-01-6	N.D.	0.001	0.005	0.97
10237	Vinyl Chloride	75-01-4	N.D. Q3	0.001	0.005	0.97
Wet Chemistry						
		SM 2540 G-1997	%	%	%	
		%Moisture Calc				
00111	Moisture	n.a.	4.6 Q8	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	TCE/PCE/VC/cis-1,2-DCE	SW-846 8260B	1	X173391AA	12/05/2017 14:59	Linda C Pape	0.97
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733548159	11/30/2017 08:20	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733548159	11/30/2017 08:20	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733548159	11/30/2017 08:20	Client Supplied	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17340820005A	12/06/2017 13:04	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: WMP-GP02-W001 Grab Groundwater
West Main Street PCE

Brightfields, Inc.
ELLE Sample #: WW 9343135
ELLE Group #: 1881302
Matrix: Groundwater

Project Name: Klingel Cleaners and West Main Street PCE Sites

Submission Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/30/2017 08:45

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10335	cis-1,2-Dichloroethene	156-59-2	N.D.	0.5	1	1
10335	Tetrachloroethene	127-18-4	N.D.	0.5	1	1
10335	Trichloroethene	79-01-6	N.D.	0.5	1	1
10335	Vinyl Chloride	75-01-4	N.D.	0.5	1	1
GC Miscellaneous		RSKSOP-175 modified	ug/l	ug/l	ug/l	
07105	Ethene	74-85-1	N.D.	1.0	5.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs- 5ml Water by 8260B	SW-846 8260B	1	P173422AA	12/08/2017 13:14	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P173422AA	12/08/2017 13:14	Daniel H Heller	1
07105	Volatile Headspace Hydrocarbon	RSKSOP-175 modified	1	173380008A	12/04/2017 11:45	Johanna C Kennedy	1

*=This limit was used in the evaluation of the final result

Sample Description: WMP-GP02-W001 MS Grab Groundwater
West Main Street PCE

Brightfields, Inc.
ELLE Sample #: WW 9343136
ELLE Group #: 1881302
Matrix: Groundwater

Project Name: Klingel Cleaners and West Main Street PCE Sites

Submission Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/30/2017 08:45

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10335	cis-1,2-Dichloroethene	156-59-2	20	0.5	1	1
10335	Tetrachloroethene	127-18-4	22	0.5	1	1
10335	Trichloroethene	79-01-6	21	0.5	1	1
10335	Vinyl Chloride	75-01-4	14	0.5	1	1
GC Miscellaneous		RSKSOP-175 modified	ug/l	ug/l	ug/l	
07105	Ethene	74-85-1	59	1.0	5.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs- 5ml Water by 8260B	SW-846 8260B	1	P173422AA	12/08/2017 13:39	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P173422AA	12/08/2017 13:39	Daniel H Heller	1
07105	Volatile Headspace Hydrocarbon	RSKSOP-175 modified	1	173380008A	12/04/2017 12:02	Johanna C Kennedy	1

*=This limit was used in the evaluation of the final result

Sample Description: WMP-GP02-W001 MSD Grab Groundwater
West Main Street PCE

Project Name: Klingel Cleaners and West Main Street PCE Sites

Brightfields, Inc.
ELLE Sample #: WW 9343137
ELLE Group #: 1881302
Matrix: Groundwater

Submission Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/30/2017 08:45

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10335	cis-1,2-Dichloroethene	156-59-2	17	0.5	1	1
10335	Tetrachloroethene	127-18-4	21	0.5	1	1
10335	Trichloroethene	79-01-6	21	0.5	1	1
10335	Vinyl Chloride	75-01-4	16	0.5	1	1
GC Miscellaneous		RSKSOP-175 modified	ug/l	ug/l	ug/l	
07105	Ethene	74-85-1	63	1.0	5.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs- 5ml Water by 8260B	SW-846 8260B	1	P173422AA	12/08/2017 14:05	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P173422AA	12/08/2017 14:05	Daniel H Heller	1
07105	Volatile Headspace Hydrocarbon	RSKSOP-175 modified	1	173380008A	12/04/2017 12:19	Johanna C Kennedy	1

*=This limit was used in the evaluation of the final result

Sample Description: WMP-GP03-S001 Grab Soil
West Main Street PCE

Project Name: Klingel Cleaners and West Main Street PCE Sites

Submittal Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/30/2017 09:30

Brightfields, Inc.
ELLE Sample #: SW 9343138
ELLE Group #: 1881302
Matrix: Soil

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	mg/kg	mg/kg	mg/kg	
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.001	0.005	1
10237	Tetrachloroethene	127-18-4	N.D. Q3	0.001	0.005	1
10237	Trichloroethene	79-01-6	N.D.	0.001	0.005	1
10237	Vinyl Chloride	75-01-4	N.D. Q3	0.001	0.005	1
Wet Chemistry		SM 2540 G-1997	%	%	%	
%Moisture Calc						
00111	Moisture	n.a.	7.4 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	TCE/PCE/VC/cis-1,2-DCE	SW-846 8260B	1	X173391AA	12/05/2017 15:22	Linda C Pape	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733548159	11/30/2017 09:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733548159	11/30/2017 09:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733548159	11/30/2017 09:30	Client Supplied	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17340820005A	12/06/2017 13:04	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: WMP-GP03-S002 Grab Soil
West Main Street PCE

Brightfields, Inc.
ELLE Sample #: SW 9343139
ELLE Group #: 1881302
Matrix: Soil

Project Name: Klingel Cleaners and West Main Street PCE Sites

Submission Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/30/2017 09:40

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260B	mg/kg	mg/kg	mg/kg	
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.001	0.005	1.01
10237	Tetrachloroethene	127-18-4	N.D. Q3	0.001	0.005	1.01
10237	Trichloroethene	79-01-6	N.D.	0.001	0.005	1.01
10237	Vinyl Chloride	75-01-4	N.D. Q3	0.001	0.005	1.01
Wet Chemistry						
		SM 2540 G-1997	%	%	%	
		%Moisture Calc				
00111	Moisture	n.a.	5.4 Q8	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	TCE/PCE/VC/cis-1,2-DCE	SW-846 8260B	1	X173391AA	12/05/2017 15:45	Linda C Pape	1.01
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733548159	11/30/2017 09:40	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733548159	11/30/2017 09:40	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733548159	11/30/2017 09:40	Client Supplied	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17340820005A	12/06/2017 13:04	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: WMP-GP04-S001 Grab Soil
West Main Street PCE

Brightfields, Inc.
ELLE Sample #: SW 9343140
ELLE Group #: 1881302
Matrix: Soil

Project Name: Klingel Cleaners and West Main Street PCE Sites

Submission Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/30/2017 10:18

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260B	mg/kg	mg/kg	mg/kg	
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.001	0.006	0.92
10237	Tetrachloroethene	127-18-4	N.D. Q3	0.001	0.006	0.92
10237	Trichloroethene	79-01-6	N.D.	0.001	0.006	0.92
10237	Vinyl Chloride	75-01-4	N.D. Q3	0.001	0.006	0.92
Wet Chemistry						
		SM 2540 G-1997	%	%	%	
		%Moisture Calc				
00111	Moisture	n.a.	16.4 Q8	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	TCE/PCE/VC/cis-1,2-DCE	SW-846 8260B	1	X173391AA	12/05/2017 16:09	Linda C Pape	0.92
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733548159	11/30/2017 10:18	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733548159	11/30/2017 10:18	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733548159	11/30/2017 10:18	Client Supplied	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17340820005A	12/06/2017 13:04	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: WMP-GP04-S101 Grab Soil
West Main Street PCE

Brightfields, Inc.
ELLE Sample #: SW 9343141
ELLE Group #: 1881302
Matrix: Soil

Project Name: Klingel Cleaners and West Main Street PCE Sites

Submission Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/30/2017 10:20

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260B	mg/kg	mg/kg	mg/kg	
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.001	0.006	0.98
10237	Tetrachloroethene	127-18-4	N.D. Q3	0.001	0.006	0.98
10237	Trichloroethene	79-01-6	N.D.	0.001	0.006	0.98
10237	Vinyl Chloride	75-01-4	N.D. Q3	0.001	0.006	0.98
Wet Chemistry						
		SM 2540 G-1997	%	%	%	
		%Moisture Calc				
00111	Moisture	n.a.	16.8 Q8	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	TCE/PCE/VC/cis-1,2-DCE	SW-846 8260B	1	X173391AA	12/05/2017 16:32	Linda C Pape	0.98
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733548159	11/30/2017 10:20	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733548159	11/30/2017 10:20	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733548159	11/30/2017 10:20	Client Supplied	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17340820005A	12/06/2017 13:04	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: WMP-GP04-S002 Grab Soil
West Main Street PCE

Project Name: Klingel Cleaners and West Main Street PCE Sites

Submission Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/30/2017 10:30

Brightfields, Inc.
ELLE Sample #: SW 9343142
ELLE Group #: 1881302
Matrix: Soil

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.001	0.007	0.98
10237	Tetrachloroethene	127-18-4	N.D. Q3	0.001	0.007	0.98
10237	Trichloroethene	79-01-6	N.D.	0.001	0.007	0.98
10237	Vinyl Chloride	75-01-4	N.D. Q3	0.001	0.007	0.98
Wet Chemistry			SM 2540 G-1997	%	%	
			%Moisture Calc			
00111	Moisture	n.a.	25.0 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	TCE/PCE/VC/cis-1,2-DCE	SW-846 8260B	1	X173391AA	12/05/2017 16:55	Linda C Pape	0.98
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733548159	11/30/2017 10:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733548159	11/30/2017 10:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733548159	11/30/2017 10:30	Client Supplied	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17340820005A	12/06/2017 13:04	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: WMP-GP03-W001 Grab Groundwater
West Main Street PCE

Brightfields, Inc.
ELLE Sample #: WW 9343143
ELLE Group #: 1881302
Matrix: Groundwater

Project Name: Klingel Cleaners and West Main Street PCE Sites

Submission Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/30/2017 09:50

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10335	cis-1,2-Dichloroethene	156-59-2	N.D.	0.5	1	1
10335	Tetrachloroethene	127-18-4	N.D.	0.5	1	1
10335	Trichloroethene	79-01-6	N.D.	0.5	1	1
10335	Vinyl Chloride	75-01-4	N.D.	0.5	1	1
GC Miscellaneous		RSKSOP-175 modified	ug/l	ug/l	ug/l	
07105	Ethene	74-85-1	N.D.	1.0	5.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs- 5ml Water by 8260B	SW-846 8260B	1	P173422AA	12/08/2017 14:31	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P173422AA	12/08/2017 14:31	Daniel H Heller	1
07105	Volatile Headspace Hydrocarbon	RSKSOP-175 modified	1	173380008A	12/04/2017 12:54	Johanna C Kennedy	1

*=This limit was used in the evaluation of the final result

Sample Description: WMP-GP04-W001 Grab Groundwater
West Main Street PCE

Brightfields, Inc.
ELLE Sample #: WW 9343144
ELLE Group #: 1881302
Matrix: Groundwater

Project Name: Klingel Cleaners and West Main Street PCE Sites

Submission Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/30/2017 10:40

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10335	cis-1,2-Dichloroethene	156-59-2	N.D.	0.5	1	1
10335	Tetrachloroethene	127-18-4	N.D.	0.5	1	1
10335	Trichloroethene	79-01-6	N.D.	0.5	1	1
10335	Vinyl Chloride	75-01-4	N.D.	0.5	1	1
GC Miscellaneous		RSKSOP-175 modified	ug/l	ug/l	ug/l	
07105	Ethene	74-85-1	N.D.	1.0	5.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs- 5ml Water by 8260B	SW-846 8260B	1	P173422AA	12/08/2017 14:57	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P173422AA	12/08/2017 14:57	Daniel H Heller	1
07105	Volatile Headspace Hydrocarbon	RSKSOP-175 modified	1	173380008A	12/04/2017 13:29	Johanna C Kennedy	1

*=This limit was used in the evaluation of the final result

Sample Description: WMP-GP04-W101 Grab Groundwater
West Main Street PCE

Brightfields, Inc.
ELLE Sample #: WW 9343145
ELLE Group #: 1881302
Matrix: Groundwater

Project Name: Klingel Cleaners and West Main Street PCE Sites

Submission Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/30/2017 10:42

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10335	cis-1,2-Dichloroethene	156-59-2	N.D.	0.5	1	1
10335	Tetrachloroethene	127-18-4	N.D.	0.5	1	1
10335	Trichloroethene	79-01-6	N.D.	0.5	1	1
10335	Vinyl Chloride	75-01-4	N.D.	0.5	1	1
GC Miscellaneous		RSKSOP-175 modified	ug/l	ug/l	ug/l	
07105	Ethene	74-85-1	N.D.	1.0	5.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs- 5ml Water by 8260B	SW-846 8260B	1	P173422AA	12/08/2017 15:23	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P173422AA	12/08/2017 15:23	Daniel H Heller	1
07105	Volatile Headspace Hydrocarbon	RSKSOP-175 modified	1	173380008A	12/04/2017 13:46	Johanna C Kennedy	1

*=This limit was used in the evaluation of the final result

Sample Description: WMP-GP04-W301 Water
West Main Street PCE

Brightfields, Inc.
ELLE Sample #: WW 9343146
ELLE Group #: 1881302
Matrix: Water

Project Name: Klingel Cleaners and West Main Street PCE Sites

Submission Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/30/2017 10:45

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10335	cis-1,2-Dichloroethene	156-59-2	N.D.	0.5	1	1
10335	Tetrachloroethene	127-18-4	N.D.	0.5	1	1
10335	Trichloroethene	79-01-6	N.D.	0.5	1	1
10335	Vinyl Chloride	75-01-4	N.D.	0.5	1	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs- 5ml Water by 8260B	SW-846 8260B	1	P173422AA	12/08/2017 15:49	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P173422AA	12/08/2017 15:49	Daniel H Heller	1

*=This limit was used in the evaluation of the final result

Sample Description: WMP-GP04-S301 MeOH
West Main Street PCE

Brightfields, Inc.
ELLE Sample #: SW 9343147
ELLE Group #: 1881302
Matrix: MeOH

Project Name: Klingel Cleaners and West Main Street PCE Sites

Submission Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/30/2017 10:50

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.001	0.005	1
10237	Tetrachloroethene	127-18-4	N.D. Q3	0.001	0.005	1
10237	Trichloroethene	79-01-6	N.D.	0.001	0.005	1
10237	Vinyl Chloride	75-01-4	N.D. Q3	0.001	0.005	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	TCE/PCE/VC/cis-1,2-DCE	SW-846 8260B	1	X173391AA	12/05/2017 12:40	Linda C Pape	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733548159	11/30/2017 10:50	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733548159	11/30/2017 10:50	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733548159	11/30/2017 10:50	Client Supplied	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/12/2017 21:26

Group Number: 1881302

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	MDL**	LOQ
	mg/kg	mg/kg	mg/kg
Batch number: X173391AA	Sample number(s): 9343128-9343129,9343131-9343134,9343138-9343142,9343147		
cis-1,2-Dichloroethene	N.D.	0.001	0.005
Tetrachloroethene	N.D.	0.001	0.005
Trichloroethene	N.D.	0.001	0.005
Vinyl Chloride	N.D.	0.001	0.005
	ug/l	ug/l	ug/l
Batch number: P173422AA	Sample number(s): 9343130,9343135-9343137,9343143-9343146		
cis-1,2-Dichloroethene	N.D.	0.5	1
Tetrachloroethene	N.D.	0.5	1
Trichloroethene	N.D.	0.5	1
Vinyl Chloride	N.D.	0.5	1
Batch number: 173380008A	Sample number(s): 9343130,9343135-9343137,9343143-9343145		
Ethene	N.D.	1.0	5.0

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: X173391AA	Sample number(s): 9343128-9343129,9343131-9343134,9343138-9343142,9343147								
cis-1,2-Dichloroethene	0.0200	0.0177	0.0200	0.0183	88	92	80-120	4	30
Tetrachloroethene	0.0200	0.0192	0.0200	0.0206	96	103	73-120	7	30
Trichloroethene	0.0200	0.0173	0.0200	0.0180	87	90	80-120	4	30
Vinyl Chloride	0.0200	0.0179	0.0200	0.0185	90	93	59-120	3	30
	ug/l	ug/l	ug/l	ug/l					
Batch number: P173422AA	Sample number(s): 9343130,9343135-9343137,9343143-9343146								
cis-1,2-Dichloroethene	20	20.46			102		80-120		
Tetrachloroethene	20	19.6			98		80-129		
Trichloroethene	20	19.82			99		80-120		
Vinyl Chloride	20	16.04			80		63-121		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 173380008A	Sample number(s): 9343130,9343135-9343137,9343143-9343145								
Ethene	60.8	61.62			101		83-115		

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/12/2017 21:26

Group Number: 1881302

LCS/LCSD (continued)

Analysis Name	LCS Spike Added %	LCS Conc %	LCSD Spike Added %	LCSD Conc %	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 17340820005A	Sample number(s): 9343128-9343129,9343131-9343134,9343138-9343142								
Moisture	89.5	89.4			100		99-101		
Moisture	89.5	89.4			100		99-101		
Moisture Duplicate	89.5	89.4			100		99-101		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: X173391AA	Sample number(s): 9343128-9343129,9343131-9343134,9343138-9343142,9343147 UNSPK: 9343131									
cis-1,2-Dichloroethene	N.D.	0.0204	0.0202	0.0194	0.0228	99	118	80-120	12	30
Tetrachloroethene	0.0118	0.0204	0.0439	0.0194	0.0437	157*	165*	73-120	0	30
Trichloroethene	N.D.	0.0204	0.0192	0.0194	0.0226	94	117	80-120	16	30
Vinyl Chloride	N.D.	0.0204	0.0203	0.0194	0.0275	99	142*	59-120	30	30
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: P173422AA	Sample number(s): 9343130,9343135-9343137,9343143-9343146 UNSPK: 9343135									
cis-1,2-Dichloroethene	N.D.	20	20.22	20	17.36	101	87	80-120	15	30
Tetrachloroethene	N.D.	20	22.12	20	20.63	111	103	80-129	7	30
Trichloroethene	N.D.	20	21.29	20	21.31	106	107	80-120	0	30
Vinyl Chloride	N.D.	20	13.74	20	16.42	69	82	63-121	18	30
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: 173380008A	Sample number(s): 9343130,9343135-9343137,9343143-9343145 UNSPK: 9343135									
Ethene	N.D.	60.8	59.26	60.8	63.28	97	104	72-133	7	30

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc %	DUP Conc %	DUP RPD	DUP RPD Max
Batch number: 17340820005A	Sample number(s): 9343128-9343129,9343131-9343134,9343138-9343142 BKG: 9343131, P343131			
Moisture	19.04	17.62	8*	5
Moisture	19.04	17.62	8*	5
Moisture Duplicate	19.04	17.62	8*	5

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/12/2017 21:26

Group Number: 1881302

Laboratory Duplicate (continued)

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc %	DUP Conc %	DUP RPD	DUP RPD Max
---------------	---------------	---------------	---------	-------------

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report. For dual column analyses, the surrogate (at least one surrogate for multi-surrogate tests) must be within the acceptance limits on at least one of the two columns.

Analysis Name: VOCs- 5ml Water by 8260B
Batch number: P173422AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9343130	94	100	102	99
9343135	95	100	102	99
9343136	88	95	95	95
9343137	92	100	96	101
9343143	86	101	101	99
9343144	84	99	97	102
9343145	94	97	88	116
9343146	84	99	102	100
Blank	94	98	103	100
LCS	95	102	97	93
MS	88	95	95	95
MSD	92	100	96	101
Limits:	80-120	80-120	80-120	80-120

Analysis Name: TCE/PCE/VC/cis-1,2-DCE
Batch number: X173391AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9343128	106	107	94	86
9343129	107	108	96	84
9343131	108	106	107	67
9343132	105	107	117	81
9343133	111	115	118	80
9343134	106	108	95	87
9343138	108	107	99	77
9343139	109	110	94	79
9343140	110	108	101	70
9343141	110	108	102	67
9343142	112	113	94	80
9343147	107	112	98	88

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/12/2017 21:26

Group Number: 1881302

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report. For dual column analyses, the surrogate (at least one surrogate for multi-surrogate tests) must be within the acceptance limits on at least one of the two columns.

Analysis Name: TCE/PCE/VC/cis-1,2-DCE
Batch number: X173391AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
Blank	109	107	98	84
LCS	100	101	100	99
LCS D	102	99	101	99
MS	105	107	117	81
MSD	111	115	118	80
Limits:	50-141	54-135	52-141	50-131

Analysis Name: Volatile Headspace Hydrocarbon
Batch number: 173380008A

	Propene
9343130	90
9343135	91
9343136	87
9343137	91
9343143	91
9343144	89
9343145	89
Blank	102
LCS	104
MS	87
MSD	91
Limits:	44-123

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Environmental Analysis Request/Chain of Custody



Lancaster Laboratories Environmental

For Eurofins Lancaster Laboratories Environmental use only

Acct. # 4549 Group # 1881302 Sample # 9343128-49

COC # 539461

Client Information				Matrix			Analysis Requested										For Lab Use Only																																									
Client: <u>BrightFields, Inc.</u>		Acct. #:		<input type="checkbox"/> Tissue	<input checked="" type="checkbox"/> Ground	<input type="checkbox"/> Surface	<table border="1" style="width:100%; height: 100%;"> <thead> <tr> <th colspan="10">Preservation Codes</th> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </thead> <tbody> <tr> <td colspan="10"> Preservation Codes H=HCl T=Thiosulfate N=HNO₃ B=NaOH S=H₂SO₄ O=Other </td> </tr> <tr> <td colspan="10"> Remarks <div style="font-size: 2em; text-align: center;">(2 of 2)</div> </td> </tr> </tbody> </table>										Preservation Codes																				Preservation Codes H=HCl T=Thiosulfate N=HNO ₃ B=NaOH S=H ₂ SO ₄ O=Other										Remarks <div style="font-size: 2em; text-align: center;">(2 of 2)</div>										FSC: _____	
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Project Name/#: <u>West Main Street PCE</u>		PWSID #:		<input type="checkbox"/> Sediment	<input type="checkbox"/> Potable	<input type="checkbox"/> NPDES	<table border="1" style="width:100%; height: 100%;"> <thead> <tr> <th colspan="10">Total # of Containers</th> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </thead> <tbody> <tr> <td colspan="10" style="text-align: center; vertical-align: middle;"> <div style="font-size: 2em;">1000</div> </td> </tr> </tbody> </table>										Total # of Containers																				<div style="font-size: 2em;">1000</div>										SCR#: <u>216067</u>											
Total # of Containers																																																										
<div style="font-size: 2em;">1000</div>																																																										
Project Manager: <u>Victoria Bishop</u>		P.O. #:		<input type="checkbox"/> Water	<input type="checkbox"/> Other:																																																					
Sampler: <u>James Thompson</u>		Quote #:																																																								
State where samples were collected: <u>Pennsylvania</u>		For Compliance: Yes <input type="checkbox"/> No <input type="checkbox"/>		<input checked="" type="checkbox"/> Soil	<input type="checkbox"/> Grab	<input type="checkbox"/> Composite																																																				
Sample Identification		Collected		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																																				
		Date	Time																																																							
<u>WMP-506</u>		<u>11/30/17</u>	<u>1030</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																																				
<u>WMP-6P04-5002</u>		<u>11/30/17</u>	<u>0950</u>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>																																																				
<u>WMP-6P03-1001</u>		<u>11/30/17</u>	<u>1040</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>																																																				
<u>WMP-6P04-1001</u>		<u>11/30/17</u>	<u>1042</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>																																																				
<u>WMP-6P04-1001</u>		<u>11/30/17</u>	<u>1045</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>																																																				
<u>WMP-6P04-10301</u>		<u>11/30/17</u>	<u>1050</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>																																																				
<u>WMP-6P04-5301</u>		<u>11/30/17</u>	<u>1050</u>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>																																																				

Turnaround Time (TAT) Requested (please circle) <input checked="" type="radio"/> Standard <input type="radio"/> Rush <small>(Rush TAT is subject to laboratory approval and surcharge.)</small>	Relinquished by: <u>Bottle Storage</u>	Date: <u>11/29/17</u>	Time: <u>1230</u>	Received by: <u>[Signature]</u>	Date: <u>11/29/17</u>	Time: <u>1230</u>
	Relinquished by: <u>[Signature]</u>	Date: <u>11/30/17</u>	Time: <u>1240</u>	Received by: <u>D. Allen</u>	Date: <u>11/30/17</u>	Time: <u>1242</u>
Date results are needed: _____	Relinquished by: <u>D. Allen</u>	Date: <u>11/30/17</u>	Time: <u>1815</u>	Received by: _____	Date: _____	Time: _____
E-mail address: _____	Relinquished by: _____	Date: _____	Time: _____	Received by: _____	Date: <u>11/30/17</u>	Time: <u>1815</u>
Data Package Options (circle if required) Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only) Type III (Reduced non-CLP) NJ DKQP TX TRRP-13 NYSDEC Category A or B MA MCP CT RCP	EDD Required? Yes No		Relinquished by Commercial Carrier:			
	If yes, format: _____		UPS _____ FedEx _____ Other _____			
	Site-Specific QC (MS/MSD/Dup)? Yes No		Temperature upon receipt <u>0.1 - 1.6</u> °C			
(If yes, indicate QC sample and submit triplicate sample volume.)						



Client: Brightfields

West Street

Delivery and Receipt Information

Delivery Method: ELLE Courier Arrival Timestamp: 11/30/2017 18:15
 Number of Packages: 4 Number of Projects: 2
 State/Province of Origin: PA

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	No	VOA Vial Headspace ≥ 6mm:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	5
Paperwork Enclosed:	Yes	Trip Blank Type:	See Below
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Trip Blank Type(s): 2 HCL, 2 Sodium Biosulfate, 1 MeOH

Unpacked by Timothy Cubberley (6520) at 06:19 on 12/01/2017

Samples Chilled Details: West Street

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT146	1.6	DT	Wet	Y	Loose/Bag	N
2	DT42-03	0.7	DT	Wet	Y	Loose/Bag	N
3	DT42-03	1.2	DT	Wet	Y	Loose/Bag	N
4	DT42-03	0.1	DT	Wet	Y	Loose/Bag	N

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	mg	milligram(s)
C	degrees Celsius	mL	milliliter(s)
cfu	colony forming units	MPN	Most Probable Number
CP Units	cobalt-chloroplatinate units	N.D.	non-detect
F	degrees Fahrenheit	ng	nanogram(s)
g	gram(s)	NTU	nephelometric turbidity units
IU	International Units	pg/L	picogram/liter
kg	kilogram(s)	RL	Reporting Limit
L	liter(s)	TNTC	Too Numerous To Count
lb.	pound(s)	µg	microgram(s)
m3	cubic meter(s)	µL	microliter(s)
meq	milliequivalents	umhos/cm	micromhos/cm
<	less than		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
J (or G, I, X)	Estimated value \geq the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report
B	Detection in the Blank
Q0	LCS/LCSD Low
Q1	LCS/LCSD High
Q2	MS/MSD Low
Q3	MS/MSD High
Q7	LCS/LCSD RPD
Q8	DUP RPD
Q9	MS/MSD RPD

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Appendix E.6

Eurofins Analytical Data Packages

Main Street Stop & Go



ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Brightfields, Inc.
801 Industrial St.
Suite 1
Wilmington DE 19801

Report Date: December 27, 2017 11:21

Project: Main Street Stop & Go

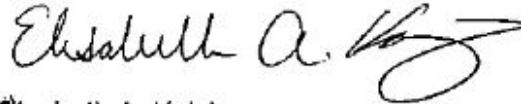
Account #: 04549
Group Number: 1881324
PO Number: 14726
State of Sample Origin: PA

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/>. To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To Brightfields, Inc.
Electronic Copy To Brightfields, Inc.

Attn: James Thompson
Attn: Victoria Bisbing

Respectfully Submitted,



Elisabeth A. Knisley
Project Manager

(717) 556-7262



SAMPLE INFORMATION

<u>Client Sample Description</u>	<u>Sample Collection Date/Time</u>	<u>ELLE#</u>
MSG-GP01-S001 Grab Soil	11/29/2017 11:08	9343345
MSG-GP01-S101 Grab Soil	11/29/2017 11:02	9343346
MSG-GP01-S002 Grab Soil	11/29/2017 11:10	9343347
MSG-GP02-S001 Grab Soil	11/29/2017 11:40	9343348
MSG-GP02-S002 Grab Soil	11/29/2017 11:45	9343349
MSG-GP01-W001 Grab Groundwater	11/29/2017 12:15	9343350
MSG-GP01-W101 Grab Groundwater	11/29/2017 12:17	9343351
MSG-GP02-W001 Grab Groundwater	11/29/2017 12:30	9343352
MSG-GP02-W301 Water	11/29/2017 13:50	9343353
MSG-GP02-S301 MeOH	11/29/2017 13:55	9343354
MSG-GP03-S001 Grab Soil	11/29/2017 14:15	9343355
MSG-GP03-S001 MS Grab Soil	11/29/2017 14:15	9343356
MSG-GP03-S001 MSD Grab Soil	11/29/2017 14:15	9343357
MSG-GP03-S001 DUP Grab Soil	11/29/2017 14:15	9343358
MSG-GP03-S002 Grab Soil	11/29/2017 14:30	9343359
MSG-GP03-W001 Grab Groundwater	11/29/2017 14:45	9343360
MSG-GP03-W001 MS Grab Groundwater	11/29/2017 14:45	9343361
MSG-GP03-W001 MSD Grab Groundwater	11/29/2017 14:45	9343362
MSG-GP03-W001 DUP Grab Groundwater	11/29/2017 14:45	9343363

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Sample Description: MSG-GP01-S001 Grab Soil
Main Street Stop & Go

Brightfields, Inc.
ELLE Sample #: SW 9343345
ELLE Group #: 1881324
Matrix: Soil

Project Name: Main Street Stop & Go

Submission Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/29/2017 11:08

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Benzene	71-43-2	N.D.	0.029	0.29	48.54
10237	1,2-Dibromoethane	106-93-4	N.D.	0.058	0.29	48.54
10237	1,2-Dichloroethane	107-06-2	N.D.	0.058	0.29	48.54
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.058	0.29	48.54
10237	Ethylbenzene	100-41-4	1.2	0.058	0.29	48.54
10237	Isopropylbenzene	98-82-8	0.44	0.058	0.29	48.54
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.029	0.29	48.54
10237	Naphthalene	91-20-3	6.7	0.058	0.29	48.54
10237	Tetrachloroethene	127-18-4	N.D.	0.058	0.29	48.54
10237	Toluene	108-88-3	N.D.	0.058	0.29	48.54
10237	Trichloroethene	79-01-6	N.D.	0.058	0.29	48.54
10237	1,2,4-Trimethylbenzene	95-63-6	0.14 J	0.058	0.29	48.54
10237	1,3,5-Trimethylbenzene	108-67-8	0.060 J	0.058	0.29	48.54
10237	Vinyl Chloride	75-01-4	N.D.	0.058	0.29	48.54
10237	Xylene (Total)	1330-20-7	0.15 J	0.058	0.29	48.54
Metals			mg/kg	mg/kg	mg/kg	
SW-846 6010B						
06955	Lead	7439-92-1	25.5 Q3Q2Q9	0.520	1.30	1
Wet Chemistry			%	%	%	
SM 2540 G-1997						
%Moisture Calc						
00111	Moisture	n.a.	16.4 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	Q173461AA	12/12/2017 14:26	Jennifer K Howe	48.54
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733548160	11/29/2017 11:08	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733548160	11/29/2017 11:08	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733548160	11/29/2017 11:08	Client Supplied	1
06955	Lead	SW-846 6010B	1	173350570805	12/05/2017 17:28	Cindy M Gehman	1

*=This limit was used in the evaluation of the final result

Sample Description: MSG-GP01-S001 Grab Soil
Main Street Stop & Go

Brightfields, Inc.
ELLE Sample #: SW 9343345
ELLE Group #: 1881324
Matrix: Soil

Project Name: Main Street Stop & Go

Submittal Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/29/2017 11:08

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173350570805	12/04/2017 16:45	Barbara A Kane	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17340820005A	12/06/2017 13:04	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: MSG-GP01-S101 Grab Soil
Main Street Stop & Go

Brightfields, Inc.
ELLE Sample #: SW 9343346
ELLE Group #: 1881324
Matrix: Soil

Project Name: Main Street Stop & Go

Submittal Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/29/2017 11:02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Benzene	71-43-2	N.D.	0.028	0.28	47.98
10237	1,2-Dibromoethane	106-93-4	N.D.	0.057	0.28	47.98
10237	1,2-Dichloroethane	107-06-2	N.D.	0.057	0.28	47.98
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.057	0.28	47.98
10237	Ethylbenzene	100-41-4	1.3	0.057	0.28	47.98
10237	Isopropylbenzene	98-82-8	0.46	0.057	0.28	47.98
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.028	0.28	47.98
10237	Naphthalene	91-20-3	6.5	0.057	0.28	47.98
10237	Tetrachloroethene	127-18-4	N.D.	0.057	0.28	47.98
10237	Toluene	108-88-3	N.D.	0.057	0.28	47.98
10237	Trichloroethene	79-01-6	N.D.	0.057	0.28	47.98
10237	1,2,4-Trimethylbenzene	95-63-6	0.12 J	0.057	0.28	47.98
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.057	0.28	47.98
10237	Vinyl Chloride	75-01-4	N.D.	0.057	0.28	47.98
10237	Xylene (Total)	1330-20-7	0.15 J	0.057	0.28	47.98
Metals			mg/kg	mg/kg	mg/kg	
SW-846 6010B						
06955	Lead	7439-92-1	19.2 Q3Q2Q9	0.624	1.56	1
Wet Chemistry			%	%	%	
SM 2540 G-1997						
%Moisture Calc						
00111	Moisture	n.a.	15.7 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	Q173461AA	12/12/2017 14:49	Jennifer K Howe	47.98
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733548160	11/29/2017 11:02	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733548160	11/29/2017 11:02	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733548160	11/29/2017 11:02	Client Supplied	1
06955	Lead	SW-846 6010B	1	173350570805	12/05/2017 17:31	Cindy M Gehman	1

*=This limit was used in the evaluation of the final result

Sample Description: MSG-GP01-S101 Grab Soil
Main Street Stop & Go

Brightfields, Inc.
ELLE Sample #: SW 9343346
ELLE Group #: 1881324
Matrix: Soil

Project Name: Main Street Stop & Go

Submittal Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/29/2017 11:02

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173350570805	12/04/2017 16:45	Barbara A Kane	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17340820005A	12/06/2017 13:04	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: MSG-GP01-S002 Grab Soil
Main Street Stop & Go

Brightfields, Inc.
ELLE Sample #: SW 9343347
ELLE Group #: 1881324
Matrix: Soil

Project Name: Main Street Stop & Go

Submission Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/29/2017 11:10

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	mg/kg	mg/kg	mg/kg	
10237	Benzene	71-43-2	0.0009 J	0.0005	0.005	0.99
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	0.99
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	0.99
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.001	0.005	0.99
10237	Ethylbenzene	100-41-4	N.D. Q2Q9	0.001	0.005	0.99
10237	Isopropylbenzene	98-82-8	N.D. Q2Q9	0.001	0.005	0.99
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	0.99
10237	Naphthalene	91-20-3	0.001 J Q2Q9	0.001	0.005	0.99
10237	Tetrachloroethene	127-18-4	0.003 J Q3Q9	0.001	0.005	0.99
10237	Toluene	108-88-3	0.002 J Q2Q9	0.001	0.005	0.99
10237	Trichloroethene	79-01-6	N.D. Q2Q9	0.001	0.005	0.99
10237	1,2,4-Trimethylbenzene	95-63-6	0.005 J Q2Q9	0.001	0.005	0.99
10237	1,3,5-Trimethylbenzene	108-67-8	0.001 J Q2Q9	0.001	0.005	0.99
10237	Vinyl Chloride	75-01-4	N.D.	0.001	0.005	0.99
10237	Xylene (Total)	1330-20-7	0.003 J Q2Q9	0.001	0.005	0.99
Metals		SW-846 6010B	mg/kg	mg/kg	mg/kg	
06955	Lead	7439-92-1	6.12 Q3Q2Q9	0.525	1.31	1
Wet Chemistry		SM 2540 G-1997	%	%	%	
%Moisture Calc						
00111	Moisture	n.a.	7.9	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	A173422AA	12/09/2017 05:14	Stephen C Nolte	0.99
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733548160	11/29/2017 11:10	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733548160	11/29/2017 11:10	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733548160	11/29/2017 11:10	Client Supplied	1
06955	Lead	SW-846 6010B	1	173350570805	12/05/2017 17:41	Cindy M Gehman	1

*=This limit was used in the evaluation of the final result

Sample Description: MSG-GP01-S002 Grab Soil
Main Street Stop & Go

Brightfields, Inc.
ELLE Sample #: SW 9343347
ELLE Group #: 1881324
Matrix: Soil

Project Name: Main Street Stop & Go

Submittal Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/29/2017 11:10

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173350570805	12/04/2017 16:45	Barbara A Kane	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17340820005B	12/06/2017 13:04	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: MSG-GP02-S001 Grab Soil
Main Street Stop & Go

Brightfields, Inc.
ELLE Sample #: SW 9343348
ELLE Group #: 1881324
Matrix: Soil

Project Name: Main Street Stop & Go

Submission Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/29/2017 11:40

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Benzene	71-43-2	0.001 J	0.0006	0.006	1.02
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.006	1.02
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.006	1.02
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.001	0.006	1.02
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.006	1.02
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.006	1.02
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0006	0.006	1.02
10237	Naphthalene	91-20-3	0.001 J	0.001	0.006	1.02
10237	Tetrachloroethene	127-18-4	N.D. Q3	0.001	0.006	1.02
10237	Toluene	108-88-3	0.003 J	0.001	0.006	1.02
10237	Trichloroethene	79-01-6	N.D.	0.001	0.006	1.02
10237	1,2,4-Trimethylbenzene	95-63-6	0.004 J	0.001	0.006	1.02
10237	1,3,5-Trimethylbenzene	108-67-8	0.001 J	0.001	0.006	1.02
10237	Vinyl Chloride	75-01-4	N.D.	0.001	0.006	1.02
10237	Xylene (Total)	1330-20-7	0.005 J	0.001	0.006	1.02
Metals			mg/kg	mg/kg	mg/kg	
SW-846 6010B						
06955	Lead	7439-92-1	22.8 Q3Q2Q9	0.606	1.51	1
Wet Chemistry			%	%	%	
SM 2540 G-1997						
%Moisture Calc						
00111	Moisture	n.a.	10.8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	A173461AA	12/12/2017 21:13	Stephen C Nolte	1.02
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733548160	11/29/2017 11:40	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733548160	11/29/2017 11:40	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733548160	11/29/2017 11:40	Client Supplied	1
06955	Lead	SW-846 6010B	1	173350570805	12/05/2017 17:44	Cindy M Gehman	1

*=This limit was used in the evaluation of the final result

Sample Description: MSG-GP02-S001 Grab Soil
Main Street Stop & Go

Brightfields, Inc.
ELLE Sample #: SW 9343348
ELLE Group #: 1881324
Matrix: Soil

Project Name: Main Street Stop & Go

Submittal Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/29/2017 11:40

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173350570805	12/04/2017 16:45	Barbara A Kane	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17340820005B	12/06/2017 13:04	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: MSG-GP02-S002 Grab Soil
Main Street Stop & Go

Brightfields, Inc.
ELLE Sample #: SW 9343349
ELLE Group #: 1881324
Matrix: Soil

Project Name: Main Street Stop & Go

Submittal Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/29/2017 11:45

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D.	0.0005	0.005	0.92
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	0.92
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	0.92
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.001	0.005	0.92
10237	Ethylbenzene	100-41-4	N.D. Q2Q9	0.001	0.005	0.92
10237	Isopropylbenzene	98-82-8	N.D. Q2Q9	0.001	0.005	0.92
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	0.92
10237	Naphthalene	91-20-3	N.D. Q2Q9	0.001	0.005	0.92
10237	Tetrachloroethene	127-18-4	0.054 Q3Q9	0.001	0.005	0.92
10237	Toluene	108-88-3	N.D. Q2Q9	0.001	0.005	0.92
10237	Trichloroethene	79-01-6	N.D. Q2Q9	0.001	0.005	0.92
10237	1,2,4-Trimethylbenzene	95-63-6	N.D. Q2Q9	0.001	0.005	0.92
10237	1,3,5-Trimethylbenzene	108-67-8	N.D. Q2Q9	0.001	0.005	0.92
10237	Vinyl Chloride	75-01-4	N.D.	0.001	0.005	0.92
10237	Xylene (Total)	1330-20-7	N.D. Q2Q9	0.001	0.005	0.92
Metals			SW-846 6010B	mg/kg	mg/kg	
06955	Lead	7439-92-1	15.3 Q3Q2Q9	0.565	1.41	1
Wet Chemistry			SM 2540 G-1997	%	%	
%Moisture Calc						
00111	Moisture	n.a.	7.7	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	A173422AA	12/09/2017 05:59	Stephen C Nolte	0.92
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733548160	11/29/2017 11:45	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733548160	11/29/2017 11:45	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733548160	11/29/2017 11:45	Client Supplied	1
06955	Lead	SW-846 6010B	1	173350570805	12/05/2017 17:48	Cindy M Gehman	1

*=This limit was used in the evaluation of the final result

Sample Description: MSG-GP02-S002 Grab Soil
Main Street Stop & Go

Brightfields, Inc.
ELLE Sample #: SW 9343349
ELLE Group #: 1881324
Matrix: Soil

Project Name: Main Street Stop & Go

Submittal Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/29/2017 11:45

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173350570805	12/04/2017 16:45	Barbara A Kane	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17340820005B	12/06/2017 13:04	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: MSG-GP01-W001 Grab Groundwater
Main Street Stop & Go

Brightfields, Inc.
ELLE Sample #: WW 9343350
ELLE Group #: 1881324
Matrix: Groundwater

Project Name: Main Street Stop & Go

Submission Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/29/2017 12:15

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	ug/l	ug/l	
10335	Benzene	71-43-2	N.D.	0.5	1	1
10335	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10335	cis-1,2-Dichloroethene	156-59-2	N.D.	0.5	1	1
10335	Ethylbenzene	100-41-4	1	0.5	1	1
10335	Isopropylbenzene	98-82-8	N.D.	1	5	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10335	Naphthalene	91-20-3	3 J	1	5	1
10335	Tetrachloroethene	127-18-4	N.D.	0.5	1	1
10335	Toluene	108-88-3	N.D.	0.5	1	1
10335	Trichloroethene	79-01-6	N.D.	0.5	1	1
10335	1,2,4-Trimethylbenzene	95-63-6	1 J	1	5	1
10335	1,3,5-Trimethylbenzene	108-67-8	N.D.	1	5	1
10335	Vinyl Chloride	75-01-4	N.D.	0.5	1	1
10335	Xylene (Total)	1330-20-7	3	0.5	1	1
Volatiles by Extraction			SW-846 8011	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	N.D. D1	0.0093	0.028	1
GC Miscellaneous			RSKSOP-175 modified	ug/l	ug/l	
07105	Ethene	74-85-1	3.4 J	1.0	5.0	1
Metals Dissolved			SW-846 6020	mg/l	mg/l	
06035	Lead	7439-92-1	0.0384 Q3Q9	0.00011	0.0010	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs- 5ml Water by 8260B	SW-846 8260B	1	W173451AA	12/11/2017 16:58	Nicole S Lamoreaux	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W173451AA	12/11/2017 16:58	Nicole S Lamoreaux	1
10398	8011 Master Master	SW-846 8011	1	173350041A	12/07/2017 20:29	Sarah Estes	1
07786	EDB Extraction (8011)	SW-846 8011	1	173350041A	12/04/2017 10:15	Olivia Arosemena	1
07105	Volatile Headspace Hydrocarbon	RSKSOP-175 modified	1	173380008A	12/04/2017 14:03	Johanna C Kennedy	1
06035	Lead	SW-846 6020	1	173400605001A	12/13/2017 11:54	Patrick J Engle	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	173400605001	12/07/2017 05:39	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: MSG-GP01-W101 Grab Groundwater
Main Street Stop & Go

Brightfields, Inc.
ELLE Sample #: WW 9343351
ELLE Group #: 1881324
Matrix: Groundwater

Project Name: Main Street Stop & Go

Submission Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/29/2017 12:17

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10335	Benzene	71-43-2	N.D.	0.5	1	1
10335	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10335	cis-1,2-Dichloroethene	156-59-2	N.D.	0.5	1	1
10335	Ethylbenzene	100-41-4	2	0.5	1	1
10335	Isopropylbenzene	98-82-8	N.D.	1	5	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10335	Naphthalene	91-20-3	3 J	1	5	1
10335	Tetrachloroethene	127-18-4	N.D.	0.5	1	1
10335	Toluene	108-88-3	N.D.	0.5	1	1
10335	Trichloroethene	79-01-6	N.D.	0.5	1	1
10335	1,2,4-Trimethylbenzene	95-63-6	1 J	1	5	1
10335	1,3,5-Trimethylbenzene	108-67-8	N.D.	1	5	1
10335	Vinyl Chloride	75-01-4	N.D.	0.5	1	1
10335	Xylene (Total)	1330-20-7	3	0.5	1	1
Volatiles by Extraction		SW-846 8011	ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	N.D. D1	0.0092	0.028	1
GC Miscellaneous		RSKSOP-175 modified	ug/l	ug/l	ug/l	
07105	Ethene	74-85-1	2.8 J	1.0	5.0	1
Metals Dissolved		SW-846 6020	mg/l	mg/l	mg/l	
06035	Lead	7439-92-1	0.0166 Q3Q9	0.00011	0.0010	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs- 5ml Water by 8260B	SW-846 8260B	1	W173451AA	12/11/2017 17:22	Nicole S Lamoreaux	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W173451AA	12/11/2017 17:22	Nicole S Lamoreaux	1
10398	8011 Master Master	SW-846 8011	1	173350041A	12/07/2017 20:45	Sarah Estes	1
07786	EDB Extraction (8011)	SW-846 8011	1	173350041A	12/04/2017 10:15	Olivia Arosemena	1
07105	Volatile Headspace Hydrocarbon	RSKSOP-175 modified	1	173380008A	12/04/2017 14:21	Johanna C Kennedy	1
06035	Lead	SW-846 6020	1	173400605001A	12/13/2017 11:59	Patrick J Engle	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	173400605001	12/07/2017 05:39	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: MSG-GP02-W001 Grab Groundwater
Main Street Stop & Go

Brightfields, Inc.
ELLE Sample #: WW 9343352
ELLE Group #: 1881324
Matrix: Groundwater

Project Name: Main Street Stop & Go

Submittal Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/29/2017 12:30

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	ug/l	ug/l	
10335	Benzene	71-43-2	N.D.	0.5	1	1
10335	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10335	cis-1,2-Dichloroethene	156-59-2	N.D.	0.5	1	1
10335	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10335	Isopropylbenzene	98-82-8	N.D.	1	5	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10335	Naphthalene	91-20-3	N.D.	1	5	1
10335	Tetrachloroethene	127-18-4	9	0.5	1	1
10335	Toluene	108-88-3	N.D.	0.5	1	1
10335	Trichloroethene	79-01-6	N.D.	0.5	1	1
10335	1,2,4-Trimethylbenzene	95-63-6	N.D.	1	5	1
10335	1,3,5-Trimethylbenzene	108-67-8	N.D.	1	5	1
10335	Vinyl Chloride	75-01-4	N.D.	0.5	1	1
10335	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
Volatiles by Extraction			SW-846 8011	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	N.D. D1	0.0097	0.029	1
GC Miscellaneous			RSKSOP-175 modified	ug/l	ug/l	
07105	Ethene	74-85-1	N.D.	1.0	5.0	1
Metals Dissolved			SW-846 6020	mg/l	mg/l	
06035	Lead	7439-92-1	0.0013 Q3Q9	0.00011	0.0010	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs- 5ml Water by 8260B	SW-846 8260B	1	W173451AA	12/11/2017 17:46	Nicole S Lamoreaux	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W173451AA	12/11/2017 17:46	Nicole S Lamoreaux	1
10398	8011 Master Master	SW-846 8011	1	173350041A	12/07/2017 21:01	Sarah Estes	1
07786	EDB Extraction (8011)	SW-846 8011	1	173350041A	12/04/2017 10:15	Olivia Arosemena	1
07105	Volatile Headspace Hydrocarbon	RSKSOP-175 modified	1	173380010A	12/04/2017 15:33	Johanna C Kennedy	1
06035	Lead	SW-846 6020	1	173400605001A	12/13/2017 12:01	Patrick J Engle	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	173400605001	12/07/2017 05:39	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: MSG-GP02-W301 Water
Main Street Stop & Go

Brightfields, Inc.
ELLE Sample #: WW 9343353
ELLE Group #: 1881324
Matrix: Water

Project Name: Main Street Stop & Go

Submittal Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/29/2017 13:50

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10335	Benzene	71-43-2	N.D.	0.5	1	1
10335	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10335	cis-1,2-Dichloroethene	156-59-2	N.D.	0.5	1	1
10335	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10335	Isopropylbenzene	98-82-8	N.D.	1	5	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10335	Naphthalene	91-20-3	N.D.	1	5	1
10335	Tetrachloroethene	127-18-4	N.D.	0.5	1	1
10335	Toluene	108-88-3	N.D.	0.5	1	1
10335	Trichloroethene	79-01-6	N.D.	0.5	1	1
10335	1,2,4-Trimethylbenzene	95-63-6	N.D.	1	5	1
10335	1,3,5-Trimethylbenzene	108-67-8	N.D.	1	5	1
10335	Vinyl Chloride	75-01-4	N.D.	0.5	1	1
10335	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
Volatiles by Extraction		SW-846 8011	ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	N.D. D1	0.0096	0.029	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs- 5ml Water by 8260B	SW-846 8260B	1	W173451AA	12/11/2017 14:12	Nicole S Lamoreaux	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W173451AA	12/11/2017 14:12	Nicole S Lamoreaux	1
10398	8011 Master Master	SW-846 8011	1	173350041A	12/07/2017 21:16	Sarah Estes	1
07786	EDB Extraction (8011)	SW-846 8011	1	173350041A	12/04/2017 10:15	Olivia Arosemena	1

*=This limit was used in the evaluation of the final result

Sample Description: MSG-GP02-S301 MeOH
Main Street Stop & Go

Brightfields, Inc.
ELLE Sample #: SW 9343354
ELLE Group #: 1881324
Matrix: MeOH

Project Name: Main Street Stop & Go

Submittal Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/29/2017 13:55

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	mg/kg	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D.	0.0005	0.005	1
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	1
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	1
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.001	0.005	1
10237	Ethylbenzene	100-41-4	N.D. Q2Q9	0.001	0.005	1
10237	Isopropylbenzene	98-82-8	N.D. Q2Q9	0.001	0.005	1
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	1
10237	Naphthalene	91-20-3	N.D. Q2Q9	0.001	0.005	1
10237	Tetrachloroethene	127-18-4	N.D. Q3Q9	0.001	0.005	1
10237	Toluene	108-88-3	N.D. Q2Q9	0.001	0.005	1
10237	Trichloroethene	79-01-6	N.D. Q2Q9	0.001	0.005	1
10237	1,2,4-Trimethylbenzene	95-63-6	N.D. Q2Q9	0.001	0.005	1
10237	1,3,5-Trimethylbenzene	108-67-8	N.D. Q2Q9	0.001	0.005	1
10237	Vinyl Chloride	75-01-4	N.D.	0.001	0.005	1
10237	Xylene (Total)	1330-20-7	N.D. Q2Q9	0.001	0.005	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	A173422AA	12/08/2017 22:26	Stephen C Nolte	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733548160	11/29/2017 13:55	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733548160	11/29/2017 13:55	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733548160	11/29/2017 13:55	Client Supplied	1

*=This limit was used in the evaluation of the final result

Sample Description: MSG-GP03-S001 Grab Soil
Main Street Stop & Go

Brightfields, Inc.
ELLE Sample #: SW 9343355
ELLE Group #: 1881324
Matrix: Soil

Project Name: Main Street Stop & Go

Submission Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/29/2017 14:15

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Benzene	71-43-2	N.D.	0.0005	0.005	0.97
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	0.97
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	0.97
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.001	0.005	0.97
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	0.97
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.005	0.97
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	0.97
10237	Naphthalene	91-20-3	N.D. Q2Q9	0.001	0.005	0.97
10237	Tetrachloroethene	127-18-4	0.016 Q3Q9	0.001	0.005	0.97
10237	Toluene	108-88-3	N.D.	0.001	0.005	0.97
10237	Trichloroethene	79-01-6	N.D.	0.001	0.005	0.97
10237	1,2,4-Trimethylbenzene	95-63-6	N.D. Q3	0.001	0.005	0.97
10237	1,3,5-Trimethylbenzene	108-67-8	N.D. Q3	0.001	0.005	0.97
10237	Vinyl Chloride	75-01-4	N.D.	0.001	0.005	0.97
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	0.97
Metals			mg/kg	mg/kg	mg/kg	
SW-846 6010B						
06955	Lead	7439-92-1	33.7 Q3Q2Q9	0.450	1.13	1
Wet Chemistry			%	%	%	
SM 2540 G-1997						
%Moisture Calc						
00111	Moisture	n.a.	9.3	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	X173451AA	12/11/2017 22:39	Patrick T Herres	0.97
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733548160	11/29/2017 14:15	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733548160	11/29/2017 14:15	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733548160	11/29/2017 14:15	Client Supplied	1
06955	Lead	SW-846 6010B	1	173350570805	12/05/2017 17:08	Cindy M Gehman	1

*=This limit was used in the evaluation of the final result

Sample Description: MSG-GP03-S001 Grab Soil
Main Street Stop & Go

Brightfields, Inc.
ELLE Sample #: SW 9343355
ELLE Group #: 1881324
Matrix: Soil

Project Name: Main Street Stop & Go

Submittal Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/29/2017 14:15

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173350570805	12/04/2017 16:45	Barbara A Kane	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17340820005B	12/06/2017 13:04	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: MSG-GP03-S001 MS Grab Soil
Main Street Stop & Go

Brightfields, Inc.
ELLE Sample #: SW 9343356
ELLE Group #: 1881324
Matrix: Soil

Project Name: Main Street Stop & Go

Submittal Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/29/2017 14:15

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	Benzene	71-43-2	0.023	0.0005	0.005	0.93
10237	1,2-Dibromoethane	106-93-4	0.023	0.001	0.005	0.93
10237	1,2-Dichloroethane	107-06-2	0.023	0.001	0.005	0.93
10237	cis-1,2-Dichloroethene	156-59-2	0.024	0.001	0.005	0.93
10237	Ethylbenzene	100-41-4	0.022	0.001	0.005	0.93
10237	Isopropylbenzene	98-82-8	0.023	0.001	0.005	0.93
10237	Methyl Tertiary Butyl Ether	1634-04-4	0.022	0.0005	0.005	0.93
10237	Naphthalene	91-20-3	0.009 Q2Q9	0.001	0.005	0.93
10237	Tetrachloroethene	127-18-4	0.052 Q3Q9	0.001	0.005	0.93
10237	Toluene	108-88-3	0.023	0.001	0.005	0.93
10237	Trichloroethene	79-01-6	0.022	0.001	0.005	0.93
10237	1,2,4-Trimethylbenzene	95-63-6	0.025 Q3	0.001	0.005	0.93
10237	1,3,5-Trimethylbenzene	108-67-8	0.025 Q3	0.001	0.005	0.93
10237	Vinyl Chloride	75-01-4	0.022	0.001	0.005	0.93
10237	Xylene (Total)	1330-20-7	0.066	0.001	0.005	0.93
Metals			SW-846 6010B	mg/kg	mg/kg	
06955	Lead	7439-92-1	31.5 Q3Q2Q9	0.556	1.39	1
Wet Chemistry			SM 2540 G-1997	%	%	
			%Moisture Calc			
00118	Moisture	n.a.	9.3	0.50	0.50	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	X173451AA	12/11/2017 23:03	Patrick T Herres	0.93
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733548160	11/29/2017 14:15	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733548160	11/29/2017 14:15	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733548160	11/29/2017 14:15	Client Supplied	1
06955	Lead	SW-846 6010B	1	173350570805	12/05/2017 17:17	Cindy M Gehman	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173350570805	12/04/2017 16:45	Barbara A Kane	1
00118	Moisture	SM 2540 G-1997 %Moisture Calc	1	17340820005B	12/06/2017 13:04	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: MSG-GP03-S001 MSD Grab Soil
Main Street Stop & Go

Brightfields, Inc.
ELLE Sample #: SW 9343357
ELLE Group #: 1881324
Matrix: Soil

Project Name: Main Street Stop & Go

Submittal Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/29/2017 14:15

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	Benzene	71-43-2	0.022	0.0005	0.005	0.93
10237	1,2-Dibromoethane	106-93-4	0.022	0.001	0.005	0.93
10237	1,2-Dichloroethane	107-06-2	0.022	0.001	0.005	0.93
10237	cis-1,2-Dichloroethene	156-59-2	0.023	0.001	0.005	0.93
10237	Ethylbenzene	100-41-4	0.021	0.001	0.005	0.93
10237	Isopropylbenzene	98-82-8	0.021	0.001	0.005	0.93
10237	Methyl Tertiary Butyl Ether	1634-04-4	0.022	0.0005	0.005	0.93
10237	Naphthalene	91-20-3	0.012 Q2Q9	0.001	0.005	0.93
10237	Tetrachloroethene	127-18-4	0.031 Q3Q9	0.001	0.005	0.93
10237	Toluene	108-88-3	0.021	0.001	0.005	0.93
10237	Trichloroethene	79-01-6	0.021	0.001	0.005	0.93
10237	1,2,4-Trimethylbenzene	95-63-6	0.022 Q3	0.001	0.005	0.93
10237	1,3,5-Trimethylbenzene	108-67-8	0.021 Q3	0.001	0.005	0.93
10237	Vinyl Chloride	75-01-4	0.022	0.001	0.005	0.93
10237	Xylene (Total)	1330-20-7	0.063	0.001	0.005	0.93
Metals			SW-846 6010B	mg/kg	mg/kg	
06955	Lead	7439-92-1	96.7 Q3Q2Q9	0.591	1.48	1
Wet Chemistry			SM 2540 G-1997	%	%	
			%Moisture Calc			
00118	Moisture	n.a.	9.3	0.50	0.50	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	X173451AA	12/11/2017 23:26	Patrick T Herres	0.93
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733548160	11/29/2017 14:15	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733548160	11/29/2017 14:15	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733548160	11/29/2017 14:15	Client Supplied	1
06955	Lead	SW-846 6010B	1	173350570805	12/05/2017 17:21	Cindy M Gehman	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173350570805	12/04/2017 16:45	Barbara A Kane	1
00118	Moisture	SM 2540 G-1997 %Moisture Calc	1	17340820005B	12/06/2017 13:04	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: MSG-GP03-S001 DUP Grab Soil
Main Street Stop & Go

Brightfields, Inc.
ELLE Sample #: SW 9343358
ELLE Group #: 1881324
Matrix: Soil

Project Name: Main Street Stop & Go

Submission Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/29/2017 14:15

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Metals						
		SW-846 6010B	mg/kg	mg/kg	mg/kg	
06955	Lead	7439-92-1	30.1 Q3Q2Q9	0.570	1.43	1
Wet Chemistry						
		SM 2540 G-1997	%	%	%	
		%Moisture Calc				
00118	Moisture	n.a.	9.3	0.50	0.50	1
00121	Moisture Duplicate	n.a.	9.3	0.50	0.50	1
The duplicate moisture value is provided to assess the precision of the moisture test. For comparability purposes, the initial moisture determination is the value used to perform dry weight calculations.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06955	Lead	SW-846 6010B	1	173350570805	12/05/2017 17:14	Cindy M Gehman	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173350570805	12/04/2017 16:45	Barbara A Kane	1
00118	Moisture	SM 2540 G-1997 %Moisture Calc	1	17340820005B	12/06/2017 13:04	Larry E Bevins	1
00121	Moisture Duplicate	SM 2540 G-1997 %Moisture Calc	1	17340820005B	12/06/2017 13:04	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: MSG-GP03-S002 Grab Soil
Main Street Stop & Go

Brightfields, Inc.
ELLE Sample #: SW 9343359
ELLE Group #: 1881324
Matrix: Soil

Project Name: Main Street Stop & Go

Submittal Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/29/2017 14:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D.	0.0005	0.005	0.89
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	0.89
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	0.89
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.001	0.005	0.89
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	0.89
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.005	0.89
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	0.89
10237	Naphthalene	91-20-3	N.D. Q2Q9	0.001	0.005	0.89
10237	Tetrachloroethene	127-18-4	0.004 J Q3Q9	0.001	0.005	0.89
10237	Toluene	108-88-3	N.D.	0.001	0.005	0.89
10237	Trichloroethene	79-01-6	N.D.	0.001	0.005	0.89
10237	1,2,4-Trimethylbenzene	95-63-6	N.D. Q3	0.001	0.005	0.89
10237	1,3,5-Trimethylbenzene	108-67-8	N.D. Q3	0.001	0.005	0.89
10237	Vinyl Chloride	75-01-4	N.D.	0.001	0.005	0.89
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	0.89
Metals			SW-846 6010B	mg/kg	mg/kg	
06955	Lead	7439-92-1	5.96 Q3Q2Q9	0.514	1.29	1
Wet Chemistry			SM 2540 G-1997	%	%	
%Moisture Calc						
00111	Moisture	n.a.	6.7	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	X173451AA	12/12/2017 00:12	Patrick T Herres	0.89
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733548160	11/29/2017 14:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733548160	11/29/2017 14:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733548160	11/29/2017 14:30	Client Supplied	1
06955	Lead	SW-846 6010B	1	173350570805	12/05/2017 17:51	Cindy M Gehman	1

*=This limit was used in the evaluation of the final result

Sample Description: MSG-GP03-S002 Grab Soil
Main Street Stop & Go

Brightfields, Inc.
ELLE Sample #: SW 9343359
ELLE Group #: 1881324
Matrix: Soil

Project Name: Main Street Stop & Go

Submittal Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/29/2017 14:30

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173350570805	12/04/2017 16:45	Barbara A Kane	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17340820005B	12/06/2017 13:04	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: MSG-GP03-W001 Grab Groundwater
Main Street Stop & Go

Brightfields, Inc.
ELLE Sample #: WW 9343360
ELLE Group #: 1881324
Matrix: Groundwater

Project Name: Main Street Stop & Go

Submittal Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/29/2017 14:45

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	ug/l	ug/l	
10335	Benzene	71-43-2	N.D.	0.5	1	1
10335	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10335	cis-1,2-Dichloroethene	156-59-2	N.D.	0.5	1	1
10335	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10335	Isopropylbenzene	98-82-8	N.D.	1	5	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10335	Naphthalene	91-20-3	N.D.	1	5	1
10335	Tetrachloroethene	127-18-4	19	0.5	1	1
10335	Toluene	108-88-3	N.D.	0.5	1	1
10335	Trichloroethene	79-01-6	N.D.	0.5	1	1
10335	1,2,4-Trimethylbenzene	95-63-6	N.D.	1	5	1
10335	1,3,5-Trimethylbenzene	108-67-8	N.D.	1	5	1
10335	Vinyl Chloride	75-01-4	N.D.	0.5	1	1
10335	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
Volatiles by Extraction			SW-846 8011	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	N.D. D1	0.0095	0.029	1
GC Miscellaneous			RSKSOP-175 modified	ug/l	ug/l	
07105	Ethene	74-85-1	1.9 J	1.0	5.0	1
Metals Dissolved			SW-846 6020	mg/l	mg/l	
06035	Lead	7439-92-1	N.D. Q3Q9	0.00011	0.0010	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs- 5ml Water by 8260B	SW-846 8260B	1	W173451AA	12/11/2017 15:47	Nicole S Lamoreaux	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W173451AA	12/11/2017 15:47	Nicole S Lamoreaux	1
10398	8011 Master Master	SW-846 8011	1	173350041A	12/07/2017 21:32	Sarah Estes	1
07786	EDB Extraction (8011)	SW-846 8011	1	173350041A	12/04/2017 10:15	Olivia Arosemena	1
07105	Volatile Headspace Hydrocarbon	RSKSOP-175 modified	1	173380010A	12/04/2017 15:52	Johanna C Kennedy	1
06035	Lead	SW-846 6020	1	173400605001A	12/27/2017 04:42	Sarah L Burt	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	173400605001	12/07/2017 05:39	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: MSG-GP03-W001 MS Grab Groundwater
Main Street Stop & Go

Brightfields, Inc.
ELLE Sample #: WW 9343361
ELLE Group #: 1881324
Matrix: Groundwater

Project Name: Main Street Stop & Go

Submission Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/29/2017 14:45

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	ug/l	ug/l	
10335	Benzene	71-43-2	21	0.5	1	1
10335	1,2-Dichloroethane	107-06-2	17	0.5	1	1
10335	cis-1,2-Dichloroethene	156-59-2	20	0.5	1	1
10335	Ethylbenzene	100-41-4	21	0.5	1	1
10335	Isopropylbenzene	98-82-8	21	1	5	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	18	0.5	1	1
10335	Naphthalene	91-20-3	17	1	5	1
10335	Tetrachloroethene	127-18-4	40	0.5	1	1
10335	Toluene	108-88-3	21	0.5	1	1
10335	Trichloroethene	79-01-6	20	0.5	1	1
10335	1,2,4-Trimethylbenzene	95-63-6	20	1	5	1
10335	1,3,5-Trimethylbenzene	108-67-8	21	1	5	1
10335	Vinyl Chloride	75-01-4	15	0.5	1	1
10335	Xylene (Total)	1330-20-7	62	0.5	1	1
Volatiles by Extraction			SW-846 8011	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	0.11 D1	0.0096	0.029	1
GC Miscellaneous			RSKSOP-175 modified	ug/l	ug/l	
07105	Ethene	74-85-1	70	1.0	5.0	1
Metals Dissolved			SW-846 6020	mg/l	mg/l	
06035	Lead	7439-92-1	0.0197 Q3Q9	0.00011	0.0010	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs- 5ml Water by 8260B	SW-846 8260B	1	W173451AA	12/11/2017 16:11	Nicole S Lamoreaux	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W173451AA	12/11/2017 16:11	Nicole S Lamoreaux	1
10398	8011 Master Master	SW-846 8011	1	173350041A	12/07/2017 21:47	Sarah Estes	1
07786	EDB Extraction (8011)	SW-846 8011	1	173350041A	12/04/2017 10:15	Olivia Arosemena	1
07105	Volatile Headspace Hydrocarbon	RSKSOP-175 modified	1	173380010A	12/04/2017 16:10	Johanna C Kennedy	1
06035	Lead	SW-846 6020	1	173400605001A	12/27/2017 04:47	Sarah L Burt	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	173400605001	12/07/2017 05:39	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: MSG-GP03-W001 MSD Grab Groundwater
Main Street Stop & Go

Brightfields, Inc.
ELLE Sample #: WW 9343362
ELLE Group #: 1881324
Matrix: Groundwater

Project Name: Main Street Stop & Go

Submission Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/29/2017 14:45

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10335	Benzene	71-43-2	21	0.5	1	1
10335	1,2-Dichloroethane	107-06-2	17	0.5	1	1
10335	cis-1,2-Dichloroethene	156-59-2	21	0.5	1	1
10335	Ethylbenzene	100-41-4	21	0.5	1	1
10335	Isopropylbenzene	98-82-8	21	1	5	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	19	0.5	1	1
10335	Naphthalene	91-20-3	17	1	5	1
10335	Tetrachloroethene	127-18-4	39	0.5	1	1
10335	Toluene	108-88-3	21	0.5	1	1
10335	Trichloroethene	79-01-6	20	0.5	1	1
10335	1,2,4-Trimethylbenzene	95-63-6	20	1	5	1
10335	1,3,5-Trimethylbenzene	108-67-8	20	1	5	1
10335	Vinyl Chloride	75-01-4	15	0.5	1	1
10335	Xylene (Total)	1330-20-7	62	0.5	1	1
Volatiles by Extraction		SW-846 8011	ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	0.11 D1	0.0094	0.028	1
GC Miscellaneous		RSKSOP-175 modified	ug/l	ug/l	ug/l	
07105	Ethene	74-85-1	69	1.0	5.0	1
Metals Dissolved		SW-846 6020	mg/l	mg/l	mg/l	
06035	Lead	7439-92-1	0.0154 Q3Q9	0.00011	0.0010	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs- 5ml Water by 8260B	SW-846 8260B	1	W173451AA	12/11/2017 16:35	Nicole S Lamoreaux	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W173451AA	12/11/2017 16:35	Nicole S Lamoreaux	1
10398	8011 Master Master	SW-846 8011	1	173350041A	12/07/2017 22:03	Sarah Estes	1
07786	EDB Extraction (8011)	SW-846 8011	1	173350041A	12/04/2017 10:15	Olivia Arosemena	1
07105	Volatile Headspace Hydrocarbon	RSKSOP-175 modified	1	173380010A	12/04/2017 16:29	Johanna C Kennedy	1
06035	Lead	SW-846 6020	1	173400605001A	12/27/2017 04:49	Sarah L Burt	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	173400605001	12/07/2017 05:39	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: MSG-GP03-W001 DUP Grab Groundwater
Main Street Stop & Go

Brightfields, Inc.
ELLE Sample #: WW 9343363
ELLE Group #: 1881324
Matrix: Groundwater

Project Name: Main Street Stop & Go

Submittal Date/Time: 11/30/2017 18:15
Collection Date/Time: 11/29/2017 14:45

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
06035	Lead	7439-92-1	N.D. Q3Q9	0.00011	0.0010	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	173400605001A	12/27/2017 04:45	Sarah L Burt	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	173400605001	12/07/2017 05:39	James L Mertz	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2017 11:21

Group Number: 1881324

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	MDL**	LOQ
	mg/kg	mg/kg	mg/kg
Batch number: A173422AA	Sample number(s): 9343347,9343349,9343354		
Benzene	N.D.	0.0005	0.005
1,2-Dibromoethane	N.D.	0.001	0.005
1,2-Dichloroethane	N.D.	0.001	0.005
cis-1,2-Dichloroethene	N.D.	0.001	0.005
Ethylbenzene	N.D.	0.001	0.005
Isopropylbenzene	N.D.	0.001	0.005
Methyl Tertiary Butyl Ether	N.D.	0.0005	0.005
Naphthalene	N.D.	0.001	0.005
Tetrachloroethene	N.D.	0.001	0.005
Toluene	N.D.	0.001	0.005
Trichloroethene	N.D.	0.001	0.005
1,2,4-Trimethylbenzene	N.D.	0.001	0.005
1,3,5-Trimethylbenzene	N.D.	0.001	0.005
Vinyl Chloride	N.D.	0.001	0.005
Xylene (Total)	N.D.	0.001	0.005
Batch number: A173461AA	Sample number(s): 9343348		
Benzene	N.D.	0.0005	0.005
1,2-Dibromoethane	N.D.	0.001	0.005
1,2-Dichloroethane	N.D.	0.001	0.005
cis-1,2-Dichloroethene	N.D.	0.001	0.005
Ethylbenzene	N.D.	0.001	0.005
Isopropylbenzene	N.D.	0.001	0.005
Methyl Tertiary Butyl Ether	N.D.	0.0005	0.005
Naphthalene	N.D.	0.001	0.005
Tetrachloroethene	N.D.	0.001	0.005
Toluene	N.D.	0.001	0.005
Trichloroethene	N.D.	0.001	0.005
1,2,4-Trimethylbenzene	N.D.	0.001	0.005
1,3,5-Trimethylbenzene	N.D.	0.001	0.005
Vinyl Chloride	N.D.	0.001	0.005
Xylene (Total)	N.D.	0.001	0.005
Batch number: Q173461AA	Sample number(s): 9343345-9343346		
Benzene	N.D.	0.025	0.25
1,2-Dibromoethane	N.D.	0.050	0.25
1,2-Dichloroethane	N.D.	0.050	0.25
cis-1,2-Dichloroethene	N.D.	0.050	0.25
Ethylbenzene	N.D.	0.050	0.25
Isopropylbenzene	N.D.	0.050	0.25

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2017 11:21

Group Number: 1881324

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	mg/kg	mg/kg	mg/kg
Methyl Tertiary Butyl Ether	N.D.	0.025	0.25
Naphthalene	N.D.	0.050	0.25
Tetrachloroethene	N.D.	0.050	0.25
Toluene	N.D.	0.050	0.25
Trichloroethene	N.D.	0.050	0.25
1,2,4-Trimethylbenzene	N.D.	0.050	0.25
1,3,5-Trimethylbenzene	N.D.	0.050	0.25
Vinyl Chloride	N.D.	0.050	0.25
Xylene (Total)	N.D.	0.050	0.25

Batch number: X173451AA Sample number(s): 9343355-9343357,9343359

Benzene	N.D.	0.0005	0.005
1,2-Dibromoethane	N.D.	0.001	0.005
1,2-Dichloroethane	N.D.	0.001	0.005
cis-1,2-Dichloroethene	N.D.	0.001	0.005
Ethylbenzene	N.D.	0.001	0.005
Isopropylbenzene	N.D.	0.001	0.005
Methyl Tertiary Butyl Ether	N.D.	0.0005	0.005
Naphthalene	N.D.	0.001	0.005
Tetrachloroethene	N.D.	0.001	0.005
Toluene	N.D.	0.001	0.005
Trichloroethene	N.D.	0.001	0.005
1,2,4-Trimethylbenzene	N.D.	0.001	0.005
1,3,5-Trimethylbenzene	N.D.	0.001	0.005
Vinyl Chloride	N.D.	0.001	0.005
Xylene (Total)	N.D.	0.001	0.005

ug/l ug/l ug/l

Batch number: W173451AA Sample number(s): 9343350-9343353,9343360-9343362

Benzene	N.D.	0.5	1
1,2-Dichloroethane	N.D.	0.5	1
cis-1,2-Dichloroethene	N.D.	0.5	1
Ethylbenzene	N.D.	0.5	1
Isopropylbenzene	N.D.	1	5
Methyl Tertiary Butyl Ether	N.D.	0.5	1
Naphthalene	N.D.	1	5
Tetrachloroethene	N.D.	0.5	1
Toluene	N.D.	0.5	1
Trichloroethene	N.D.	0.5	1
1,2,4-Trimethylbenzene	N.D.	1	5
1,3,5-Trimethylbenzene	N.D.	1	5
Vinyl Chloride	N.D.	0.5	1
Xylene (Total)	N.D.	0.5	1

Batch number: 173350041A Sample number(s): 9343350-9343353,9343360-9343362

Ethylene dibromide	N.D.	0.010	0.030
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*- Outside of specification

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P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2017 11:21

Group Number: 1881324

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	ug/l	ug/l	ug/l
Batch number: 173380008A	Sample number(s): 9343350-9343351		
Ethene	N.D.	1.0	5.0
Batch number: 173380010A	Sample number(s): 9343352,9343360-9343362		
Ethene	N.D.	1.0	5.0
	mg/kg	mg/kg	mg/kg
Batch number: 173350570805	Sample number(s): 9343345-9343349,9343355-9343359		
Lead	N.D.	0.600	1.50
	mg/l	mg/l	mg/l
Batch number: 173400605001A	Sample number(s): 9343350-9343352,9343360-9343363		
Lead	N.D.	0.00011	0.0010

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: A173422AA	Sample number(s): 9343347,9343349,9343354								
Benzene	0.0200	0.0183	0.0200	0.0186	92	93	80-120	1	30
1,2-Dibromoethane	0.0200	0.0168	0.0200	0.0171	84	86	74-120	2	30
1,2-Dichloroethane	0.0200	0.0182	0.0200	0.0182	91	91	71-128	0	30
cis-1,2-Dichloroethene	0.0200	0.0191	0.0200	0.0194	95	97	80-120	2	30
Ethylbenzene	0.0200	0.0176	0.0200	0.0178	88	89	80-120	1	30
Isopropylbenzene	0.0200	0.0184	0.0200	0.0187	92	93	76-120	1	30
Methyl Tertiary Butyl Ether	0.0200	0.0166	0.0200	0.0169	83	85	66-123	2	30
Naphthalene	0.0200	0.0144	0.0200	0.0146	72	73	54-132	1	30
Tetrachloroethene	0.0200	0.0202	0.0200	0.0200	101	100	73-120	1	30
Toluene	0.0200	0.0198	0.0200	0.0199	99	99	80-120	0	30
Trichloroethene	0.0200	0.0180	0.0200	0.0180	90	90	80-120	0	30
1,2,4-Trimethylbenzene	0.0200	0.0175	0.0200	0.0173	87	86	74-120	1	30
1,3,5-Trimethylbenzene	0.0200	0.0174	0.0200	0.0171	87	86	73-120	2	30
Vinyl Chloride	0.0200	0.0166	0.0200	0.0168	83	84	59-120	1	30
Xylene (Total)	0.0600	0.0533	0.0600	0.0535	89	89	80-120	0	30
Batch number: A173461AA	Sample number(s): 9343348								
Benzene	0.0200	0.0189	0.0200	0.0184	95	92	80-120	3	30
1,2-Dibromoethane	0.0200	0.0178	0.0200	0.0178	89	89	74-120	0	30
1,2-Dichloroethane	0.0200	0.0178	0.0200	0.0176	89	88	71-128	1	30
cis-1,2-Dichloroethene	0.0200	0.0198	0.0200	0.0194	99	97	80-120	2	30
Ethylbenzene	0.0200	0.0179	0.0200	0.0172	90	86	80-120	4	30
Isopropylbenzene	0.0200	0.0205	0.0200	0.0185	102	92	76-120	10	30

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2017 11:21

Group Number: 1881324

LCS/LCSD (continued)

Analysis Name	LCS Spike Added mg/kg	LCS Conc mg/kg	LCSD Spike Added mg/kg	LCSD Conc mg/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Methyl Tertiary Butyl Ether	0.0200	0.0173	0.0200	0.0180	87	90	66-123	4	30
Naphthalene	0.0200	0.0151	0.0200	0.0155	76	78	54-132	3	30
Tetrachloroethene	0.0200	0.0210	0.0200	0.0200	105	100	73-120	5	30
Toluene	0.0200	0.0206	0.0200	0.0202	103	101	80-120	2	30
Trichloroethene	0.0200	0.0181	0.0200	0.0173	91	86	80-120	5	30
1,2,4-Trimethylbenzene	0.0200	0.0166	0.0200	0.0174	83	87	74-120	5	30
1,3,5-Trimethylbenzene	0.0200	0.0167	0.0200	0.0159	83	80	73-120	5	30
Vinyl Chloride	0.0200	0.0148	0.0200	0.0144	74	72	59-120	3	30
Xylene (Total)	0.0600	0.0555	0.0600	0.0548	93	91	80-120	1	30
Batch number: Q173461AA	Sample number(s): 9343345-9343346								
Benzene	1.00	1.03	1.00	1.04	103	104	80-120	1	30
1,2-Dibromoethane	1.00	0.937	1.00	0.939	94	94	74-120	0	30
1,2-Dichloroethane	1.00	1.00	1.00	0.998	100	100	71-128	1	30
cis-1,2-Dichloroethene	1.00	1.04	1.00	1.05	104	105	80-120	1	30
Ethylbenzene	1.00	0.950	1.00	0.950	95	95	80-120	0	30
Isopropylbenzene	1.00	0.939	1.00	0.927	94	93	76-120	1	30
Methyl Tertiary Butyl Ether	1.00	1.03	1.00	1.02	103	102	66-123	1	30
Naphthalene	1.00	1.09	1.00	1.03	109	103	54-132	6	30
Tetrachloroethene	1.00	0.914	1.00	0.929	91	93	73-120	2	30
Toluene	1.00	0.986	1.00	1.00	99	100	80-120	1	30
Trichloroethene	1.00	0.986	1.00	0.980	99	98	80-120	1	30
1,2,4-Trimethylbenzene	1.00	0.978	1.00	0.932	98	93	74-120	5	30
1,3,5-Trimethylbenzene	1.00	0.978	1.00	0.933	98	93	73-120	5	30
Vinyl Chloride	1.00	1.04	1.00	1.05	104	105	59-120	0	30
Xylene (Total)	3.00	2.90	3.00	2.83	97	94	80-120	2	30
Batch number: X173451AA	Sample number(s): 9343355-9343357,9343359								
Benzene	0.0200	0.0199	0.0200	0.0200	99	100	80-120	1	30
1,2-Dibromoethane	0.0200	0.0195	0.0200	0.0193	98	97	74-120	1	30
1,2-Dichloroethane	0.0200	0.0199	0.0200	0.0198	99	99	71-128	1	30
cis-1,2-Dichloroethene	0.0200	0.0207	0.0200	0.0210	104	105	80-120	1	30
Ethylbenzene	0.0200	0.0197	0.0200	0.0200	99	100	80-120	1	30
Isopropylbenzene	0.0200	0.0199	0.0200	0.0204	99	102	76-120	2	30
Methyl Tertiary Butyl Ether	0.0200	0.0195	0.0200	0.0194	97	97	66-123	1	30
Naphthalene	0.0200	0.0179	0.0200	0.0179	89	89	54-132	0	30
Tetrachloroethene	0.0200	0.0183	0.0200	0.0184	91	92	73-120	1	30
Toluene	0.0200	0.0196	0.0200	0.0199	98	99	80-120	2	30
Trichloroethene	0.0200	0.0190	0.0200	0.0194	95	97	80-120	2	30
1,2,4-Trimethylbenzene	0.0200	0.0198	0.0200	0.0201	99	100	74-120	1	30
1,3,5-Trimethylbenzene	0.0200	0.0196	0.0200	0.0199	98	99	73-120	1	30
Vinyl Chloride	0.0200	0.0181	0.0200	0.0183	90	91	59-120	1	30
Xylene (Total)	0.0600	0.0598	0.0600	0.0606	100	101	80-120	1	30
	ug/l	ug/l	ug/l	ug/l					

*- Outside of specification

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(2) The unspiked result was more than four times the spike added.

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2017 11:21

Group Number: 1881324

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: W173451AA	Sample number(s): 9343350-9343353,9343360-9343362								
Benzene	20	20.34	20	20.92	102	105	78-120	3	30
1,2-Dichloroethane	20	17.25	20	17.45	86	87	73-124	1	30
cis-1,2-Dichloroethene	20	20.53	20	20.82	103	104	80-120	1	30
Ethylbenzene	20	19.82	20	20.38	99	102	78-120	3	30
Isopropylbenzene	20	19.87	20	20.35	99	102	80-120	2	30
Methyl Tertiary Butyl Ether	20	20.09	20	20.33	100	102	75-120	1	30
Naphthalene	20	18.26	20	18.65	91	93	59-120	2	30
Tetrachloroethene	20	19.42	20	19.93	97	100	80-129	3	30
Toluene	20	20.37	20	21.09	102	105	80-120	3	30
Trichloroethene	20	18.76	20	19.22	94	96	80-120	2	30
1,2,4-Trimethylbenzene	20	19.75	20	20.6	99	103	75-120	4	30
1,3,5-Trimethylbenzene	20	19.85	20	20.71	99	104	75-120	4	30
Vinyl Chloride	20	15.98	20	16.37	80	82	63-121	2	30
Xylene (Total)	60	59.75	60	61.78	100	103	80-120	3	30
	ug/l	ug/l	ug/l	ug/l					
Batch number: 173350041A	Sample number(s): 9343350-9343353,9343360-9343362								
Ethylene dibromide	0.128	0.137	0.128	0.141	107	110	60-140	3	20
	ug/l	ug/l	ug/l	ug/l					
Batch number: 173380008A	Sample number(s): 9343350-9343351								
Ethene	60.8	61.62			101		83-115		
Batch number: 173380010A	Sample number(s): 9343352,9343360-9343362								
Ethene	60.8	60.85			100		83-115		
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 173350570805	Sample number(s): 9343345-9343349,9343355-9343359								
Lead	15	15.42			103		80-120		
	mg/l	mg/l	mg/l	mg/l					
Batch number: 173400605001A	Sample number(s): 9343350-9343352,9343360-9343363								
Lead	0.0150	0.0154			103		80-120		
	%	%	%	%					
Batch number: 17340820005A	Sample number(s): 9343345-9343346								
Moisture	89.5	89.4			100		99-101		
Batch number: 17340820005B	Sample number(s): 9343347-9343349,9343355-9343359								
Moisture	89.5	89.4			100		99-101		
Moisture	89.5	89.4			100		99-101		
Moisture Duplicate	89.5	89.4			100		99-101		

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2017 11:21

Group Number: 1881324

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: A173422AA Sample number(s): 9343347,9343349,9343354 UNSPK: P342597										
Benzene	N.D.	0.0190	0.0195	0.0193	0.0159	103	82	80-120	20	30
1,2-Dibromoethane	N.D.	0.0190	0.0201	0.0193	0.0149	106	77	74-120	30	30
1,2-Dichloroethane	N.D.	0.0190	0.0192	0.0193	0.0166	101	86	71-128	15	30
cis-1,2-Dichloroethene	N.D.	0.0190	0.0203	0.0193	0.0170	107	88	80-120	18	30
Ethylbenzene	N.D.	0.0190	0.0180	0.0193	0.0101	95	52*	80-120	56*	30
Isopropylbenzene	N.D.	0.0190	0.0193	0.0193	0.00993	102	51*	76-120	64*	30
Methyl Tertiary Butyl Ether	N.D.	0.0190	0.0188	0.0193	0.0183	99	95	66-123	3	30
Naphthalene	N.D.	0.0190	0.0102	0.0193	0.00546	54	28*	54-132	61*	30
Tetrachloroethene	N.D.	0.0190	0.0233	0.0193	0.0143	123*	74	73-120	48*	30
Toluene	N.D.	0.0190	0.0211	0.0193	0.0148	111	77*	80-120	35*	30
Trichloroethene	N.D.	0.0190	0.0189	0.0193	0.0137	100	71*	80-120	32*	30
1,2,4-Trimethylbenzene	N.D.	0.0190	0.0213	0.0193	0.00985	112	51*	74-120	74*	30
1,3,5-Trimethylbenzene	N.D.	0.0190	0.0204	0.0193	0.0104	108	54*	73-120	65*	30
Vinyl Chloride	N.D.	0.0190	0.0185	0.0193	0.0164	98	85	59-120	12	30
Xylene (Total)	N.D.	0.0569	0.0569	0.0580	0.0293	100	50*	80-120	64*	30
Batch number: A173461AA Sample number(s): 9343348 UNSPK: P348158										
Benzene	N.D.	0.0193	0.0207	0.0182	0.0192	107	105	80-120	8	30
1,2-Dibromoethane	N.D.	0.0193	0.0207	0.0182	0.0188	107	104	74-120	9	30
1,2-Dichloroethane	N.D.	0.0193	0.0197	0.0182	0.0181	102	99	71-128	9	30
cis-1,2-Dichloroethene	N.D.	0.0193	0.0219	0.0182	0.0202	113	111	80-120	8	30
Ethylbenzene	N.D.	0.0193	0.0199	0.0182	0.0182	103	100	80-120	9	30
Isopropylbenzene	N.D.	0.0193	0.0214	0.0182	0.0194	111	106	76-120	10	30
Methyl Tertiary Butyl Ether	N.D.	0.0193	0.0203	0.0182	0.0187	105	103	66-123	8	30
Naphthalene	N.D.	0.0193	0.0162	0.0182	0.0149	84	82	54-132	8	30
Tetrachloroethene	N.D.	0.0193	0.0243	0.0182	0.0220	126*	121*	73-120	10	30
Toluene	N.D.	0.0193	0.0232	0.0182	0.0213	120	117	80-120	9	30
Trichloroethene	N.D.	0.0193	0.0196	0.0182	0.0185	101	102	80-120	6	30
1,2,4-Trimethylbenzene	N.D.	0.0193	0.0204	0.0182	0.0193	106	106	74-120	6	30
1,3,5-Trimethylbenzene	N.D.	0.0193	0.0187	0.0182	0.0170	97	93	73-120	10	30
Vinyl Chloride	N.D.	0.0193	0.0172	0.0182	0.0154	89	84	59-120	11	30
Xylene (Total)	N.D.	0.0580	0.0629	0.0545	0.0551	108	101	80-120	13	30
Batch number: X173451AA Sample number(s): 9343355-9343357,9343359 UNSPK: 9343355										
Benzene	N.D.	0.0185	0.0204	0.0186	0.0196	110	106	80-120	4	30
1,2-Dibromoethane	N.D.	0.0185	0.0210	0.0186	0.0201	113	108	74-120	4	30
1,2-Dichloroethane	N.D.	0.0185	0.0212	0.0186	0.0204	115	110	71-128	4	30
cis-1,2-Dichloroethene	N.D.	0.0185	0.0216	0.0186	0.0205	116	111	80-120	5	30
Ethylbenzene	N.D.	0.0185	0.0203	0.0186	0.0192	109	103	80-120	5	30
Isopropylbenzene	N.D.	0.0185	0.0205	0.0186	0.0195	111	105	76-120	5	30
Methyl Tertiary Butyl Ether	N.D.	0.0185	0.0203	0.0186	0.0196	110	106	66-123	3	30

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P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2017 11:21

Group Number: 1881324

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Naphthalene	N.D.	0.0185	0.00779	0.0186	0.0109	42*	59	54-132	33*	30
Tetrachloroethene	0.0143	0.0185	0.0474	0.0186	0.0284	179*	76	73-120	50*	30
Toluene	N.D.	0.0185	0.0206	0.0186	0.0195	111	105	80-120	6	30
Trichloroethene	N.D.	0.0185	0.0198	0.0186	0.0188	107	101	80-120	5	30
1,2,4-Trimethylbenzene	N.D.	0.0185	0.0229	0.0186	0.0196	124*	106	74-120	15	30
1,3,5-Trimethylbenzene	N.D.	0.0185	0.0230	0.0186	0.0194	124*	105	73-120	17	30
Vinyl Chloride	N.D.	0.0185	0.0201	0.0186	0.0200	109	108	59-120	0	30
Xylene (Total)	N.D.	0.0556	0.0600	0.0557	0.0573	108	103	80-120	5	30
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: W173451AA	Sample number(s): 9343350-9343353,9343360-9343362 UNSPK: 9343360									
Benzene	N.D.	20	20.59	20	20.83	103	104	78-120	1	30
1,2-Dichloroethane	N.D.	20	16.54	20	16.88	83	84	73-124	2	30
cis-1,2-Dichloroethene	N.D.	20	20.47	20	20.8	102	104	80-120	2	30
Ethylbenzene	N.D.	20	20.57	20	20.7	103	103	78-120	1	30
Isopropylbenzene	N.D.	20	20.7	20	20.81	104	104	80-120	1	30
Methyl Tertiary Butyl Ether	N.D.	20	18.43	20	18.66	92	93	75-120	1	30
Naphthalene	N.D.	20	16.59	20	16.96	83	85	59-120	2	30
Tetrachloroethene	18.96	20	40.11	20	39.28	106	102	80-129	2	30
Toluene	N.D.	20	21.05	20	21.18	105	106	80-120	1	30
Trichloroethene	N.D.	20	19.58	20	19.65	98	98	80-120	0	30
1,2,4-Trimethylbenzene	N.D.	20	20.3	20	20.28	102	101	75-120	0	30
1,3,5-Trimethylbenzene	N.D.	20	20.58	20	20.5	103	102	75-120	0	30
Vinyl Chloride	N.D.	20	15.44	20	15.31	77	77	63-121	1	30
Xylene (Total)	N.D.	60	61.93	60	62.2	103	104	80-120	0	30
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: 173350041A	Sample number(s): 9343350-9343353,9343360-9343362 UNSPK: 9343360									
Ethylene dibromide	N.D.	0.123	0.110	0.121	0.112	90	93	60-140	2	20
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: 173380008A	Sample number(s): 9343350-9343351 UNSPK: P343135									
Ethene	N.D.	60.8	59.26	60.8	63.28	97	104	72-133	7	30
Batch number: 173380010A	Sample number(s): 9343352,9343360-9343362 UNSPK: 9343360									
Ethene	1.90	60.8	69.74	60.8	69.06	112	110	72-133	1	30
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 173350570805	Sample number(s): 9343345-9343349,9343355-9343359 UNSPK: 9343355									
Lead	30.53	12.61	28.55	13.39	87.72	-15*	427*	75-125	102*	20
	mg/l	mg/l	mg/l	mg/l	mg/l					

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2017 11:21

Group Number: 1881324

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/l	MS Spike Added mg/l	MS Conc mg/l	MSD Spike Added mg/l	MSD Conc mg/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 173400605001A Lead	N.D.	0.0150	0.0197	0.0150	0.0154	131*	103	75-125	24*	20

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/kg	DUP Conc mg/kg	DUP RPD	DUP RPD Max
Batch number: 173350570805 Lead	30.53	27.28	11	20
Batch number: 173400605001A Lead	N.D.	N.D.	0 (1)	20
Batch number: 17340820005A Moisture	19.04	17.62	8*	5
Batch number: 17340820005B Moisture	9.33	9.31	0	5
Moisture	9.33	9.31	0	5
Moisture Duplicate	9.33	9.31	0	5

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report. For dual column analyses, the surrogate (at least one surrogate for multi-surrogate tests) must be within the acceptance limits on at least one of the two columns.

Analysis Name: VOCs- Solid by 8260B
Batch number: A173422AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9343347	103	104	111	96
9343349	104	103	112	87

*- Outside of specification

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(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2017 11:21

Group Number: 1881324

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report. For dual column analyses, the surrogate (at least one surrogate for multi-surrogate tests) must be within the acceptance limits on at least one of the two columns.

Analysis Name: VOCs- Solid by 8260B
Batch number: A173422AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9343354	107	105	107	93
Blank	106	104	108	102
LCS	103	100	111	103
LCSD	101	100	111	108
MS	106	107	112	89
MSD	103	103	115	95
Limits:	50-141	54-135	52-141	50-131

Analysis Name: VOCs- Solid by 8260B
Batch number: A173461AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9343348	100	105	115	101
Blank	102	102	109	97
LCS	101	101	112	102
LCSD	99	100	112	103
MS	100	102	113	100
MSD	101	103	113	101
Limits:	50-141	54-135	52-141	50-131

Analysis Name: VOCs- Solid by 8260B
Batch number: Q173461AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9343345	78	90	86	78
9343346	66	74	70	67
Blank	96	107	99	90
LCS	96	104	98	92
LCSD	96	105	98	90
Limits:	50-141	54-135	52-141	50-131

Analysis Name: VOCs- 5ml Water by 8260B
Batch number: W173451AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9343350	91	101	99	92
9343351	92	105	99	92
9343352	92	104	98	91
9343353	91	100	98	90

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2017 11:21

Group Number: 1881324

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report. For dual column analyses, the surrogate (at least one surrogate for multi-surrogate tests) must be within the acceptance limits on at least one of the two columns.

Analysis Name: VOCs- 5ml Water by 8260B
Batch number: W173451AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9343360	92	104	98	91
9343361	92	104	100	93
9343362	93	101	100	93
Blank	92	103	99	92
LCS	94	100	100	93
LCSD	93	102	99	94
MS	92	104	100	93
MSD	93	101	100	93
Limits:	80-120	80-120	80-120	80-120

Analysis Name: VOCs- Solid by 8260B
Batch number: X173451AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9343355	104	106	97	85
9343356	101	104	104	93
9343357	100	104	102	98
9343359	101	104	98	91
Blank	103	105	97	90
LCS	99	102	100	101
LCSD	100	101	100	100
MS	101	104	104	93
MSD	100	104	102	98
Limits:	50-141	54-135	52-141	50-131

Analysis Name: 8011 Master Master
Batch number: 173350041A

	1,1,2,2-Tetrachloroethane-D1	1,1,2,2-Tetrachloroethane-D2
9343350	90	96
9343351	89	90
9343352	89	86
9343353	90	96
9343360	96	99
9343361	98	91
9343362	93	92
Blank	93	97
LCS	98	104
LCSD	94	100

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2017 11:21

Group Number: 1881324

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report. For dual column analyses, the surrogate (at least one surrogate for multi-surrogate tests) must be within the acceptance limits on at least one of the two columns.

Analysis Name: 8011 Master Master
Batch number: 173350041A

	1,1,2,2-Tetrachloroethane-D1	1,1,2,2-Tetrachloroethane-D2
MS	98	91
MSD	93	92
Limits:	46-136	46-136

Analysis Name: Volatile Headspace Hydrocarbon
Batch number: 173380008A
Propene

9343350	86
9343351	90
Blank	102
LCS	104
MS	87
MSD	91
Limits:	44-123

Analysis Name: Volatile Headspace Hydrocarbon
Batch number: 173380010A
Propene

9343352	94
9343360	96
9343361	99
9343362	100
Blank	105
LCS	103
MS	99
MSD	100
Limits:	44-123

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Environmental Analysis Request/Chain of Custody



Lancaster Laboratories Environmental

For Eurofins Lancaster Laboratories Environmental use only

Acct. # 4549 Group # 1881324 Sample # 9343345-63

COC # 538738

Client Information				Matrix			Analysis Requested										For Lab Use Only	
Client: <u>Brightfields, Inc.</u>		Acct. #:		<input type="checkbox"/> Tissue	<input checked="" type="checkbox"/> Ground	<input type="checkbox"/> Surface	Preservation Codes										FSC: _____	SCR#: <u>216 296</u>
Project Name/#: <u>Main Street Stop & Go</u>		PWSID #:					<input type="checkbox"/> Potable	<input type="checkbox"/> NPDES										
Project Manager: <u>V. Gloria Bishop</u>		P.O. #:		<input type="checkbox"/> Soil	<input type="checkbox"/> Water	Other:												
Sampler: <u>James Thompson</u>		Quote #:															N=HNO ₃ B=NaOH	
State where samples were collected: <u>Pennsylvania</u>		For Compliance: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>												S=H ₂ SO ₄ O=Other				
Sample Identification		Collected		Grab	Composite	Total # of Containers											Remarks	
Date	Time											1 of 2						
<u>M56-6P01-5001</u>	<u>11/29/17</u>	<u>1108</u>	X		X	2	X	X	X									
<u>M56-6P01-5101</u>		<u>1108</u>	X		X	2												
<u>M56-6P01-5002</u>		<u>1108</u>	X		X	2												
<u>M56-6P02-5001</u>		<u>1140</u>	X		X	2												
<u>M56-6P02-5002</u>		<u>1145</u>	X		X	2												
<u>M56-6P01-W001</u>		<u>1215</u>	X			8												
<u>M56-6P01-W101</u>		<u>12230</u>	X			8												
<u>M56-6P02-5001</u>		<u>1140</u>			X	2												
<u>M56-6P02-5002</u>		<u>1145</u>			X	2												
<u>M56-6P02-W001</u>		<u>1230</u>			X	8												

Turnaround Time (TAT) Requested (please circle)		Relinquished by	Date	Time	Received by	Date	Time
Standard	Rush	<u>Bottle Storage</u>	<u>11/29/17</u>	<u>1250</u>	<u>Jan T</u>	<u>11/23/17</u>	<u>1250</u>
(Rush TAT is subject to laboratory approval and surcharge.)		Relinquished by	Date	Time	Received by	Date	Time
Date results are needed: _____		<u>Jan T</u>	<u>11/30/17</u>	<u>1240</u>	<u>D. Allen</u>	<u>11/30/17</u>	<u>1240</u>
E-mail address: _____		Relinquished by	Date	Time	Received by	Date	Time
Data Package Options (circle if required)		<u>D. Allen</u>	<u>11/30/17</u>	<u>1815</u>			
Type I (EPA Level 3 Equivalent/non-CLP)	Type VI (Raw Data Only)	Relinquished by	Date	Time	Received by	Date	Time
Type III (Reduced non-CLP)	NJ DKQP TX TRRP-13					<u>11/30/17</u>	<u>1815</u>
NYSDEC Category A or B	MA MCP CT RCP	EDD Required? Yes No		Relinquished by Commercial Carrier:			
		If yes, format: _____		UPS _____ FedEx _____ Other _____			
		Site-Specific QC (MS/MSD/Dup)? Yes No		Temperature upon receipt <u>0.1-1.6 °C</u>			
		(If yes, indicate QC sample and submit triplicate sample volume.)					



Client: Brightfields

Main Street

Delivery and Receipt Information

Delivery Method: ELLE Courier Arrival Timestamp: 11/30/2017 18:15
 Number of Packages: 4 Number of Projects: 2
 State/Province of Origin: PA

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	No	VOA Vial Headspace ≥ 6mm:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	7
Paperwork Enclosed:	Yes	Trip Blank Type:	See Below
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Trip Blank Type(s): 4HCL, 2 Sodium Biosulfate, 1 MeOH

Unpacked by Timothy Cubberley (6520) at 06:19 on 12/01/2017

Samples Chilled Details: Main Street

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT146	1.6	DT	Wet	Y	Loose/Bag	N
2	DT42-03	0.7	DT	Wet	Y	Loose/Bag	N
3	DT42-03	1.2	DT	Wet	Y	Loose/Bag	N
4	DT42-03	0.1	DT	Wet	Y	Loose/Bag	N

General Comments: Samples MSG-GP02-S0011 @1140 and MSG-GP02-002 @ 1145 marked on the chain twice.

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	mg	milligram(s)
C	degrees Celsius	mL	milliliter(s)
cfu	colony forming units	MPN	Most Probable Number
CP Units	cobalt-chloroplatinate units	N.D.	non-detect
F	degrees Fahrenheit	ng	nanogram(s)
g	gram(s)	NTU	nephelometric turbidity units
IU	International Units	pg/L	picogram/liter
kg	kilogram(s)	RL	Reporting Limit
L	liter(s)	TNTC	Too Numerous To Count
lb.	pound(s)	µg	microgram(s)
m3	cubic meter(s)	µL	microliter(s)
meq	milliequivalents	umhos/cm	micromhos/cm
<	less than		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
J (or G, I, X)	Estimated value \geq the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report
B	Detection in the Blank
Q0	LCS/LCSD Low
Q1	LCS/LCSD High
Q2	MS/MSD Low
Q3	MS/MSD High
Q7	LCS/LCSD RPD
Q8	DUP RPD
Q9	MS/MSD RPD

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Appendix E.7

Eurofins Analytical Data Packages

Pocono Gas Station



ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Brightfields, Inc.
801 Industrial St.
Suite 1
Wilmington DE 19801

Report Date: December 29, 2017 11:35

Project: Pocono Gas Station

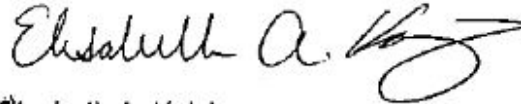
Account #: 04549
Group Number: 1882321
PO Number: 14726
State of Sample Origin: PA

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/> . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To Brightfields, Inc.
Electronic Copy To Brightfields, Inc.

Attn: James Thompson
Attn: Victoria Bisbing

Respectfully Submitted,



Elisabeth A. Knisley
Project Manager

(717) 556-7262



SAMPLE INFORMATION

<u>Client Sample Description</u>	<u>Sample Collection Date/Time</u>	<u>ELLE#</u>
PGS-GP01-S001 Grab Soil	11/30/2017 13:00	9348158
PGS-GP01-S001MS Grab Soil	11/30/2017 13:00	9348159
PGS-GP01-S001MSD Grab Soil	11/30/2017 13:00	9348160
PGS-GP01-S001DUP Grab Soil	11/30/2017 13:00	9348161
PGS-GP01-S002 Grab Soil	11/30/2017 13:10	9348162
PGS-GP01-W001 Grab Groundwater	11/30/2017 13:20	9348163
PGS-GP01-W001MS Grab Groundwater	11/30/2017 13:20	9348164
PGS-GP01-W001MSD Grab Groundwater	11/30/2017 13:20	9348165
PGS-GP01-W001DUP Grab Groundwater	11/30/2017 13:20	9348166
PGS-GP02-S001 Grab Soil	11/30/2017 13:45	9348167
PGS-GP02-S101 Grab Soil	11/30/2017 13:47	9348168
PGS-GP02-S002 Grab Soil	11/30/2017 13:55	9348169
PGS-GP02-W001 Grab Groundwater	11/30/2017 14:00	9348170
PGS-GP02-W101 Grab Groundwater	11/30/2017 14:02	9348171
PGS-GP02-S301 MeOH	11/30/2017 14:05	9348172
PGS-GP02-W301 Water	11/30/2017 14:10	9348173

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Sample Description: PGS-GP01-S001 Grab Soil
Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: SW 9348158
ELLE Group #: 1882321
Matrix: Soil

Project Name: Pocono Gas Station

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 13:00

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D.	0.0005	0.005	0.93
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	0.93
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	0.93
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	0.93
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.005	0.93
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	0.93
10237	Naphthalene	91-20-3	N.D.	0.001	0.005	0.93
10237	Toluene	108-88-3	N.D.	0.001	0.005	0.93
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.005	0.93
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.005	0.93
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	0.93
Metals			SW-846 6010B	mg/kg	mg/kg	
06955	Lead	7439-92-1	45.4 Q3Q8Q9	0.520	1.30	1
Wet Chemistry			SM 2540 G-1997	%	%	
00111	Moisture	n.a.	10.6	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A173461AA	12/13/2017 00:15	Stephen C Nolte	0.93
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733948209	11/30/2017 13:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733948209	11/30/2017 13:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733948209	11/30/2017 13:00	Client Supplied	1
06955	Lead	SW-846 6010B	1	173390570803	12/07/2017 17:04	Cindy M Gehman	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173390570803	12/06/2017 16:45	Barbara A Kane	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17341820002B	12/07/2017 11:15	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: PGS-GP01-S001MS Grab Soil
Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: SW 9348159
ELLE Group #: 1882321
Matrix: Soil

Project Name: Pocono Gas Station

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 13:00

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Benzene	71-43-2	0.023	0.0005	0.005	0.97
10237	1,2-Dibromoethane	106-93-4	0.023	0.001	0.005	0.97
10237	1,2-Dichloroethane	107-06-2	0.022	0.001	0.005	0.97
10237	Ethylbenzene	100-41-4	0.022	0.001	0.005	0.97
10237	Isopropylbenzene	98-82-8	0.024	0.001	0.005	0.97
10237	Methyl Tertiary Butyl Ether	1634-04-4	0.023	0.0005	0.005	0.97
10237	Naphthalene	91-20-3	0.018	0.001	0.005	0.97
10237	Toluene	108-88-3	0.026	0.001	0.005	0.97
10237	1,2,4-Trimethylbenzene	95-63-6	0.023	0.001	0.005	0.97
10237	1,3,5-Trimethylbenzene	108-67-8	0.021	0.001	0.005	0.97
10237	Xylene (Total)	1330-20-7	0.070	0.001	0.005	0.97
Metals			mg/kg	mg/kg	mg/kg	
SW-846 6010B						
06955	Lead	7439-92-1	59.8 Q3Q8Q9	0.476	1.19	1
Wet Chemistry			%	%	%	
SM 2540 G-1997						
%Moisture Calc						
00118	Moisture	n.a.	10.6	0.50	0.50	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A173461AA	12/12/2017 23:07	Stephen C Nolte	0.97
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733948209	11/30/2017 13:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733948209	11/30/2017 13:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733948209	11/30/2017 13:00	Client Supplied	1
06955	Lead	SW-846 6010B	1	173390570803	12/07/2017 17:13	Cindy M Gehman	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173390570803	12/06/2017 16:45	Barbara A Kane	1
00118	Moisture	SM 2540 G-1997 %Moisture Calc	1	17341820002B	12/07/2017 11:15	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: PGS-GP01-S001MSD Grab Soil
Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: SW 9348160
ELLE Group #: 1882321
Matrix: Soil

Project Name: Pocono Gas Station

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 13:00

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Benzene	71-43-2	0.021	0.0005	0.005	0.91
10237	1,2-Dibromoethane	106-93-4	0.021	0.001	0.005	0.91
10237	1,2-Dichloroethane	107-06-2	0.020	0.001	0.005	0.91
10237	Ethylbenzene	100-41-4	0.020	0.001	0.005	0.91
10237	Isopropylbenzene	98-82-8	0.022	0.001	0.005	0.91
10237	Methyl Tertiary Butyl Ether	1634-04-4	0.021	0.0005	0.005	0.91
10237	Naphthalene	91-20-3	0.017	0.001	0.005	0.91
10237	Toluene	108-88-3	0.024	0.001	0.005	0.91
10237	1,2,4-Trimethylbenzene	95-63-6	0.022	0.001	0.005	0.91
10237	1,3,5-Trimethylbenzene	108-67-8	0.019	0.001	0.005	0.91
10237	Xylene (Total)	1330-20-7	0.062	0.001	0.005	0.91
Metals			mg/kg	mg/kg	mg/kg	
SW-846 6010B						
06955	Lead	7439-92-1	76.7 Q3Q8Q9	0.658	1.64	1
Wet Chemistry			%	%	%	
SM 2540 G-1997						
%Moisture Calc						
00118	Moisture	n.a.	10.6	0.50	0.50	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A173461AA	12/12/2017 23:30	Stephen C Nolte	0.91
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733948209	11/30/2017 13:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733948209	11/30/2017 13:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733948209	11/30/2017 13:00	Client Supplied	1
06955	Lead	SW-846 6010B	1	173390570803	12/07/2017 17:17	Cindy M Gehman	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173390570803	12/06/2017 16:45	Barbara A Kane	1
00118	Moisture	SM 2540 G-1997 %Moisture Calc	1	17341820002B	12/07/2017 11:15	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: PGS-GP01-S001DUP Grab Soil
Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: SW 9348161
ELLE Group #: 1882321
Matrix: Soil

Project Name: Pocono Gas Station

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 13:00

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Metals						
		SW-846 6010B	mg/kg	mg/kg	mg/kg	
06955	Lead	7439-92-1	67.5 Q3Q8Q9	0.453	1.13	1
Wet Chemistry						
		SM 2540 G-1997	%	%	%	
		%Moisture Calc				
00118	Moisture	n.a.	10.6	0.50	0.50	1
00121	Moisture Duplicate	n.a.	10.5	0.50	0.50	1
The duplicate moisture value is provided to assess the precision of the moisture test. For comparability purposes, the initial moisture determination is the value used to perform dry weight calculations.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06955	Lead	SW-846 6010B	1	173390570803	12/07/2017 17:10	Cindy M Gehman	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173390570803	12/06/2017 16:45	Barbara A Kane	1
00118	Moisture	SM 2540 G-1997 %Moisture Calc	1	17341820002B	12/07/2017 11:15	Larry E Bevins	1
00121	Moisture Duplicate	SM 2540 G-1997 %Moisture Calc	1	17341820002B	12/07/2017 11:15	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: PGS-GP01-S002 Grab Soil
Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: SW 9348162
ELLE Group #: 1882321
Matrix: Soil

Project Name: Pocono Gas Station

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 13:10

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D.	0.0005	0.005	0.9
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	0.9
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	0.9
10237	Ethylbenzene	100-41-4	0.001 J	0.001	0.005	0.9
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.005	0.9
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	0.9
10237	Naphthalene	91-20-3	N.D.	0.001	0.005	0.9
10237	Toluene	108-88-3	N.D.	0.001	0.005	0.9
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.005	0.9
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.005	0.9
10237	Xylene (Total)	1330-20-7	0.009	0.001	0.005	0.9
Metals			SW-846 6010B	mg/kg	mg/kg	
06955	Lead	7439-92-1	29.9 Q3Q8Q9	0.498	1.24	1
Wet Chemistry			SM 2540 G-1997	%	%	
00111	Moisture	n.a.	12.0	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A173461AA	12/12/2017 23:52	Stephen C Nolte	0.9
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733948209	11/30/2017 13:10	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733948209	11/30/2017 13:10	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733948209	11/30/2017 13:10	Client Supplied	1
06955	Lead	SW-846 6010B	1	173390570803	12/07/2017 17:27	Cindy M Gehman	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173390570803	12/06/2017 16:45	Barbara A Kane	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17341820002B	12/07/2017 11:15	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: PGS-GP01-W001 Grab Groundwater
Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: WW 9348163
ELLE Group #: 1882321
Matrix: Groundwater

Project Name: Pocono Gas Station

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 13:20

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10945	Naphthalene	91-20-3	N.D. Q2	1	4	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	2	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
Volatiles by Extraction		SW-846 8011	ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	N.D. D1	0.0094	0.028	1
Metals Dissolved		SW-846 6020	mg/l	mg/l	mg/l	
06035	Lead	7439-92-1	0.0584 Q3Q2Q9	0.00011	0.0010	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z173441AA	12/10/2017 20:17	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z173441AA	12/10/2017 20:17	Hu Yang	1
10398	8011 Master Master	SW-846 8011	1	173420002A	12/12/2017 03:09	Sarah Estes	1
07786	EDB Extraction (8011)	SW-846 8011	1	173420002A	12/10/2017 15:15	Edwin Ortiz	1
06035	Lead	SW-846 6020	1	173410605003A	12/29/2017 07:13	Sarah L Burt	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	173410605003	12/08/2017 05:36	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: PGS-GP01-W001MS Grab Groundwater
Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: WW 9348164
ELLE Group #: 1882321
Matrix: Groundwater

Project Name: Pocono Gas Station

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 13:20

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	18	0.5	1	1
10945	1,2-Dichloroethane	107-06-2	20	0.5	1	1
10945	Ethylbenzene	100-41-4	19	0.5	1	1
10945	Isopropylbenzene	98-82-8	19	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	18	0.5	1	1
10945	Naphthalene	91-20-3	12 Q2	1	4	1
10945	Toluene	108-88-3	20	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	18	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	17	0.5	2	1
10945	Xylene (Total)	1330-20-7	59	0.5	1	1
Volatiles by Extraction		SW-846 8011	ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	0.11 D1	0.0095	0.028	1
Metals Dissolved		SW-846 6020	mg/l	mg/l	mg/l	
06035	Lead	7439-92-1	0.111 Q3Q2Q9	0.00011	0.0010	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z173441AA	12/10/2017 20:41	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z173441AA	12/10/2017 20:41	Hu Yang	1
10398	8011 Master Master	SW-846 8011	1	173420002A	12/12/2017 03:25	Sarah Estes	1
07786	EDB Extraction (8011)	SW-846 8011	1	173420002A	12/10/2017 15:15	Edwin Ortiz	1
06035	Lead	SW-846 6020	1	173410605003A	12/29/2017 07:19	Sarah L Burt	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	173410605003	12/08/2017 05:36	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: PGS-GP01-W001MSD Grab Groundwater
Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: WW 9348165
ELLE Group #: 1882321
Matrix: Groundwater

Project Name: Pocono Gas Station

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 13:20

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	20	0.5	1	1
10945	1,2-Dichloroethane	107-06-2	20	0.5	1	1
10945	Ethylbenzene	100-41-4	20	0.5	1	1
10945	Isopropylbenzene	98-82-8	21	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	19	0.5	1	1
10945	Naphthalene	91-20-3	13 Q2	1	4	1
10945	Toluene	108-88-3	21	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	20	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	20	0.5	2	1
10945	Xylene (Total)	1330-20-7	63	0.5	1	1
Volatiles by Extraction		SW-846 8011	ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	0.10 D1	0.0094	0.028	1
Metals Dissolved		SW-846 6020	mg/l	mg/l	mg/l	
06035	Lead	7439-92-1	0.0429 Q3Q2Q9	0.00011	0.0010	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z173441AA	12/10/2017 21:05	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z173441AA	12/10/2017 21:05	Hu Yang	1
10398	8011 Master Master	SW-846 8011	1	173420002A	12/12/2017 03:41	Sarah Estes	1
07786	EDB Extraction (8011)	SW-846 8011	1	173420002A	12/10/2017 15:15	Edwin Ortiz	1
06035	Lead	SW-846 6020	1	173410605003A	12/29/2017 07:21	Sarah L Burt	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	173410605003	12/08/2017 05:36	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: PGS-GP01-W001DUP Grab Groundwater
Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: WW 9348166
ELLE Group #: 1882321
Matrix: Groundwater

Project Name: Pocono Gas Station

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 13:20

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
Metals Dissolved		SW-846 6020				
06035	Lead	7439-92-1	0.0568 Q3Q2Q9	mg/l 0.00011	mg/l 0.0010	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	173410605003A	12/29/2017 07:17	Sarah L Burt	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	173410605003	12/08/2017 05:36	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: PGS-GP02-S001 Grab Soil
Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: SW 9348167
ELLE Group #: 1882321
Matrix: Soil

Project Name: Pocono Gas Station

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 13:45

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D.	0.0005	0.005	0.91
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	0.91
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	0.91
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	0.91
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.005	0.91
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	0.91
10237	Naphthalene	91-20-3	N.D.	0.001	0.005	0.91
10237	Toluene	108-88-3	N.D.	0.001	0.005	0.91
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.005	0.91
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.005	0.91
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	0.91
Metals			SW-846 6010B	mg/kg	mg/kg	
06955	Lead	7439-92-1	26.9 Q3Q9	0.649	1.62	1
Wet Chemistry			SM 2540 G-1997	%	%	
00111	Moisture	n.a.	10.2	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A173461AA	12/13/2017 00:38	Stephen C Nolte	0.91
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733948209	11/30/2017 13:45	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733948209	11/30/2017 13:45	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733948209	11/30/2017 13:45	Client Supplied	1
06955	Lead	SW-846 6010B	1	173390570802	12/12/2017 22:16	Cindy M Gehman	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173390570802	12/06/2017 16:45	Barbara A Kane	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17341820002B	12/07/2017 11:15	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: PGS-GP02-S101 Grab Soil
Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: SW 9348168
ELLE Group #: 1882321
Matrix: Soil

Project Name: Pocono Gas Station

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 13:47

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D.	0.0005	0.005	0.92
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	0.92
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	0.92
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	0.92
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.005	0.92
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	0.92
10237	Naphthalene	91-20-3	0.002 J	0.001	0.005	0.92
10237	Toluene	108-88-3	N.D.	0.001	0.005	0.92
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.005	0.92
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.005	0.92
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	0.92
Metals			SW-846 6010B	mg/kg	mg/kg	
06955	Lead	7439-92-1	18.3 Q3Q9	0.612	1.53	1
Wet Chemistry			SM 2540 G-1997	%	%	
00111	Moisture	n.a.	11.7	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	X173471AA	12/13/2017 14:18	Linda C Pape	0.92
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733948209	11/30/2017 13:47	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733948209	11/30/2017 13:47	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733948209	11/30/2017 13:47	Client Supplied	1
06955	Lead	SW-846 6010B	1	173390570802	12/12/2017 22:19	Cindy M Gehman	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173390570802	12/06/2017 16:45	Barbara A Kane	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17341820002B	12/07/2017 11:15	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: PGS-GP02-S002 Grab Soil
Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: SW 9348169
ELLE Group #: 1882321
Matrix: Soil

Project Name: Pocono Gas Station

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 13:55

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D.	0.0006	0.006	1.02
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.006	1.02
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.006	1.02
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.006	1.02
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.006	1.02
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0006	0.006	1.02
10237	Naphthalene	91-20-3	N.D.	0.001	0.006	1.02
10237	Toluene	108-88-3	N.D.	0.001	0.006	1.02
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.006	1.02
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.006	1.02
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.006	1.02
Metals			SW-846 6010B	mg/kg	mg/kg	
06955	Lead	7439-92-1	9.53 Q3Q9	0.480	1.20	1
Wet Chemistry			SM 2540 G-1997	%	%	
00111	Moisture	n.a.	7.5	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A173461AA	12/13/2017 01:23	Stephen C Nolte	1.02
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733948209	11/30/2017 13:55	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733948209	11/30/2017 13:55	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733948209	11/30/2017 13:55	Client Supplied	1
06955	Lead	SW-846 6010B	1	173390570802	12/12/2017 22:29	Cindy M Gehman	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173390570802	12/06/2017 16:45	Barbara A Kane	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17341820002B	12/07/2017 11:15	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: PGS-GP02-W001 Grab Groundwater
Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: WW 9348170
ELLE Group #: 1882321
Matrix: Groundwater

Project Name: Pocono Gas Station

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 14:00

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10945	Naphthalene	91-20-3	N.D. Q2	1	4	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	2	1
10945	Xylene (Total)	1330-20-7	0.9 J	0.5	1	1
Volatiles by Extraction		SW-846 8011	ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	N.D. D1	0.0091	0.027	1
Metals Dissolved		SW-846 6020	mg/l	mg/l	mg/l	
06035	Lead	7439-92-1	0.00020 J Q3Q2Q9	0.00011	0.0010	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z173441AA	12/10/2017 23:57	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z173441AA	12/10/2017 23:57	Hu Yang	1
10398	8011 Master Master	SW-846 8011	1	173420002A	12/12/2017 03:56	Sarah Estes	1
07786	EDB Extraction (8011)	SW-846 8011	1	173420002A	12/10/2017 15:15	Edwin Ortiz	1
06035	Lead	SW-846 6020	1	173410605003A	12/29/2017 07:25	Sarah L Burt	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	173410605003	12/08/2017 05:36	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: PGS-GP02-W101 Grab Groundwater
Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: WW 9348171
ELLE Group #: 1882321
Matrix: Groundwater

Project Name: Pocono Gas Station

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 14:02

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10945	Naphthalene	91-20-3	N.D. Q2	1	4	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	2	1
10945	Xylene (Total)	1330-20-7	1	0.5	1	1
Volatiles by Extraction		SW-846 8011	ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	N.D. D1	0.0091	0.027	1
Metals Dissolved		SW-846 6020	mg/l	mg/l	mg/l	
06035	Lead	7439-92-1	N.D. Q3Q2Q9	0.00011	0.0010	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z173441AA	12/10/2017 22:20	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z173441AA	12/10/2017 22:20	Hu Yang	1
10398	8011 Master Master	SW-846 8011	1	173420002A	12/12/2017 04:12	Sarah Estes	1
07786	EDB Extraction (8011)	SW-846 8011	1	173420002A	12/10/2017 15:15	Edwin Ortiz	1
06035	Lead	SW-846 6020	1	173410605003A	12/29/2017 07:27	Sarah L Burt	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	173410605003	12/08/2017 05:36	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: PGS-GP02-S301 MeOH
Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: SW 9348172
ELLE Group #: 1882321
Matrix: MeOH

Project Name: Pocono Gas Station

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 14:05

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles						
		SW-846 8260B	mg/kg	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D.	0.0005	0.005	1
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	1
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	1
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	1
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.005	1
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	1
10237	Naphthalene	91-20-3	N.D.	0.001	0.005	1
10237	Toluene	108-88-3	N.D.	0.001	0.005	1
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.005	1
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.005	1
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A173461AA	12/12/2017 20:51	Stephen C Nolte	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733948209	11/30/2017 14:05	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733948209	11/30/2017 14:05	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733948209	11/30/2017 14:05	Client Supplied	1

*=This limit was used in the evaluation of the final result

Sample Description: PGS-GP02-W301 Water
Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: WW 9348173
ELLE Group #: 1882321
Matrix: Water

Project Name: Pocono Gas Station

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 11/30/2017 14:10

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10945	Naphthalene	91-20-3	N.D.	1	4	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	2	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
Volatiles by Extraction		SW-846 8011	ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	N.D. D1	0.0095	0.029	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z173451AA	12/11/2017 12:22	Anthony H Downey	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z173451AA	12/11/2017 12:22	Anthony H Downey	1
10398	8011 Master Master	SW-846 8011	1	173420003A	12/11/2017 15:45	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	173420003A	12/10/2017 15:15	Edwin Ortiz	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/29/2017 11:35

Group Number: 1882321

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	MDL**	LOQ
	mg/kg	mg/kg	mg/kg
Batch number: A173461AA	Sample number(s): 9348158-9348160,9348162,9348167,9348169,9348172		
Benzene	N.D.	0.0005	0.005
1,2-Dibromoethane	N.D.	0.001	0.005
1,2-Dichloroethane	N.D.	0.001	0.005
Ethylbenzene	N.D.	0.001	0.005
Isopropylbenzene	N.D.	0.001	0.005
Methyl Tertiary Butyl Ether	N.D.	0.0005	0.005
Naphthalene	N.D.	0.001	0.005
Toluene	N.D.	0.001	0.005
1,2,4-Trimethylbenzene	N.D.	0.001	0.005
1,3,5-Trimethylbenzene	N.D.	0.001	0.005
Xylene (Total)	N.D.	0.001	0.005
Batch number: X173471AA	Sample number(s): 9348168		
Benzene	N.D.	0.0005	0.005
1,2-Dibromoethane	N.D.	0.001	0.005
1,2-Dichloroethane	N.D.	0.001	0.005
Ethylbenzene	N.D.	0.001	0.005
Isopropylbenzene	N.D.	0.001	0.005
Methyl Tertiary Butyl Ether	N.D.	0.0005	0.005
Naphthalene	N.D.	0.001	0.005
Toluene	N.D.	0.001	0.005
1,2,4-Trimethylbenzene	N.D.	0.001	0.005
1,3,5-Trimethylbenzene	N.D.	0.001	0.005
Xylene (Total)	N.D.	0.001	0.005
	ug/l	ug/l	ug/l
Batch number: Z173441AA	Sample number(s): 9348163-9348165,9348170-9348171		
Benzene	N.D.	0.5	1
1,2-Dichloroethane	N.D.	0.5	1
Ethylbenzene	N.D.	0.5	1
Isopropylbenzene	N.D.	0.5	2
Methyl Tertiary Butyl Ether	N.D.	0.5	1
Naphthalene	N.D.	1	4
Toluene	N.D.	0.5	1
1,2,4-Trimethylbenzene	N.D.	0.5	2
1,3,5-Trimethylbenzene	N.D.	0.5	2
Xylene (Total)	N.D.	0.5	1
Batch number: Z173451AA	Sample number(s): 9348173		
Benzene	N.D.	0.5	1

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/29/2017 11:35

Group Number: 1882321

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	ug/l	ug/l	ug/l
1,2-Dichloroethane	N.D.	0.5	1
Ethylbenzene	N.D.	0.5	1
Isopropylbenzene	N.D.	0.5	2
Methyl Tertiary Butyl Ether	N.D.	0.5	1
Naphthalene	N.D.	1	4
Toluene	N.D.	0.5	1
1,2,4-Trimethylbenzene	N.D.	0.5	2
1,3,5-Trimethylbenzene	N.D.	0.5	2
Xylene (Total)	N.D.	0.5	1
Batch number: 173420002A	Sample number(s): 9348163-9348165,9348170-9348171		
Ethylene dibromide	N.D.	0.010	0.030
Batch number: 173420003A	Sample number(s): 9348173		
Ethylene dibromide	N.D.	0.010	0.030
	mg/kg	mg/kg	mg/kg
Batch number: 173390570802	Sample number(s): 9348167-9348169		
Lead	N.D.	0.600	1.50
Batch number: 173390570803	Sample number(s): 9348158-9348162		
Lead	N.D.	0.600	1.50
	mg/l	mg/l	mg/l
Batch number: 173410605003A	Sample number(s): 9348163-9348166,9348170-9348171		
Lead	N.D.	0.00011	0.0010

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: A173461AA	Sample number(s): 9348158-9348160,9348162,9348167,9348169,9348172								
Benzene	0.0200	0.0189	0.0200	0.0184	95	92	80-120	3	30
1,2-Dibromoethane	0.0200	0.0178	0.0200	0.0178	89	89	74-120	0	30
1,2-Dichloroethane	0.0200	0.0178	0.0200	0.0176	89	88	71-128	1	30
Ethylbenzene	0.0200	0.0179	0.0200	0.0172	90	86	80-120	4	30
Isopropylbenzene	0.0200	0.0205	0.0200	0.0185	102	92	76-120	10	30
Methyl Tertiary Butyl Ether	0.0200	0.0173	0.0200	0.0180	87	90	66-123	4	30
Naphthalene	0.0200	0.0151	0.0200	0.0155	76	78	54-132	3	30
Toluene	0.0200	0.0206	0.0200	0.0202	103	101	80-120	2	30
1,2,4-Trimethylbenzene	0.0200	0.0166	0.0200	0.0174	83	87	74-120	5	30
1,3,5-Trimethylbenzene	0.0200	0.0167	0.0200	0.0159	83	80	73-120	5	30
Xylene (Total)	0.0600	0.0555	0.0600	0.0548	93	91	80-120	1	30

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/29/2017 11:35

Group Number: 1882321

LCS/LCSD (continued)

Analysis Name	LCS Spike Added mg/kg	LCS Conc mg/kg	LCSD Spike Added mg/kg	LCSD Conc mg/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: X173471AA	Sample number(s): 9348168								
Benzene	0.0200	0.0200	0.0200	0.0203	100	101	80-120	2	30
1,2-Dibromoethane	0.0200	0.0187	0.0200	0.0191	93	95	74-120	2	30
1,2-Dichloroethane	0.0200	0.0202	0.0200	0.0205	101	102	71-128	1	30
Ethylbenzene	0.0200	0.0200	0.0200	0.0204	100	102	80-120	2	30
Isopropylbenzene	0.0200	0.0200	0.0200	0.0202	100	101	76-120	1	30
Methyl Tertiary Butyl Ether	0.0200	0.0190	0.0200	0.0192	95	96	66-123	1	30
Naphthalene	0.0200	0.0162	0.0200	0.0160	81	80	54-132	1	30
Toluene	0.0200	0.0199	0.0200	0.0204	100	102	80-120	2	30
1,2,4-Trimethylbenzene	0.0200	0.0202	0.0200	0.0206	101	103	74-120	2	30
1,3,5-Trimethylbenzene	0.0200	0.0199	0.0200	0.0203	100	102	73-120	2	30
Xylene (Total)	0.0600	0.0602	0.0600	0.0608	100	101	80-120	1	30
	ug/l	ug/l	ug/l	ug/l					
Batch number: Z173441AA	Sample number(s): 9348163-9348165,9348170-9348171								
Benzene	20	17.59			88		78-120		
1,2-Dichloroethane	20	19.22			96		73-124		
Ethylbenzene	20	18.64			93		78-120		
Isopropylbenzene	20	19.16			96		80-120		
Methyl Tertiary Butyl Ether	20	18.25			91		75-120		
Naphthalene	20	14.12			71		59-120		
Toluene	20	18.47			92		80-120		
1,2,4-Trimethylbenzene	20	18.57			93		75-120		
1,3,5-Trimethylbenzene	20	18.39			92		75-120		
Xylene (Total)	60	57.67			96		80-120		
	ug/l	ug/l	ug/l	ug/l					
Batch number: Z173451AA	Sample number(s): 9348173								
Benzene	20	19.18			96		78-120		
1,2-Dichloroethane	20	21.11			106		73-124		
Ethylbenzene	20	19.88			99		78-120		
Isopropylbenzene	20	20.09			100		80-120		
Methyl Tertiary Butyl Ether	20	19.79			99		75-120		
Naphthalene	20	15.15			76		59-120		
Toluene	20	19.93			100		80-120		
1,2,4-Trimethylbenzene	20	20			100		75-120		
1,3,5-Trimethylbenzene	20	19.49			97		75-120		
Xylene (Total)	60	61.87			103		80-120		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 173420002A	Sample number(s): 9348163-9348165,9348170-9348171								
Ethylene dibromide	0.128	0.115	0.128	0.114	90	89	60-140	1	20
Batch number: 173420003A	Sample number(s): 9348173								
Ethylene dibromide	0.128	0.116	0.128	0.116	91	90	60-140	0	20

*- Outside of specification

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(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/29/2017 11:35

Group Number: 1882321

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 173390570802	Sample number(s): 9348167-9348169								
Lead	15	15.99			107		80-120		
Batch number: 173390570803	Sample number(s): 9348158-9348162								
Lead	15	15.73			105		80-120		
	mg/l	mg/l	mg/l	mg/l					
Batch number: 173410605003A	Sample number(s): 9348163-9348166,9348170-9348171								
Lead	0.0150	0.0154			102		80-120		
	%	%	%	%					
Batch number: 17341820002B	Sample number(s): 9348158-9348162,9348167-9348169								
Moisture	89.5	89.44			100		99-101		
Moisture	89.5	89.44			100		99-101		
Moisture Duplicate	89.5	89.44			100		99-101		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: A173461AA	Sample number(s): 9348158-9348160,9348162,9348167,9348169,9348172 UNSPK: 9348158									
Benzene	N.D.	0.0193	0.0207	0.0182	0.0192	107	105	80-120	8	30
1,2-Dibromoethane	N.D.	0.0193	0.0207	0.0182	0.0188	107	104	74-120	9	30
1,2-Dichloroethane	N.D.	0.0193	0.0197	0.0182	0.0181	102	99	71-128	9	30
Ethylbenzene	N.D.	0.0193	0.0199	0.0182	0.0182	103	100	80-120	9	30
Isopropylbenzene	N.D.	0.0193	0.0214	0.0182	0.0194	111	106	76-120	10	30
Methyl Tertiary Butyl Ether	N.D.	0.0193	0.0203	0.0182	0.0187	105	103	66-123	8	30
Naphthalene	N.D.	0.0193	0.0162	0.0182	0.0149	84	82	54-132	8	30
Toluene	N.D.	0.0193	0.0232	0.0182	0.0213	120	117	80-120	9	30
1,2,4-Trimethylbenzene	N.D.	0.0193	0.0204	0.0182	0.0193	106	106	74-120	6	30
1,3,5-Trimethylbenzene	N.D.	0.0193	0.0187	0.0182	0.0170	97	93	73-120	10	30
Xylene (Total)	N.D.	0.0580	0.0629	0.0545	0.0551	108	101	80-120	13	30
Batch number: X173471AA	Sample number(s): 9348168 UNSPK: P361473									
Benzene	N.D.	0.0201	0.0213	0.0210	0.0229	106	109	80-120	7	30
1,2-Dibromoethane	N.D.	0.0201	0.0215	0.0210	0.0229	107	109	74-120	6	30
1,2-Dichloroethane	N.D.	0.0201	0.0218	0.0210	0.0233	108	111	71-128	7	30

*- Outside of specification

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(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/29/2017 11:35

Group Number: 1882321

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Ethylbenzene	N.D.	0.0201	0.0205	0.0210	0.0220	102	105	80-120	7	30
Isopropylbenzene	N.D.	0.0201	0.0205	0.0210	0.0223	102	106	76-120	8	30
Methyl Tertiary Butyl Ether	N.D.	0.0201	0.0220	0.0210	0.0242	110	115	66-123	9	30
Naphthalene	N.D.	0.0201	0.0187	0.0210	0.0190	93	91	54-132	2	30
Toluene	N.D.	0.0201	0.0207	0.0210	0.0222	103	106	80-120	7	30
1,2,4-Trimethylbenzene	N.D.	0.0201	0.0199	0.0210	0.0217	99	104	74-120	9	30
1,3,5-Trimethylbenzene	N.D.	0.0201	0.0198	0.0210	0.0217	99	104	73-120	9	30
Xylene (Total)	N.D.	0.0602	0.0607	0.0629	0.0654	101	104	80-120	7	30

ug/l ug/l ug/l ug/l ug/l

Batch number: Z173441AA	Sample number(s): 9348163-9348165,9348170-9348171	UNSPK: 9348163								
Benzene	N.D.	20	18.24	20	19.62	91	98	78-120	7	30
1,2-Dichloroethane	N.D.	20	19.57	20	20.36	98	102	73-124	4	30
Ethylbenzene	N.D.	20	18.86	20	20.25	94	101	78-120	7	30
Isopropylbenzene	N.D.	20	19.34	20	20.74	97	104	80-120	7	30
Methyl Tertiary Butyl Ether	N.D.	20	17.92	20	19.21	90	96	75-120	7	30
Naphthalene	N.D.	20	11.63	20	12.96	58*	65	59-120	11	30
Toluene	N.D.	20	19.6	20	20.57	98	103	80-120	5	30
1,2,4-Trimethylbenzene	N.D.	20	18.01	20	19.87	90	99	75-120	10	30
1,3,5-Trimethylbenzene	N.D.	20	17.1	20	19.57	85	98	75-120	13	30
Xylene (Total)	N.D.	60	59.36	60	62.9	99	105	80-120	6	30

ug/l ug/l ug/l ug/l ug/l

Batch number: Z173451AA	Sample number(s): 9348173	UNSPK: P354425								
Benzene	N.D.	20	20.42	20	20.55	102	103	78-120	1	30
1,2-Dichloroethane	N.D.	20	22.26	20	22.32	111	112	73-124	0	30
Ethylbenzene	N.D.	20	21.62	20	21.76	108	109	78-120	1	30
Isopropylbenzene	N.D.	20	22.74	20	22.74	114	114	80-120	0	30
Methyl Tertiary Butyl Ether	N.D.	20	19.88	20	20.13	99	101	75-120	1	30
Naphthalene	N.D.	20	14.07	20	14.4	70	72	59-120	2	30
Toluene	N.D.	20	21.77	20	21.8	109	109	80-120	0	30
1,2,4-Trimethylbenzene	N.D.	20	20.84	20	21.26	104	106	75-120	2	30
1,3,5-Trimethylbenzene	N.D.	20	20.54	20	20.95	103	105	75-120	2	30
Xylene (Total)	N.D.	60	67.72	60	67.58	113	113	80-120	0	30

ug/l ug/l ug/l ug/l ug/l

Batch number: 173420002A	Sample number(s): 9348163-9348165,9348170-9348171	UNSPK: 9348163								
Ethylene dibromide	N.D.	0.122	0.107	0.120	0.102	88	85	60-140	5	20

Batch number: 173420003A	Sample number(s): 9348173	UNSPK: P348261								
Ethylene dibromide	N.D.	0.121	0.103	0.106	0.120	85	113	60-140	15	20

mg/kg mg/kg mg/kg mg/kg mg/kg

Batch number: 173390570802	Sample number(s): 9348167-9348169	UNSPK: P348256
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*- Outside of specification

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(2) The unspiked result was more than four times the spike added.

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/29/2017 11:35

Group Number: 1882321

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Lead	22.15	12.93	41.66	12.71	32.74	151*	83	75-125	24*	20
Batch number: 173390570803	Sample number(s): 9348158-9348162 UNSPK: 9348158									
Lead	40.56	10.64	53.45	14.71	68.55	121	190*	75-125	25*	20
	mg/l	mg/l	mg/l	mg/l	mg/l					
Batch number: 173410605003A	Sample number(s): 9348163-9348166,9348170-9348171 UNSPK: 9348163									
Lead	0.0584	0.0150	0.111	0.0150	0.0429	349*	-103*	75-125	88*	20

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/kg	DUP Conc mg/kg	DUP RPD	DUP RPD Max
Batch number: 173390570802	Sample number(s): 9348167-9348169 BKG: P348256			
Lead	22.15	25.05	12	20
Batch number: 173390570803	Sample number(s): 9348158-9348162 BKG: 9348158			
Lead	40.56	60.34	39*	20
	mg/l	mg/l		
Batch number: 173410605003A	Sample number(s): 9348163-9348166,9348170-9348171 BKG: 9348163			
Lead	0.0584	0.0568	3	20
	%	%		
Batch number: 17341820002B	Sample number(s): 9348158-9348162,9348167-9348169 BKG: 9348158, P348158			
Moisture	10.56	10.51	0	5
Moisture	10.56	10.51	0	5
Moisture Duplicate	10.56	10.51	0	5

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report. For dual column analyses, the surrogate (at least one surrogate for multi-surrogate tests) must be within the acceptance limits on at least one of the two columns.

*- Outside of specification

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(2) The unspiked result was more than four times the spike added.

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/29/2017 11:35

Group Number: 1882321

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report. For dual column analyses, the surrogate (at least one surrogate for multi-surrogate tests) must be within the acceptance limits on at least one of the two columns.

Analysis Name: PA UST Leaded/Unleaded VOCs
Batch number: A173461AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9348158	102	106	111	95
9348159	100	102	113	100
9348160	101	103	113	101
9348162	100	104	110	95
9348167	101	104	110	97
9348169	102	102	105	92
9348172	103	104	110	98
Blank	102	102	109	97
LCS	101	101	112	102
LCSD	99	100	112	103
MS	100	102	113	100
MSD	101	103	113	101
Limits:	50-141	54-135	52-141	50-131

Analysis Name: PA UST Leaded/Unleaded VOCs
Batch number: X173471AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9348168	108	107	98	79
Blank	105	105	99	87
LCS	101	100	101	100
LCSD	100	100	101	101
MS	102	107	101	101
MSD	102	106	101	101
Limits:	50-141	54-135	52-141	50-131

Analysis Name: VOCs- 5ml Water by 8260B UST
Batch number: Z173441AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9348163	112	101	99	94
9348164	110	101	101	107
9348165	108	100	99	106
9348170	115	100	98	96
9348171	112	102	98	97
Blank	111	101	101	97
LCS	108	102	101	104
MS	110	101	101	107
MSD	108	100	99	106

*- Outside of specification

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P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/29/2017 11:35

Group Number: 1882321

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report. For dual column analyses, the surrogate (at least one surrogate for multi-surrogate tests) must be within the acceptance limits on at least one of the two columns.

Analysis Name: VOCs- 5ml Water by 8260B UST
Batch number: Z173441AA

Limits: 80-120 80-120 80-120 80-120

Analysis Name: VOCs- 5ml Water by 8260B UST
Batch number: Z173451AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9348173	115	103	100	95
Blank	112	99	99	96
LCS	106	98	101	106
MS	111	100	103	108
MSD	111	100	102	108
Limits:	80-120	80-120	80-120	80-120

Analysis Name: 8011 Master Master
Batch number: 173420002A

	1,1,2,2-Tetrachloroethane-D1	1,1,2,2-Tetrachloroethane-D2
9348163	97	99
9348164	91	92
9348165	89	93
9348170	126	97
9348171	118	95
Blank	93	95
LCS	93	96
LCSD	93	99
MS	91	92
MSD	89	93
Limits:	46-136	46-136

Analysis Name: 8011 Master Master
Batch number: 173420003A

	1,1,2,2-Tetrachloroethane-D1	1,1,2,2-Tetrachloroethane-D2
9348173	92	99
Blank	91	97
LCS	91	96
LCSD	96	98
MS	98	101
MSD	114	118

*- Outside of specification

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/29/2017 11:35

Group Number: 1882321

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report. For dual column analyses, the surrogate (at least one surrogate for multi-surrogate tests) must be within the acceptance limits on at least one of the two columns.

Analysis Name: 8011 Master Master
Batch number: 173420003A

Limits: 46-136 46-136

*- Outside of specification

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P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Environmental Analysis Request/Chain of Custody



Lancaster Laboratories Environmental

For Eurofins Lancaster Laboratories Environmental use only

Acct. # 4549 Group # 1882321 Sample # 9348158-73

COC # 539168

Client Information				Matrix				Analysis Requested										For Lab Use Only	
Client: <u>Brightfields, Inc.</u>		Acct. #:		<input type="checkbox"/> Tissue <input checked="" type="checkbox"/> Ground <input type="checkbox"/> Surface <input type="checkbox"/> Potable <input type="checkbox"/> NPDES <input type="checkbox"/> Water <input type="checkbox"/> Other:		Total # of Containers		Preservation Codes										FSC: _____	
Project Name/ID: <u>W. Kinnel EM, ITC. Follow bus station</u>		PWSID #:						(List VOCs and/or other analytes)										SCR#: <u>216066</u>	
Project Manager: <u>Victoria Bislang</u>		P.O. #:																Remarks	
Sampler: <u>James Thompson</u>		Quote #:		Soil		Water		Other		VOCs		Lead		H=HCl T=Thiosulfate N=HNO ₃ B=NaOH S=H ₂ SO ₄ O=Other					
State where samples were collected: <u>Pennsylvania</u>		For Compliance: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		Composite		Grab		Date		Time		MS/MSD		10 of 1					
Sample Identification		Collected		Grab		Composite		Date		Time		MS/MSD		10 of 1					
<u>PGS-6P01-5001</u>		<u>12/17/17</u>		<u>1300</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>MS/MSD</u>					
<u>PGS-6P01-5002</u>		<u>1310</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>MS/MSD</u>					
<u>PGS-6P01-10001</u>		<u>1320</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>MS/MSD</u>					
<u>PGS-6P02-5001</u>		<u>1345</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>MS/MSD</u>					
<u>PGS-6P02-5101</u>		<u>1347</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>MS/MSD</u>					
<u>PGS-6P02-5002</u>		<u>1355</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>MS/MSD</u>					
<u>PGS-6P02-10001</u>		<u>1400</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>MS/MSD</u>					
<u>PGS-6P02-1101</u>		<u>1402</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>MS/MSD</u>					
<u>PGS-6P02-5301</u>		<u>1405</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>MS/MSD</u>					
<u>PGS-6P02-10301</u>		<u>1410</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>MS/MSD</u>					
Turnaround Time (TAT) Requested (please circle)				Relinquished by		Date		Time		Received by		Date		Time					
Standard				<u>Bill DeLong</u>		<u>12/17/17</u>		<u>12:30</u>		<u>Bill DeLong</u>		<u>12/17/17</u>		<u>12:30</u>					
Rush				<u>Bill DeLong</u>		<u>12/17/17</u>		<u>14:50</u>		<u>Bill DeLong</u>		<u>12/17/17</u>		<u>14:50</u>					
(Rush TAT is subject to laboratory approval and surcharge.)				<u>Bill DeLong</u>		<u>12/17/17</u>		<u>17:25</u>		<u>Bill DeLong</u>		<u>12/17/17</u>		<u>17:25</u>					
Date results are needed: _____				Relinquished by		Date		Time		Received by		Date		Time					
E-mail address: _____				Relinquished by		Date		Time		Received by		Date		Time					
Data Package Options (circle if required)				Relinquished by		Date		Time		Received by		Date		Time					
Type I (EPA Level 3)				<u>Bill DeLong</u>		<u>12/17/17</u>		<u>17:25</u>		<u>Bill DeLong</u>		<u>12/17/17</u>		<u>17:25</u>					
Type VI (Raw Data Only)				<u>Bill DeLong</u>		<u>12/17/17</u>		<u>17:25</u>		<u>Bill DeLong</u>		<u>12/17/17</u>		<u>17:25</u>					
Type III (Reduced non-CLP)				<u>Bill DeLong</u>		<u>12/17/17</u>		<u>17:25</u>		<u>Bill DeLong</u>		<u>12/17/17</u>		<u>17:25</u>					
NYSDEC Category A or B				<u>Bill DeLong</u>		<u>12/17/17</u>		<u>17:25</u>		<u>Bill DeLong</u>		<u>12/17/17</u>		<u>17:25</u>					
NJ DKQP TX TRRP-13				<u>Bill DeLong</u>		<u>12/17/17</u>		<u>17:25</u>		<u>Bill DeLong</u>		<u>12/17/17</u>		<u>17:25</u>					
MA MCP CT RCP				<u>Bill DeLong</u>		<u>12/17/17</u>		<u>17:25</u>		<u>Bill DeLong</u>		<u>12/17/17</u>		<u>17:25</u>					
EDD Required? Yes No				Relinquished by Commercial Carrier:		Date		Time		Received by		Date		Time					
If yes, format: _____				<u>Bill DeLong</u>		<u>12/17/17</u>		<u>17:25</u>		<u>Bill DeLong</u>		<u>12/17/17</u>		<u>17:25</u>					
Site-Specific QC (MS/MSD/Dup)? (Yes) No				<u>Bill DeLong</u>		<u>12/17/17</u>		<u>17:25</u>		<u>Bill DeLong</u>		<u>12/17/17</u>		<u>17:25</u>					
(If yes, indicate QC sample and submit triplicate sample volume.)				<u>Bill DeLong</u>		<u>12/17/17</u>		<u>17:25</u>		<u>Bill DeLong</u>		<u>12/17/17</u>		<u>17:25</u>					
Temperature upon receipt <u>3.4</u> °C				<u>Bill DeLong</u>		<u>12/17/17</u>		<u>17:25</u>		<u>Bill DeLong</u>		<u>12/17/17</u>		<u>17:25</u>					



Client: BRIGHTFIELDS, INC

POCONO GAS STATION

Delivery and Receipt Information

Delivery Method:	<u>ELLE Courier</u>	Arrival Timestamp:	<u>12/04/2017 17:25</u>
Number of Packages:	<u>1</u>	Number of Projects:	<u>1</u>
State/Province of Origin:	<u>PA</u>		

Arrival Condition Summary

Shipping Container Sealed:	No	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace \geq 6mm:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	7
Paperwork Enclosed:	Yes	Trip Blank Type:	See Below
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Trip Blank Type(s): HCL (4); 5ml Methanol (1); 5ml Sodium Bisulfate (2)

Unpacked by Ruth Shank (12390) at 05:24 on 12/05/2017

Samples Chilled Details: POCONO GAS STATION

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT42-03	3.4	DT	Wet	Y	Bagged	N

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	mg	milligram(s)
C	degrees Celsius	mL	milliliter(s)
cfu	colony forming units	MPN	Most Probable Number
CP Units	cobalt-chloroplatinate units	N.D.	non-detect
F	degrees Fahrenheit	ng	nanogram(s)
g	gram(s)	NTU	nephelometric turbidity units
IU	International Units	pg/L	picogram/liter
kg	kilogram(s)	RL	Reporting Limit
L	liter(s)	TNTC	Too Numerous To Count
lb.	pound(s)	µg	microgram(s)
m3	cubic meter(s)	µL	microliter(s)
meq	milliequivalents	umhos/cm	micromhos/cm
<	less than		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
J (or G, I, X)	Estimated value \geq the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report
B	Detection in the Blank
Q0	LCS/LCSD Low
Q1	LCS/LCSD High
Q2	MS/MSD Low
Q3	MS/MSD High
Q7	LCS/LCSD RPD
Q8	DUP RPD
Q9	MS/MSD RPD

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.



ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Brightfields, Inc.
801 Industrial St.
Suite 1
Wilmington DE 19801

Report Date: December 19, 2018 18:04

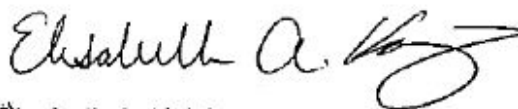
Project: I-80 Pocono Gas Station

Account #: 04549
Group Number: 2015489
PO Number: 15380
State of Sample Origin: PA

Electronic Copy To Brightfields, Inc.
Electronic Copy To Brightfields, Inc.

Attn: Victoria Bisbing
Attn: Maggie Atterbury

Respectfully Submitted,



Elisabeth A. Knisley
Project Manager

(717) 556-7262

To view our laboratory's current scopes of accreditation please go to <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/>. Historical copies may be requested through your project manager.



SAMPLE INFORMATION

<u>Client Sample Description</u>	<u>Sample Collection Date/Time</u>	<u>ELLE#</u>
PGS-GP03-S001 Composite Soil	12/03/2018 15:15	9925845
PGS-GP03-S002 Composite Soil	12/03/2018 15:30	9925846
PGS-GP04-S001 Composite Soil	12/04/2018 09:55	9925847
PGS-GP04-S001 MS Composite Soil	12/04/2018 09:55	9925848
PGS-GP04-S001 MSD Composite Soil	12/04/2018 09:55	9925849
PGS-GP04-S001 DUP Composite Soil	12/04/2018 09:55	9925850
PGS-GP04-S002 Composite Soil	12/04/2018 10:00	9925851
PGS-GP05-S001 Composite Soil	12/04/2018 10:10	9925852
PGS-GP05-S002 Composite Soil	12/04/2018 10:15	9925853
PGS-GP06-S001 Composite Soil	12/04/2018 10:30	9925854
PGS-GP07-S001 Composite Soil	12/04/2018 10:50	9925855
PGS-GP07-S002 Composite Soil	12/04/2018 11:00	9925856
PGS-GP07-S102 Composite Soil	12/04/2018 11:01	9925857
PGS-GP08-S001 Composite Soil	12/04/2018 11:15	9925858
PGS-GP08-S201 Grab Water	12/04/2018 13:20	9925859
PGS-GP08-S301 Water	12/04/2018 13:25	9925860

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Sample Description: PGS-GP03-S001 Composite Soil
I-80 Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: SW 9925845
ELLE Group #: 2015489
Matrix: Soil

Project Name: I-80 Pocono Gas Station

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 15:15

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D.	0.0003	0.004	0.75
10237	1,2-Dibromoethane	106-93-4	N.D.	0.0003	0.004	0.75
10237	1,2-Dichloroethane	107-06-2	N.D.	0.0003	0.004	0.75
10237	Ethylbenzene	100-41-4	N.D.	0.0003	0.004	0.75
10237	Isopropylbenzene	98-82-8	N.D.	0.0004	0.004	0.75
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0004	0.004	0.75
10237	Naphthalene	91-20-3	N.D.	0.0005	0.004	0.75
10237	Toluene	108-88-3	N.D.	0.0003	0.004	0.75
10237	1,2,4-Trimethylbenzene	95-63-6	0.0005 J	0.0005	0.004	0.75
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.0004	0.004	0.75
10237	Xylene (Total)	1330-20-7	N.D.	0.0008	0.004	0.75
Metals			SW-846 6010B	mg/kg	mg/kg	
06955	Lead	7439-92-1	45.9	0.469	1.17	1
Wet Chemistry			SM 2540 G-2011	%	%	
00111	Moisture ¹	n.a.	11.1	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

¹ = This analyte was not on the laboratory's PA DEP Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A183421AA	12/08/2018 17:20	Stephen C Nolte	0.75
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201834052106	12/03/2018 15:15	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201834052106	12/03/2018 15:15	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201834052106	12/03/2018 15:15	Client Supplied	1
06955	Lead	SW-846 6010B	1	183410570802	12/12/2018 09:32	Eric L Eby	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	183410570802	12/10/2018 07:40	Denise L Trimby	1
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	18345820004B	12/11/2018 11:31	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: PGS-GP03-S002 Composite Soil
I-80 Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: SW 9925846
ELLE Group #: 2015489
Matrix: Soil

Project Name: I-80 Pocono Gas Station

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 15:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Benzene	71-43-2	N.D.	0.0003	0.004	0.73
10237	1,2-Dibromoethane	106-93-4	N.D.	0.0003	0.004	0.73
10237	1,2-Dichloroethane	107-06-2	N.D.	0.0003	0.004	0.73
10237	Ethylbenzene	100-41-4	N.D.	0.0003	0.004	0.73
10237	Isopropylbenzene	98-82-8	N.D.	0.0004	0.004	0.73
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0004	0.004	0.73
10237	Naphthalene	91-20-3	N.D.	0.0005	0.004	0.73
10237	Toluene	108-88-3	0.0003 J	0.0003	0.004	0.73
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.0005	0.004	0.73
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.0004	0.004	0.73
10237	Xylene (Total)	1330-20-7	N.D.	0.0008	0.004	0.73

The recovery for the sample internal standard is outside the QC acceptance limits. The following action was taken: The sample was re-analyzed and the QC is again outside of the acceptance limits, indicating a matrix effect. The data is reported from the initial trial.

Metals		SW-846 6010B	mg/kg	mg/kg	mg/kg	
06955	Lead	7439-92-1	167	0.612	1.53	1

Wet Chemistry		SM 2540 G-2011	%	%	%	
		%Moisture Calc				
00111	Moisture ¹	n.a.	14.0	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

¹ = This analyte was not on the laboratory's PA DEP Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A183421AA	12/08/2018 17:43	Stephen C Nolte	0.73
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201834052106	12/03/2018 15:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201834052106	12/03/2018 15:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201834052106	12/03/2018 15:30	Client Supplied	1
06955	Lead	SW-846 6010B	1	183410570802	12/12/2018 09:36	Eric L Eby	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	183410570802	12/10/2018 07:40	Denise L Trimby	1

*=This limit was used in the evaluation of the final result

Sample Description: PGS-GP03-S002 Composite Soil
I-80 Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: SW 9925846
ELLE Group #: 2015489
Matrix: Soil

Project Name: I-80 Pocono Gas Station

Submittal Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 15:30

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	18345820004B	12/11/2018 11:31	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: PGS-GP04-S001 Composite Soil
I-80 Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: SW 9925847
ELLE Group #: 2015489
Matrix: Soil

Project Name: I-80 Pocono Gas Station

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/04/2018 09:55

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	mg/kg	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D. Q2	0.0005	0.006	0.96
10237	1,2-Dibromoethane	106-93-4	N.D. Q2Q9	0.0003	0.006	0.96
10237	1,2-Dichloroethane	107-06-2	N.D. Q2Q9	0.0003	0.006	0.96
10237	Ethylbenzene	100-41-4	N.D. Q2Q9	0.0005	0.006	0.96
10237	Isopropylbenzene	98-82-8	N.D. Q2Q9	0.0006	0.006	0.96
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D. Q2Q9	0.0006	0.006	0.96
10237	Naphthalene	91-20-3	N.D. Q2Q9	0.0007	0.006	0.96
10237	Toluene	108-88-3	N.D. Q2Q9	0.0003	0.006	0.96
10237	1,2,4-Trimethylbenzene	95-63-6	N.D. Q2Q9	0.0007	0.006	0.96
10237	1,3,5-Trimethylbenzene	108-67-8	N.D. Q2Q9	0.0006	0.006	0.96
10237	Xylene (Total)	1330-20-7	N.D. Q2Q9	0.001	0.006	0.96
Metals		SW-846 6010B	mg/kg	mg/kg	mg/kg	
06955	Lead	7439-92-1	49.4 Q3Q9	0.510	1.27	1
Wet Chemistry		SM 2540 G-2011	%	%	%	
00111	Moisture ¹	n.a.	15.9 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

¹ = This analyte was not on the laboratory's PA DEP Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A183421AA	12/08/2018 18:05	Stephen C Nolte	0.96
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201834052106	12/04/2018 09:55	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201834052106	12/04/2018 09:55	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201834052106	12/04/2018 09:55	Client Supplied	1
06955	Lead	SW-846 6010B	1	183410570802	12/12/2018 09:12	Eric L Eby	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	183410570802	12/10/2018 07:40	Denise L Trimby	1
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	18345820004B	12/11/2018 11:31	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: PGS-GP04-S001 MS Composite Soil
I-80 Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: SW 9925848
ELLE Group #: 2015489
Matrix: Soil

Project Name: I-80 Pocono Gas Station

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/04/2018 09:55

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	Benzene	71-43-2	0.014	0.0004	0.005	0.87
10237	1,2-Dibromoethane	106-93-4	0.011	0.0003	0.005	0.87
10237	1,2-Dichloroethane	107-06-2	0.014	0.0003	0.005	0.87
10237	Ethylbenzene	100-41-4	0.009	0.0004	0.005	0.87
10237	Isopropylbenzene	98-82-8	0.007	0.0005	0.005	0.87
10237	Methyl Tertiary Butyl Ether	1634-04-4	0.012	0.0005	0.005	0.87
10237	Naphthalene	91-20-3	0.001 J	0.0006	0.005	0.87
10237	Toluene	108-88-3	0.012	0.0003	0.005	0.87
10237	1,2,4-Trimethylbenzene	95-63-6	0.005	0.0006	0.005	0.87
10237	1,3,5-Trimethylbenzene	108-67-8	0.006	0.0005	0.005	0.87
10237	Xylene (Total)	1330-20-7	0.024	0.0009	0.005	0.87
Metals			SW-846 6010B	mg/kg	mg/kg	
06955	Lead	7439-92-1	148	0.479	1.20	1
Wet Chemistry			SM 2540 G-2011	%	%	
			%Moisture Calc			
00118	Moisture ¹	n.a.	15.9	0.50	0.50	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

¹ = This analyte was not on the laboratory's PA DEP Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A183421AA	12/08/2018 18:28	Stephen C Nolte	0.87
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201834052106	12/04/2018 09:55	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201834052106	12/04/2018 09:55	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201834052106	12/04/2018 09:55	Client Supplied	1
06955	Lead	SW-846 6010B	1	183410570802	12/12/2018 09:22	Eric L Eby	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	183410570802	12/10/2018 07:40	Denise L Trimby	1
00118	Moisture	SM 2540 G-2011 %Moisture Calc	1	18345820004B	12/11/2018 11:31	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: PGS-GP04-S001 MSD Composite Soil
I-80 Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: SW 9925849
ELLE Group #: 2015489
Matrix: Soil

Project Name: I-80 Pocono Gas Station

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/04/2018 09:55

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Benzene	71-43-2	0.019	0.0004	0.005	0.8
10237	1,2-Dibromoethane	106-93-4	0.020	0.0003	0.005	0.8
10237	1,2-Dichloroethane	107-06-2	0.020	0.0003	0.005	0.8
10237	Ethylbenzene	100-41-4	0.017	0.0004	0.005	0.8
10237	Isopropylbenzene	98-82-8	0.017	0.0005	0.005	0.8
10237	Methyl Tertiary Butyl Ether	1634-04-4	0.017	0.0005	0.005	0.8
10237	Naphthalene	91-20-3	0.004 J	0.0006	0.005	0.8
10237	Toluene	108-88-3	0.020	0.0003	0.005	0.8
10237	1,2,4-Trimethylbenzene	95-63-6	0.019	0.0006	0.005	0.8
10237	1,3,5-Trimethylbenzene	108-67-8	0.019	0.0005	0.005	0.8
10237	Xylene (Total)	1330-20-7	0.051	0.0009	0.005	0.8
Metals			mg/kg	mg/kg	mg/kg	
SW-846 6010B						
06955	Lead	7439-92-1	85.1	0.513	1.28	1
Wet Chemistry			%	%	%	
SM 2540 G-2011						
%Moisture Calc						
00118	Moisture ¹	n.a.	15.9	0.50	0.50	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

¹ = This analyte was not on the laboratory's PA DEP Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A183421AA	12/08/2018 18:51	Stephen C Nolte	0.8
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201834052106	12/04/2018 09:55	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201834052106	12/04/2018 09:55	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201834052106	12/04/2018 09:55	Client Supplied	1
06955	Lead	SW-846 6010B	1	183410570802	12/12/2018 09:26	Eric L Eby	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	183410570802	12/10/2018 07:40	Denise L Trimby	1
00118	Moisture	SM 2540 G-2011 %Moisture Calc	1	18345820004B	12/11/2018 11:31	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: PGS-GP04-S001 DUP Composite Soil
I-80 Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: SW 9925850
ELLE Group #: 2015489
Matrix: Soil

Project Name: I-80 Pocono Gas Station

Submittal Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/04/2018 09:55

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Metals			SW-846 6010B	mg/kg	mg/kg	
06955	Lead	7439-92-1	45.1	0.575	1.44	1
Wet Chemistry			SM 2540 G-2011	%	%	
			%Moisture Calc			
00118	Moisture ¹	n.a.	15.9	0.50	0.50	1
00121	Moisture Duplicate ¹	n.a.	13.8	0.50	0.50	1

The duplicate moisture value is provided to assess the precision of the moisture test. For comparability purposes, the initial moisture determination is the value used to perform dry weight calculations.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

¹ = This analyte was not on the laboratory's PA DEP Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06955	Lead	SW-846 6010B	1	183410570802	12/12/2018 09:19	Eric L Eby	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	183410570802	12/10/2018 07:40	Denise L Trimby	1
00118	Moisture	SM 2540 G-2011 %Moisture Calc	1	18345820004B	12/11/2018 11:31	Larry E Bevins	1
00121	Moisture Duplicate	SM 2540 G-2011 %Moisture Calc	1	18345820004B	12/11/2018 11:31	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: PGS-GP04-S002 Composite Soil
I-80 Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: SW 9925851
ELLE Group #: 2015489
Matrix: Soil

Project Name: I-80 Pocono Gas Station

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/04/2018 10:00

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Benzene	71-43-2	N.D.	0.0004	0.005	0.87
10237	1,2-Dibromoethane	106-93-4	N.D.	0.0003	0.005	0.87
10237	1,2-Dichloroethane	107-06-2	N.D.	0.0003	0.005	0.87
10237	Ethylbenzene	100-41-4	0.003 J	0.0004	0.005	0.87
10237	Isopropylbenzene	98-82-8	N.D.	0.0005	0.005	0.87
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	0.87
10237	Naphthalene	91-20-3	N.D.	0.0006	0.005	0.87
10237	Toluene	108-88-3	0.0004 J	0.0003	0.005	0.87
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.0006	0.005	0.87
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.0005	0.005	0.87
10237	Xylene (Total)	1330-20-7	0.019	0.0009	0.005	0.87

The recovery for the sample internal standard is outside the QC acceptance limits. The following action was taken: The sample was re-analyzed and the QC is again outside of the acceptance limits, indicating a matrix effect. The data is reported from the initial trial.

Metals		SW-846 6010B	mg/kg	mg/kg	mg/kg	
06955	Lead	7439-92-1	9.47	0.620	1.55	1

Wet Chemistry		SM 2540 G-2011	%	%	%	
		%Moisture Calc				
00111	Moisture ¹	n.a.	14.3	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

¹ = This analyte was not on the laboratory's PA DEP Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A183421AA	12/08/2018 19:14	Stephen C Nolte	0.87
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201834052106	12/04/2018 10:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201834052106	12/04/2018 10:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201834052106	12/04/2018 10:00	Client Supplied	1
06955	Lead	SW-846 6010B	1	183410570802	12/12/2018 09:46	Eric L Eby	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	183410570802	12/10/2018 07:40	Denise L Trimby	1

*=This limit was used in the evaluation of the final result

Sample Description: PGS-GP04-S002 Composite Soil
I-80 Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: SW 9925851
ELLE Group #: 2015489
Matrix: Soil

Project Name: I-80 Pocono Gas Station

Submittal Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/04/2018 10:00

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	18345820004B	12/11/2018 11:31	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: PGS-GP05-S001 Composite Soil
I-80 Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: SW 9925852
ELLE Group #: 2015489
Matrix: Soil

Project Name: I-80 Pocono Gas Station

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/04/2018 10:10

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D.	0.0004	0.005	0.83
10237	1,2-Dibromoethane	106-93-4	N.D.	0.0003	0.005	0.83
10237	1,2-Dichloroethane	107-06-2	N.D.	0.0003	0.005	0.83
10237	Ethylbenzene	100-41-4	N.D.	0.0004	0.005	0.83
10237	Isopropylbenzene	98-82-8	N.D.	0.0005	0.005	0.83
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	0.83
10237	Naphthalene	91-20-3	N.D.	0.0006	0.005	0.83
10237	Toluene	108-88-3	N.D.	0.0003	0.005	0.83
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.0006	0.005	0.83
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.0005	0.005	0.83
10237	Xylene (Total)	1330-20-7	N.D.	0.0009	0.005	0.83
Metals			SW-846 6010B	mg/kg	mg/kg	
06955	Lead	7439-92-1	32.1	0.647	1.62	1
Wet Chemistry			SM 2540 G-2011	%	%	
00111	Moisture ¹	n.a.	12.5	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

¹ = This analyte was not on the laboratory's PA DEP Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A183421AA	12/08/2018 19:36	Stephen C Nolte	0.83
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201834052106	12/04/2018 10:10	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201834052106	12/04/2018 10:10	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201834052106	12/04/2018 10:10	Client Supplied	1
06955	Lead	SW-846 6010B	1	183410570802	12/12/2018 09:49	Eric L Eby	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	183410570802	12/10/2018 07:40	Denise L Trimby	1
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	18345820004B	12/11/2018 11:31	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: PGS-GP05-S002 Composite Soil
I-80 Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: SW 9925853
ELLE Group #: 2015489
Matrix: Soil

Project Name: I-80 Pocono Gas Station

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/04/2018 10:15

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D.	0.0004	0.005	0.85
10237	1,2-Dibromoethane	106-93-4	N.D.	0.0003	0.005	0.85
10237	1,2-Dichloroethane	107-06-2	N.D.	0.0003	0.005	0.85
10237	Ethylbenzene	100-41-4	N.D.	0.0004	0.005	0.85
10237	Isopropylbenzene	98-82-8	N.D.	0.0005	0.005	0.85
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	0.85
10237	Naphthalene	91-20-3	N.D.	0.0006	0.005	0.85
10237	Toluene	108-88-3	N.D.	0.0003	0.005	0.85
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.0006	0.005	0.85
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.0005	0.005	0.85
10237	Xylene (Total)	1330-20-7	N.D.	0.0009	0.005	0.85
Metals			SW-846 6010B	mg/kg	mg/kg	
06955	Lead	7439-92-1	14.2	0.558	1.40	1
Wet Chemistry			SM 2540 G-2011	%	%	
00111	Moisture ¹	n.a.	14.0	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

¹ = This analyte was not on the laboratory's PA DEP Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A183421AA	12/08/2018 19:59	Stephen C Nolte	0.85
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201834052106	12/04/2018 10:15	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201834052106	12/04/2018 10:15	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201834052106	12/04/2018 10:15	Client Supplied	1
06955	Lead	SW-846 6010B	1	183410570802	12/12/2018 09:53	Eric L Eby	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	183410570802	12/10/2018 07:40	Denise L Trimby	1
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	18345820004B	12/11/2018 11:31	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: PGS-GP06-S001 Composite Soil
I-80 Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: SW 9925854
ELLE Group #: 2015489
Matrix: Soil

Project Name: I-80 Pocono Gas Station

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/04/2018 10:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Benzene	71-43-2	N.D.	0.0005	0.006	1.12
10237	1,2-Dibromoethane	106-93-4	N.D.	0.0004	0.006	1.12
10237	1,2-Dichloroethane	107-06-2	N.D.	0.0004	0.006	1.12
10237	Ethylbenzene	100-41-4	N.D.	0.0005	0.006	1.12
10237	Isopropylbenzene	98-82-8	N.D.	0.0006	0.006	1.12
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0006	0.006	1.12
10237	Naphthalene	91-20-3	N.D.	0.0007	0.006	1.12
10237	Toluene	108-88-3	N.D.	0.0004	0.006	1.12
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.0007	0.006	1.12
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.0006	0.006	1.12
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.006	1.12

The recovery for the sample internal standard is outside the QC acceptance limits. The following action was taken: The sample was re-analyzed and the QC is again outside of the acceptance limits, indicating a matrix effect. The data is reported from the initial trial.

Metals		SW-846 6010B	mg/kg	mg/kg	mg/kg	
06955	Lead	7439-92-1	25.0	0.579	1.45	1

Wet Chemistry		SM 2540 G-2011	%	%	%	
		%Moisture Calc				
00111	Moisture ¹	n.a.	9.1	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

¹ = This analyte was not on the laboratory's PA DEP Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A183421AA	12/08/2018 20:22	Stephen C Nolte	1.12
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201834052106	12/04/2018 10:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201834052106	12/04/2018 10:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201834052106	12/04/2018 10:30	Client Supplied	1
06955	Lead	SW-846 6010B	1	183410570802	12/12/2018 09:56	Eric L Eby	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	183410570802	12/10/2018 07:40	Denise L Trimby	1

*=This limit was used in the evaluation of the final result

Sample Description: PGS-GP06-S001 Composite Soil
I-80 Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: SW 9925854
ELLE Group #: 2015489
Matrix: Soil

Project Name: I-80 Pocono Gas Station

Submittal Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/04/2018 10:30

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	18345820004B	12/11/2018 11:31	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: PGS-GP07-S001 Composite Soil
I-80 Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: SW 9925855
ELLE Group #: 2015489
Matrix: Soil

Project Name: I-80 Pocono Gas Station

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/04/2018 10:50

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	Benzene	71-43-2	0.001 J	0.0004	0.005	0.84
10237	1,2-Dibromoethane	106-93-4	N.D.	0.0003	0.005	0.84
10237	1,2-Dichloroethane	107-06-2	0.0008 J	0.0003	0.005	0.84
10237	Ethylbenzene	100-41-4	N.D.	0.0004	0.005	0.84
10237	Isopropylbenzene	98-82-8	N.D.	0.0005	0.005	0.84
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	0.84
10237	Naphthalene	91-20-3	N.D.	0.0006	0.005	0.84
10237	Toluene	108-88-3	0.0006 J	0.0003	0.005	0.84
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.0006	0.005	0.84
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.0005	0.005	0.84
10237	Xylene (Total)	1330-20-7	N.D.	0.0008	0.005	0.84
Metals			SW-846 6010B	mg/kg	mg/kg	
06955	Lead	7439-92-1	47.4	0.585	1.46	1
Wet Chemistry			SM 2540 G-2011	%	%	
00111	Moisture ¹	n.a.	10	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

¹ = This analyte was not on the laboratory's PA DEP Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	X183511AA	12/17/2018 21:16	Sara E Johnson	0.84
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201834052106	12/04/2018 10:50	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201834052106	12/04/2018 10:50	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201834052106	12/04/2018 10:50	Client Supplied	1
06955	Lead	SW-846 6010B	1	183410570802	12/12/2018 10:00	Eric L Eby	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	183410570802	12/10/2018 07:40	Denise L Trimby	1
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	18345820005A	12/11/2018 10:59	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: PGS-GP07-S002 Composite Soil
I-80 Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: SW 9925856
ELLE Group #: 2015489
Matrix: Soil

Project Name: I-80 Pocono Gas Station

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/04/2018 11:00

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D.	0.0004	0.005	0.82
10237	1,2-Dibromoethane	106-93-4	N.D.	0.0003	0.005	0.82
10237	1,2-Dichloroethane	107-06-2	N.D.	0.0003	0.005	0.82
10237	Ethylbenzene	100-41-4	N.D.	0.0004	0.005	0.82
10237	Isopropylbenzene	98-82-8	N.D.	0.0005	0.005	0.82
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	0.82
10237	Naphthalene	91-20-3	N.D.	0.0006	0.005	0.82
10237	Toluene	108-88-3	N.D.	0.0003	0.005	0.82
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.0006	0.005	0.82
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.0005	0.005	0.82
10237	Xylene (Total)	1330-20-7	N.D.	0.0008	0.005	0.82
Metals			SW-846 6010B	mg/kg	mg/kg	
06955	Lead	7439-92-1	11.2	0.467	1.17	1
Wet Chemistry			SM 2540 G-2011	%	%	
00111	Moisture ¹	n.a.	11.3	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

¹ = This analyte was not on the laboratory's PA DEP Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	X183441AA	12/10/2018 18:29	Stephen C Nolte	0.82
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201834052106	12/04/2018 11:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201834052106	12/04/2018 11:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201834052106	12/04/2018 11:00	Client Supplied	1
06955	Lead	SW-846 6010B	1	183410570802	12/12/2018 10:03	Eric L Eby	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	183410570802	12/10/2018 07:40	Denise L Trimby	1
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	18345820005A	12/11/2018 10:59	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: PGS-GP07-S102 Composite Soil
I-80 Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: SW 9925857
ELLE Group #: 2015489
Matrix: Soil

Project Name: I-80 Pocono Gas Station

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/04/2018 11:01

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D.	0.0004	0.005	0.81
10237	1,2-Dibromoethane	106-93-4	N.D.	0.0003	0.005	0.81
10237	1,2-Dichloroethane	107-06-2	N.D.	0.0003	0.005	0.81
10237	Ethylbenzene	100-41-4	N.D.	0.0004	0.005	0.81
10237	Isopropylbenzene	98-82-8	N.D.	0.0005	0.005	0.81
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	0.81
10237	Naphthalene	91-20-3	N.D.	0.0005	0.005	0.81
10237	Toluene	108-88-3	N.D.	0.0003	0.005	0.81
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.0005	0.005	0.81
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.0005	0.005	0.81
10237	Xylene (Total)	1330-20-7	N.D.	0.0008	0.005	0.81
Metals			SW-846 6010B	mg/kg	mg/kg	
06955	Lead	7439-92-1	10.1	0.537	1.34	1
Wet Chemistry			SM 2540 G-2011	%	%	
00111	Moisture ¹	n.a.	11.3	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

¹ = This analyte was not on the laboratory's PA DEP Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A183421AA	12/08/2018 20:45	Stephen C Nolte	0.81
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201834052106	12/04/2018 11:01	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201834052106	12/04/2018 11:01	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201834052106	12/04/2018 11:01	Client Supplied	1
06955	Lead	SW-846 6010B	1	183410570802	12/12/2018 10:07	Eric L Eby	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	183410570802	12/10/2018 07:40	Denise L Trimby	1
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	18345820005A	12/11/2018 10:59	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: PGS-GP08-S001 Composite Soil
I-80 Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: SW 9925858
ELLE Group #: 2015489
Matrix: Soil

Project Name: I-80 Pocono Gas Station

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/04/2018 11:15

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Benzene	71-43-2	N.D.	0.0005	0.006	0.89
10237	1,2-Dibromoethane	106-93-4	N.D.	0.0004	0.006	0.89
10237	1,2-Dichloroethane	107-06-2	N.D.	0.0004	0.006	0.89
10237	Ethylbenzene	100-41-4	N.D.	0.0005	0.006	0.89
10237	Isopropylbenzene	98-82-8	N.D.	0.0006	0.006	0.89
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0006	0.006	0.89
10237	Naphthalene	91-20-3	N.D.	0.0007	0.006	0.89
10237	Toluene	108-88-3	0.0007 J	0.0004	0.006	0.89
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.0007	0.006	0.89
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.0006	0.006	0.89
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.006	0.89

The recovery for the sample internal standard is outside the QC acceptance limits. The following action was taken: The sample was re-analyzed and the QC is again outside of the acceptance limits, indicating a matrix effect. The data is reported from the initial trial.

Metals		SW-846 6010B	mg/kg	mg/kg	mg/kg	
06955	Lead	7439-92-1	172	0.545	1.36	1

Wet Chemistry		SM 2540 G-2011	%	%	%	
		%Moisture Calc				
00111	Moisture ¹	n.a.	24.6	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

¹ = This analyte was not on the laboratory's PA DEP Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A183421AA	12/08/2018 21:07	Stephen C Nolte	0.89
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201834052106	12/04/2018 11:15	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201834052106	12/04/2018 11:15	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201834052106	12/04/2018 11:15	Client Supplied	1
06955	Lead	SW-846 6010B	1	183410570802	12/12/2018 10:10	Eric L Eby	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	183410570802	12/10/2018 07:40	Denise L Trimby	1

*=This limit was used in the evaluation of the final result

Sample Description: PGS-GP08-S001 Composite Soil
I-80 Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: SW 9925858
ELLE Group #: 2015489
Matrix: Soil

Project Name: I-80 Pocono Gas Station

Submittal Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/04/2018 11:15

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	18345820005A	12/11/2018 10:59	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: PGS-GP08-S201 Grab Water
I-80 Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: WW 9925859
ELLE Group #: 2015489
Matrix: Water

Project Name: I-80 Pocono Gas Station

Submittal Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/04/2018 13:20

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.2	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.	2	5	1
10945	Ethylbenzene	100-41-4	N.D.	0.2	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.3	5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.2	1	1
10945	Naphthalene	91-20-3	N.D.	4	10	1
10945	Toluene	108-88-3	N.D.	0.2	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.3	5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.3	5	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	5	1
Volatiles by Extraction			SW-846 8011	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	N.D. D1	0.0095	0.028	1
Metals			SW-846 6020	mg/l	mg/l	
06035	Lead	7439-92-1	N.D.	0.0011	0.0030	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z183403AA	12/06/2018 23:05	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z183403AA	12/06/2018 23:04	Hu Yang	1
10398	8011 Master Master	SW-846 8011	1	183470029A	12/19/2018 06:39	Richard A Shober	1
07786	EDB Extraction (8011)	SW-846 8011	2	183470029A	12/13/2018 20:30	Bradley W VanLeuven	1
06035	Lead	SW-846 6020	1	183411404704A	12/17/2018 08:48	Choon Y Tian	1
14047	ICPMS - Water, 3020A - U345	SW-846 3020A	1	183411404704	12/10/2018 05:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: PGS-GP08-S301 Water
I-80 Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: WW 9925860
ELLE Group #: 2015489
Matrix: Water

Project Name: I-80 Pocono Gas Station

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/04/2018 13:25

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.2	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.	2	5	1
10945	Ethylbenzene	100-41-4	N.D.	0.2	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.3	5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.2	1	1
10945	Naphthalene	91-20-3	N.D.	4	10	1
10945	Toluene	108-88-3	N.D.	0.2	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.3	5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.3	5	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	5	1
Volatiles by Extraction		SW-846 8011	ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	N.D. D1	0.0096	0.029	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z183403AA	12/06/2018 23:29	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z183403AA	12/06/2018 23:28	Hu Yang	1
10398	8011 Master Master	SW-846 8011	1	183470029A	12/19/2018 06:55	Richard A Shober	1
07786	EDB Extraction (8011)	SW-846 8011	2	183470029A	12/13/2018 20:30	Bradley W VanLeuven	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/19/2018 18:04

Group Number: 2015489

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	MDL**	LOQ
	mg/kg	mg/kg	mg/kg
Batch number: A183421AA	Sample number(s): 9925845-9925849,9925851-9925854,9925857-9925858		
Benzene	N.D.	0.0004	0.005
1,2-Dibromoethane	N.D.	0.0003	0.005
1,2-Dichloroethane	N.D.	0.0003	0.005
Ethylbenzene	N.D.	0.0004	0.005
Isopropylbenzene	N.D.	0.0005	0.005
Methyl Tertiary Butyl Ether	N.D.	0.0005	0.005
Naphthalene	N.D.	0.0006	0.005
Toluene	N.D.	0.0003	0.005
1,2,4-Trimethylbenzene	N.D.	0.0006	0.005
1,3,5-Trimethylbenzene	N.D.	0.0005	0.005
Xylene (Total)	N.D.	0.0009	0.005
Batch number: X183441AA	Sample number(s): 9925856		
Benzene	N.D.	0.0004	0.005
1,2-Dibromoethane	N.D.	0.0003	0.005
1,2-Dichloroethane	N.D.	0.0003	0.005
Ethylbenzene	N.D.	0.0004	0.005
Isopropylbenzene	N.D.	0.0005	0.005
Methyl Tertiary Butyl Ether	N.D.	0.0005	0.005
Naphthalene	N.D.	0.0006	0.005
Toluene	N.D.	0.0003	0.005
1,2,4-Trimethylbenzene	N.D.	0.0006	0.005
1,3,5-Trimethylbenzene	N.D.	0.0005	0.005
Xylene (Total)	N.D.	0.0009	0.005
Batch number: X183511AA	Sample number(s): 9925855		
Benzene	N.D.	0.0004	0.005
1,2-Dibromoethane	N.D.	0.0003	0.005
1,2-Dichloroethane	N.D.	0.0003	0.005
Ethylbenzene	N.D.	0.0004	0.005
Isopropylbenzene	N.D.	0.0005	0.005
Methyl Tertiary Butyl Ether	N.D.	0.0005	0.005
Naphthalene	N.D.	0.0006	0.005
Toluene	N.D.	0.0003	0.005
1,2,4-Trimethylbenzene	N.D.	0.0006	0.005
1,3,5-Trimethylbenzene	N.D.	0.0005	0.005
Xylene (Total)	N.D.	0.0009	0.005
	ug/l	ug/l	ug/l
Batch number: Z183403AA	Sample number(s): 9925859-9925860		

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/19/2018 18:04

Group Number: 2015489

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	ug/l	ug/l	ug/l
Benzene	N.D.	0.2	1
1,2-Dichloroethane	N.D.	2	5
Ethylbenzene	N.D.	0.2	1
Isopropylbenzene	N.D.	0.3	5
Methyl Tertiary Butyl Ether	N.D.	0.2	1
Naphthalene	N.D.	4	10
Toluene	N.D.	0.2	1
1,2,4-Trimethylbenzene	N.D.	0.3	5
1,3,5-Trimethylbenzene	N.D.	0.3	5
Xylene (Total)	N.D.	0.5	5
Batch number: 183470029A	Sample number(s): 9925859-9925860		
Ethylene dibromide	N.D.	0.010	0.030
	mg/kg	mg/kg	mg/kg
Batch number: 183410570802	Sample number(s): 9925845-9925858		
Lead	N.D.	0.600	1.50
	mg/l	mg/l	mg/l
Batch number: 183411404704A	Sample number(s): 9925859		
Lead	N.D.	0.0011	0.0030

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: A183421AA	Sample number(s): 9925845-9925849,9925851-9925854,9925857-9925858								
Benzene	0.0200	0.0178	0.0200	0.0178	89	89	80-120	0	30
1,2-Dibromoethane	0.0200	0.0193	0.0200	0.0191	97	96	76-120	1	30
1,2-Dichloroethane	0.0200	0.0191	0.0200	0.0185	96	93	71-128	3	30
Ethylbenzene	0.0200	0.0174	0.0200	0.0177	87	88	78-120	2	30
Isopropylbenzene	0.0200	0.0175	0.0200	0.0180	88	90	77-120	2	30
Methyl Tertiary Butyl Ether	0.0200	0.0154	0.0200	0.0149	77	75	72-120	3	30
Naphthalene	0.0200	0.0181	0.0200	0.0175	90	88	48-130	3	30
Toluene	0.0200	0.0180	0.0200	0.0180	90	90	80-120	0	30
1,2,4-Trimethylbenzene	0.0200	0.0171	0.0200	0.0174	85	87	73-120	2	30
1,3,5-Trimethylbenzene	0.0200	0.0170	0.0200	0.0172	85	86	73-120	1	30
Xylene (Total)	0.0600	0.0541	0.0600	0.0550	90	92	75-120	2	30
Batch number: X183441AA	Sample number(s): 9925856								
Benzene	0.0200	0.0199	0.0200	0.0194	99	97	80-120	2	30
1,2-Dibromoethane	0.0200	0.0192	0.0200	0.0191	96	95	76-120	1	30

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/19/2018 18:04

Group Number: 2015489

LCS/LCSD (continued)

Analysis Name	LCS Spike Added mg/kg	LCS Conc mg/kg	LCSD Spike Added mg/kg	LCSD Conc mg/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
1,2-Dichloroethane	0.0200	0.0207	0.0200	0.0208	103	104	71-128	1	30
Ethylbenzene	0.0200	0.0201	0.0200	0.0196	100	98	78-120	3	30
Isopropylbenzene	0.0200	0.0207	0.0200	0.0201	104	100	77-120	3	30
Methyl Tertiary Butyl Ether	0.0200	0.0184	0.0200	0.0193	92	97	72-120	5	30
Naphthalene	0.0200	0.0172	0.0200	0.0170	86	85	48-130	1	30
Toluene	0.0200	0.0206	0.0200	0.0197	103	99	80-120	4	30
1,2,4-Trimethylbenzene	0.0200	0.0201	0.0200	0.0198	101	99	73-120	2	30
1,3,5-Trimethylbenzene	0.0200	0.0203	0.0200	0.0200	102	100	73-120	2	30
Xylene (Total)	0.0600	0.0602	0.0600	0.0585	100	97	75-120	3	30
Batch number: X183511AA	Sample number(s): 9925855								
Benzene	0.0200	0.0212	0.0200	0.0209	106	105	80-120	2	30
1,2-Dibromoethane	0.0200	0.0197	0.0200	0.0195	99	98	76-120	1	30
1,2-Dichloroethane	0.0200	0.0222	0.0200	0.0220	111	110	71-128	1	30
Ethylbenzene	0.0200	0.0208	0.0200	0.0204	104	102	78-120	2	30
Isopropylbenzene	0.0200	0.0212	0.0200	0.0210	106	105	77-120	1	30
Methyl Tertiary Butyl Ether	0.0200	0.0186	0.0200	0.0182	93	91	72-120	2	30
Naphthalene	0.0200	0.0168	0.0200	0.0175	84	87	48-130	4	30
Toluene	0.0200	0.0208	0.0200	0.0205	104	102	80-120	2	30
1,2,4-Trimethylbenzene	0.0200	0.0206	0.0200	0.0204	103	102	73-120	1	30
1,3,5-Trimethylbenzene	0.0200	0.0208	0.0200	0.0205	104	103	73-120	1	30
Xylene (Total)	0.0600	0.0619	0.0600	0.0608	103	101	75-120	2	30
	ug/l	ug/l	ug/l	ug/l					
Batch number: Z183403AA	Sample number(s): 9925859-9925860								
Benzene	20	20.07			100		80-120		
1,2-Dichloroethane	20	21.12			106		73-124		
Ethylbenzene	20	20			100		80-120		
Isopropylbenzene	20	20.32			102		80-120		
Methyl Tertiary Butyl Ether	20	21.79			109		69-122		
Naphthalene	20	16.01			80		53-124		
Toluene	20	20.69			103		80-120		
1,2,4-Trimethylbenzene	20	19.8			99		75-120		
1,3,5-Trimethylbenzene	20	19.45			97		75-120		
Xylene (Total)	60	60.82			101		80-120		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 183470029A	Sample number(s): 9925859-9925860								
Ethylene dibromide	0.129	0.133	0.129	0.131	104	102	60-140	2	20
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 183410570802	Sample number(s): 9925845-9925858								
Lead	15	14.48			97		90-115		

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/19/2018 18:04

Group Number: 2015489

LCS/LCSD (continued)

Analysis Name	LCS Spike Added mg/l	LCS Conc mg/l	LCSD Spike Added mg/l	LCSD Conc mg/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 183411404704A Lead	0.0150	0.0147			98		90-110		
	%	%	%	%					
Batch number: 18345820004B Moisture	89.5	89.36			100		99-101		
Moisture	89.5	89.36			100		99-101		
Moisture Duplicate	89.5	89.36			100		99-101		
Batch number: 18345820005A Moisture	89.5	89.34			100		99-101		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: A183421AA Benzene	N.D.	0.0173	0.0119	0.0160	0.0158	69*	98	80-120	28	30
1,2-Dibromoethane	N.D.	0.0173	0.00904	0.0160	0.0167	52*	104	76-120	60*	30
1,2-Dichloroethane	N.D.	0.0173	0.0119	0.0160	0.0168	69*	105	71-128	34*	30
Ethylbenzene	N.D.	0.0173	0.00731	0.0160	0.0145	42*	90	78-120	66*	30
Isopropylbenzene	N.D.	0.0173	0.00611	0.0160	0.0139	35*	87	77-120	78*	30
Methyl Tertiary Butyl Ether	N.D.	0.0173	0.00990	0.0160	0.0139	57*	87	72-120	33*	30
Naphthalene	N.D.	0.0173	0.00105	0.0160	0.00356	6*	22*	48-130	109*	30
Toluene	N.D.	0.0173	0.00983	0.0160	0.0164	57*	102	80-120	50*	30
1,2,4-Trimethylbenzene	N.D.	0.0173	0.00458	0.0160	0.0157	26*	98	73-120	110*	30
1,3,5-Trimethylbenzene	N.D.	0.0173	0.00488	0.0160	0.0161	28*	101	73-120	107*	30
Xylene (Total)	N.D.	0.0519	0.0201	0.0481	0.0427	39*	89	75-120	72*	30
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 183410570802 Lead	41.52	10.07	124.7	10.79	71.58	826 (2)	279*	75-125	54*	20

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/19/2018 18:04

Group Number: 2015489

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/kg	DUP Conc mg/kg	DUP RPD	DUP RPD Max
Batch number: 183410570802	Sample number(s): 9925845-9925858 BKG: 9925847			
Lead	41.52	37.92	9	20
	%	%		
Batch number: 18345820004B	Sample number(s): 9925845-9925854 BKG: 9925847			
Moisture	15.92	13.81	14*	5
Moisture	15.92	13.81	14*	5
Moisture Duplicate	15.92	13.81	14*	5

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: PA UST Leaded/Unleaded VOCs
Batch number: A183421AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9925845	106	108	98	87
9925846	108	108	100	78
9925847	108	110	99	81
9925848	105	113	102	97
9925849	104	109	107	87
9925851	106	107	104	73
9925852	108	112	98	82
9925853	110	114	94	91
9925854	107	111	96	79
9925857	106	109	93	93
9925858	107	105	102	76
Blank	103	107	95	93
LCS	102	108	99	101
LCSD	101	104	100	101
MS	105	113	102	97
MSD	104	109	107	87
Limits:	50-141	54-135	52-141	50-131

Analysis Name: PA UST Leaded/Unleaded VOCs
Batch number: X183441AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9925856	109	108	98	90
Blank	106	105	100	88

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/19/2018 18:04

Group Number: 2015489

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: PA UST Leaded/Unleaded VOCs
Batch number: X183441AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
LCS	101	101	104	104
LCSD	100	101	104	103
Limits:	50-141	54-135	52-141	50-131

Analysis Name: PA UST Leaded/Unleaded VOCs
Batch number: X183511AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9925855	108	106	99	86
Blank	107	103	99	91
LCS	103	98	102	104
LCSD	102	100	102	104
Limits:	50-141	54-135	52-141	50-131

Analysis Name: VOCs- 5ml Water by 8260B UST
Batch number: Z183403AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9925859	117	104	100	95
9925860	118	108	100	95
Blank	114	104	100	96
LCS	111	102	101	103
Limits:	80-120	80-120	80-120	80-120

Analysis Name: 8011 Master Master
Batch number: 183470029A

	1,1,2,2-Tetrachloroethane-D1	1,1,2,2-Tetrachloroethane-D2
9925859	96	99
9925860	97	99
Blank	98	99
LCS	98	102
LCSD	92	93
Limits:	46-136	46-136

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Environmental Analysis Request/Chain of Custody



Lancaster Laboratories
Environmental

Acct. # 4849 For Eurofins Lancaster Laboratories Environmental use only
Group # 215489 Sample # 9925 845-60

page 1 of 2
COC # 568833

Client Information				Matrix			Analysis Requested										For Lab Use Only	
Client: <u>BrightFields, Inc.</u>		Acct. #:		<input type="checkbox"/> Tissue <input type="checkbox"/> Ground <input type="checkbox"/> Surface <input checked="" type="checkbox"/> Sediment <input type="checkbox"/> Potable <input type="checkbox"/> NPDES <input type="checkbox"/> Water <input type="checkbox"/> Other:	Total # of Containers	Preservation and Filtration Codes										FSC: _____		
Project Name/##: <u>1-80 Pocono Gas Station</u>		PWSID #:				PA DEP SHORTLIST parameters for leaded gas unleaded gas, kerosene and fuel oil #2										SCR#: <u>233311</u>		
Project Manager: <u>Victoria Bisbing</u>		P.O. #: <u>15380</u>														Remarks		
Sampler: <u>M. Atterbury/C. Cumming</u>		Quote #:														H=HCl T=Thiosulfate N=HNO ₃ B=NaOH S=H ₂ SO ₄ P=H ₃ PO ₄ F=Field Filtered O=Other		
State where samples were collected: <u>PA</u>		For Compliance: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>																
Sample Identification		Collected		Grab	Composite													
Date	Time																	
<u>PGS-GP03-S001</u>	<u>12/3/18</u>	<u>1515</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>														
<u>PGS-GP03-S002</u>	<u>12/3/18</u>	<u>1530</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											<u>0 = ICE</u>			
<u>PGS-GP04-S001*</u>	<u>12/4/18</u>	<u>0955</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											<u>* MS/MSD</u>			
<u>PGS-GP04-S002</u>	<u>12/4/18</u>	<u>1000</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>														
<u>PGS-GP05-S001</u>	<u>12/4/18</u>	<u>1010</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>														
<u>PGS-GP05-S002</u>	<u>12/4/18</u>	<u>1015</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>														
<u>PGS-GP06-S001</u>	<u>12/4/18</u>	<u>1030</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>														
<u>PGS-GP07-S001</u>	<u>12/4/18</u>	<u>1050</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>														
<u>PGS-GP07-S002</u>	<u>12/4/18</u>	<u>1100</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>														
<u>PGS-GP07-S102</u>	<u>12/4/18</u>	<u>1101</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											<u>CS# 30S24</u> <u>30S25</u>			
Turnaround Time (TAT) Requested (please circle)				Relinquished by		Date	Time	Received by		Date	Time							
<u>Standard</u> (Rush TAT is subject to laboratory approval and surcharge.)				<u>Bottle Storage</u>		<u>12/5/18</u>	<u>1100</u>	<u>A. J. Cumming</u>		<u>12/5/18</u>	<u>1205</u>							
Requested TAT in business days: _____				<u>Margaret</u>		<u>12/5/18</u>	<u>1205</u>	<u>A. J. Cumming</u>		<u>12/5/18</u>	<u>1205</u>							
E-mail address: _____				<u>A. J. Cumming</u>		<u>12/5/18</u>	<u>1810</u>	<u>A. J. Cumming</u>		<u>12/5/18</u>	<u>1810</u>							
Data Package Options (circle if required)				Relinquished by		Date	Time	Received by		Date	Time							
Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)				<u>[Signature]</u>		<u>12/5/18</u>	<u>1810</u>	<u>[Signature]</u>		<u>12/5/18</u>	<u>1810</u>							
Type III (Reduced non-CLP) NJ DKQP TX TRRP-13				Relinquished by		Date	Time	Received by		Date	Time							
NYSDEC Category A or B MA MCP CT RCP				<u>[Signature]</u>		<u>12/5/18</u>	<u>1810</u>	<u>[Signature]</u>		<u>12/5/18</u>	<u>1810</u>							
EDD Required? Yes No						Relinquished by Commercial Carrier:												
If yes, format: _____						UPS _____ FedEx _____ Other _____												
Site-Specific QC (MS/MSD/Dup)? Yes No						Temperature upon receipt <u>0.0-2.1C</u>												
(If yes, indicate QC sample and submit triplicate sample volume.)																		



Client: Bright Field, Inc.

Delivery and Receipt Information

Delivery Method: ELLE Courier Arrival Timestamp: 12/05/2018 18:10
 Number of Packages: 6 Number of Projects: 4
 State/Province of Origin: PA

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	No	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	4
Paperwork Enclosed:	Yes	Trip Blank Type:	HCl
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Melvin Sanchez (8943) at 22:59 on 12/05/2018

Samples Chilled Details

Thermometer Types: *DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp)* All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT131	0.4	DT	Wet	Y	Bagged	N
2	DT131	2.1	DT	Wet	Y	Bagged	N
3	DT131	1.2	DT	Wet	Y	Bagged	N
4	DT131	0.4	DT	Wet	Y	Bagged	N
5	DT131	0.6	DT	Wet	Y	Bagged	N
6	DT131	0.0	DT	Wet	Y	Bagged	N

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	mL	milliliter(s)
C	degrees Celsius	MPN	Most Probable Number
cfu	colony forming units	N.D.	non-detect
CP Units	cobalt-chloroplatinate units	ng	nanogram(s)
F	degrees Fahrenheit	NTU	nephelometric turbidity units
g	gram(s)	pg/L	picogram/liter
IU	International Units	RL	Reporting Limit
kg	kilogram(s)	TNTC	Too Numerous To Count
L	liter(s)	µg	microgram(s)
lb.	pound(s)	µL	microliter(s)
m3	cubic meter(s)	umhos/cm	micromhos/cm
meq	milliequivalents	MCL	Maximum Contamination Limit
mg	milligram(s)		
<	less than		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
K1	Initial Calibration Blank is above the QC limit and the sample result is ND
K2	Continuing Calibration Blank is above the QC limit and the sample result is ND
K3	Initial Calibration Verification is above the QC limit and the sample result is ND
K4	Continuing Calibration Verification is above the QC limit and the sample result is ND
J (or G, I, X)	Estimated value \geq the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
P^	Concentration difference between the primary and confirmation column $> 40\%$. The higher result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report
B	Detection in the Blank
Q0	LCS/LCSD Low
Q1	LCS/LCSD High
Q2	MS/MSD Low
Q3	MS/MSD High
Q7	LCS/LCSD RPD
Q8	DUP RPD
Q9	MS/MSD RPD

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.



ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Brightfields, Inc.
801 Industrial St.
Suite 1
Wilmington DE 19801

Report Date: December 20, 2018 15:53

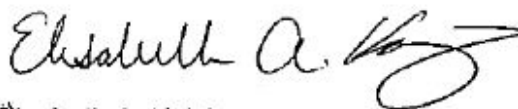
Project: I-80 Pocono Gas Station

Account #: 04549
Group Number: 2015490
PO Number: 15380
State of Sample Origin: PA

Electronic Copy To Brightfields, Inc.
Electronic Copy To Brightfields, Inc.

Attn: Victoria Bisbing
Attn: Maggie Atterbury

Respectfully Submitted,



Elisabeth A. Knisley
Project Manager

(717) 556-7262

To view our laboratory's current scopes of accreditation please go to <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/>. Historical copies may be requested through your project manager.



SAMPLE INFORMATION

<u>Client Sample Description</u>	<u>Sample Collection Date/Time</u>	<u>ELLE#</u>
PGS-GP06-W001 Grab Groundwater	12/04/2018 11:50	9925861
PGS-GP06-W101 Grab Groundwater	12/04/2018 11:51	9925862
PGS-GP05-W001 Grab Groundwater	12/04/2018 12:05	9925863
PGS-GP08-W001 Grab Groundwater	12/04/2018 12:30	9925864
PGS-GP08-W001 MS Grab Groundwater	12/04/2018 12:30	9925865
PGS-GP08-W001 MSD Grab Groundwater	12/04/2018 12:30	9925866
PGS-GP08-W001 DUP Grab Groundwater	12/04/2018 12:30	9925867
PGS-GP08-W201 Grab Water	12/04/2018 13:30	9925868
PGS-GP08-W301 Water	12/04/2018 13:35	9925869
PGS-GP03-W001 Grab Groundwater	12/03/2018 15:45	9925870

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Sample Description: PGS-GP06-W001 Grab Groundwater
I-80 Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: WW 9925861
ELLE Group #: 2015490
Matrix: Groundwater

Project Name: I-80 Pocono Gas Station

Submittal Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/04/2018 11:50

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.2	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.	2	5	1
10945	Ethylbenzene	100-41-4	N.D.	0.2	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.3	5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.2	1	1
10945	Naphthalene	91-20-3	N.D.	4	10	1
10945	Toluene	108-88-3	N.D.	0.2	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.3	5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.3	5	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	5	1
Volatiles by Extraction		SW-846 8011	ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	N.D. D1	0.0093	0.028	1
Metals Dissolved		SW-846 6020	mg/l	mg/l	mg/l	
06035	Lead	7439-92-1	0.0021 J	0.0011	0.0030	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.
This sample was field filtered for dissolved metals.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z183403AA	12/07/2018 01:55	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z183403AA	12/07/2018 01:54	Hu Yang	1
10398	8011 Master Master	SW-846 8011	1	183470029A	12/19/2018 07:10	Richard A Shober	1
07786	EDB Extraction (8011)	SW-846 8011	2	183470029A	12/13/2018 20:30	Bradley W VanLeuven	1
06035	Lead	SW-846 6020	1	183411404704A	12/17/2018 08:40	Choon Y Tian	1
14047	ICPMS - Water, 3020A - U345	SW-846 3020A	1	183411404704	12/10/2018 05:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: PGS-GP06-W101 Grab Groundwater
I-80 Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: WW 9925862
ELLE Group #: 2015490
Matrix: Groundwater

Project Name: I-80 Pocono Gas Station

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/04/2018 11:51

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.2	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.	2	5	1
10945	Ethylbenzene	100-41-4	N.D.	0.2	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.3	5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.2	1	1
10945	Naphthalene	91-20-3	N.D.	4	10	1
10945	Toluene	108-88-3	N.D.	0.2	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.3	5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.3	5	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	5	1
Volatiles by Extraction			SW-846 8011	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	N.D. D1	0.0094	0.028	1
Metals Dissolved			SW-846 6020	mg/l	mg/l	
06035	Lead	7439-92-1	N.D.	0.0011	0.0030	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.
This sample was field filtered for dissolved metals.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z183403AA	12/07/2018 02:20	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z183403AA	12/07/2018 02:19	Hu Yang	1
10398	8011 Master Master	SW-846 8011	1	183470029A	12/19/2018 07:26	Richard A Shober	1
07786	EDB Extraction (8011)	SW-846 8011	2	183470029A	12/13/2018 20:30	Bradley W VanLeuven	1
06035	Lead	SW-846 6020	1	183411404704A	12/17/2018 08:42	Choon Y Tian	1
14047	ICPMS - Water, 3020A - U345	SW-846 3020A	1	183411404704	12/10/2018 05:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: PGS-GP05-W001 Grab Groundwater
I-80 Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: WW 9925863
ELLE Group #: 2015490
Matrix: Groundwater

Project Name: I-80 Pocono Gas Station

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/04/2018 12:05

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.2	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.	2	5	1
10945	Ethylbenzene	100-41-4	0.2 J	0.2	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.3	5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.2	1	1
10945	Naphthalene	91-20-3	N.D.	4	10	1
10945	Toluene	108-88-3	2	0.2	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.3	5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.3	5	1
10945	Xylene (Total)	1330-20-7	0.6 J	0.5	5	1
Volatiles by Extraction			SW-846 8011	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	N.D. D1	0.0095	0.028	1
Metals Dissolved			SW-846 6020	mg/l	mg/l	
06035	Lead	7439-92-1	N.D.	0.0011	0.0030	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.
This sample was field filtered for dissolved metals.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z183403AA	12/07/2018 02:44	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z183403AA	12/07/2018 02:43	Hu Yang	1
10398	8011 Master Master	SW-846 8011	1	183470029A	12/19/2018 07:42	Richard A Shober	1
07786	EDB Extraction (8011)	SW-846 8011	2	183470029A	12/13/2018 20:30	Bradley W VanLeuven	1
06035	Lead	SW-846 6020	1	183411404704A	12/17/2018 08:52	Choon Y Tian	1
14047	ICPMS - Water, 3020A - U345	SW-846 3020A	1	183411404704	12/10/2018 05:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: PGS-GP08-W001 Grab Groundwater
I-80 Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: WW 9925864
ELLE Group #: 2015490
Matrix: Groundwater

Project Name: I-80 Pocono Gas Station

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/04/2018 12:30

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.2	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.	2	5	1
10945	Ethylbenzene	100-41-4	N.D.	0.2	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.3	5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.2	1	1
10945	Naphthalene	91-20-3	N.D.	4	10	1
10945	Toluene	108-88-3	N.D.	0.2	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.3	5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.3	5	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	5	1
Volatiles by Extraction		SW-846 8011	ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	N.D. D1	0.0095	0.028	1
Metals Dissolved		SW-846 6020	mg/l	mg/l	mg/l	
06035	Lead	7439-92-1	0.0067 Q2	0.0011	0.0030	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.
This sample was field filtered for dissolved metals.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z183403AA	12/07/2018 00:42	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z183403AA	12/07/2018 00:41	Hu Yang	1
10398	8011 Master Master	SW-846 8011	1	183470029A	12/19/2018 07:57	Richard A Shober	1
07786	EDB Extraction (8011)	SW-846 8011	2	183470029A	12/13/2018 20:30	Bradley W VanLeuven	1
06035	Lead	SW-846 6020	1	183411404704A	12/17/2018 08:06	Choon Y Tian	1
14047	ICPMS - Water, 3020A - U345	SW-846 3020A	1	183411404704	12/10/2018 05:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: PGS-GP08-W001 MS Grab Groundwater
I-80 Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: WW 9925865
ELLE Group #: 2015490
Matrix: Groundwater

Project Name: I-80 Pocono Gas Station

Submittal Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/04/2018 12:30

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles			ug/l	ug/l	ug/l	
	SW-846 8260B					
10945	Benzene	71-43-2	21	0.2	1	1
10945	1,2-Dichloroethane	107-06-2	22	2	5	1
10945	Ethylbenzene	100-41-4	21	0.2	1	1
10945	Isopropylbenzene	98-82-8	20	0.3	5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	22	0.2	1	1
10945	Naphthalene	91-20-3	14	4	10	1
10945	Toluene	108-88-3	21	0.2	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	20	0.3	5	1
10945	1,3,5-Trimethylbenzene	108-67-8	19	0.3	5	1
10945	Xylene (Total)	1330-20-7	62	0.5	5	1
Volatiles by Extraction			ug/l	ug/l	ug/l	
	SW-846 8011					
10398	Ethylene dibromide	106-93-4	0.14 D1	0.0095	0.029	1
Metals Dissolved			mg/l	mg/l	mg/l	
	SW-846 6020					
06035	Lead	7439-92-1	0.0153	0.0011	0.0030	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.
This sample was field filtered for dissolved metals.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z183403AA	12/07/2018 01:07	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z183403AA	12/07/2018 01:06	Hu Yang	1
10398	8011 Master Master	SW-846 8011	1	183470029A	12/19/2018 08:13	Richard A Shober	1
07786	EDB Extraction (8011)	SW-846 8011	2	183470029A	12/13/2018 20:30	Bradley W VanLeuven	1
06035	Lead	SW-846 6020	1	183411404704A	12/17/2018 08:11	Choon Y Tian	1
14047	ICPMS - Water, 3020A - U345	SW-846 3020A	1	183411404704	12/10/2018 05:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: PGS-GP08-W001 MSD Grab Groundwater
I-80 Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: WW 9925866
ELLE Group #: 2015490
Matrix: Groundwater

Project Name: I-80 Pocono Gas Station

Submittal Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/04/2018 12:30

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	ug/l	ug/l	
10945	Benzene	71-43-2	22	0.2	1	1
10945	1,2-Dichloroethane	107-06-2	22	2	5	1
10945	Ethylbenzene	100-41-4	21	0.2	1	1
10945	Isopropylbenzene	98-82-8	21	0.3	5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	22	0.2	1	1
10945	Naphthalene	91-20-3	15	4	10	1
10945	Toluene	108-88-3	22	0.2	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	20	0.3	5	1
10945	1,3,5-Trimethylbenzene	108-67-8	19	0.3	5	1
10945	Xylene (Total)	1330-20-7	63	0.5	5	1
Volatiles by Extraction			SW-846 8011	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	0.13 D1	0.0094	0.028	1
Metals Dissolved			SW-846 6020	mg/l	mg/l	
06035	Lead	7439-92-1	0.0149	0.0011	0.0030	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.
This sample was field filtered for dissolved metals.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z183403AA	12/07/2018 01:31	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z183403AA	12/07/2018 01:30	Hu Yang	1
10398	8011 Master Master	SW-846 8011	1	183470029A	12/19/2018 08:28	Richard A Shober	1
07786	EDB Extraction (8011)	SW-846 8011	2	183470029A	12/13/2018 20:30	Bradley W VanLeuven	1
06035	Lead	SW-846 6020	1	183411404704A	12/17/2018 08:13	Choon Y Tian	1
14047	ICPMS - Water, 3020A - U345	SW-846 3020A	1	183411404704	12/10/2018 05:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: PGS-GP08-W001 DUP Grab Groundwater
I-80 Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: WW 9925867
ELLE Group #: 2015490
Matrix: Groundwater

Project Name: I-80 Pocono Gas Station

Submittal Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/04/2018 12:30

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
Metals Dissolved		SW-846 6020				
06035	Lead	7439-92-1	N.D.	0.0011	0.0030	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.
This sample was field filtered for dissolved metals.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	183411404704A	12/17/2018 08:10	Choon Y Tian	1
14047	ICPMS - Water, 3020A - U345	SW-846 3020A	1	183411404704	12/10/2018 05:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: PGS-GP08-W201 Grab Water
I-80 Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: WW 9925868
ELLE Group #: 2015490
Matrix: Water

Project Name: I-80 Pocono Gas Station

Submittal Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/04/2018 13:30

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.2	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.	2	5	1
10945	Ethylbenzene	100-41-4	N.D.	0.2	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.3	5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.2	1	1
10945	Naphthalene	91-20-3	N.D.	4	10	1
10945	Toluene	108-88-3	N.D.	0.2	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.3	5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.3	5	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	5	1
Volatiles by Extraction		SW-846 8011	ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	N.D. D1	0.0095	0.028	1
Metals Dissolved		SW-846 6020	mg/l	mg/l	mg/l	
06035	Lead	7439-92-1	N.D.	0.0011	0.0030	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.
This sample was field filtered for dissolved metals.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z183403AA	12/06/2018 23:54	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z183403AA	12/06/2018 23:53	Hu Yang	1
10398	8011 Master Master	SW-846 8011	1	183470029A	12/19/2018 08:44	Richard A Shober	1
07786	EDB Extraction (8011)	SW-846 8011	2	183470029A	12/13/2018 20:30	Bradley W VanLeuven	1
06035	Lead	SW-846 6020	1	183411404704A	12/17/2018 08:53	Choon Y Tian	1
14047	ICPMS - Water, 3020A - U345	SW-846 3020A	1	183411404704	12/10/2018 05:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: PGS-GP08-W301 Water
I-80 Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: WW 9925869
ELLE Group #: 2015490
Matrix: Water

Project Name: I-80 Pocono Gas Station

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/04/2018 13:35

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.2	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.	2	5	1
10945	Ethylbenzene	100-41-4	N.D.	0.2	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.3	5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.2	1	1
10945	Naphthalene	91-20-3	N.D.	4	10	1
10945	Toluene	108-88-3	N.D.	0.2	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.3	5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.3	5	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	5	1
Volatiles by Extraction		SW-846 8011	ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	N.D. D1	0.0096	0.029	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z183403AA	12/07/2018 00:18	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z183403AA	12/07/2018 00:17	Hu Yang	1
10398	8011 Master Master	SW-846 8011	1	183470029A	12/19/2018 09:31	Richard A Shober	1
07786	EDB Extraction (8011)	SW-846 8011	2	183470029A	12/13/2018 20:30	Bradley W VanLeuven	1

*=This limit was used in the evaluation of the final result

Sample Description: PGS-GP03-W001 Grab Groundwater
I-80 Pocono Gas Station

Brightfields, Inc.
ELLE Sample #: WW 9925870
ELLE Group #: 2015490
Matrix: Groundwater

Project Name: I-80 Pocono Gas Station

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 15:45

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.2	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.	2	5	1
10945	Ethylbenzene	100-41-4	N.D.	0.2	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.3	5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.2	1	1
10945	Naphthalene	91-20-3	N.D.	4	10	1
10945	Toluene	108-88-3	N.D.	0.2	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.3	5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.3	5	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	5	1
Volatiles by Extraction		SW-846 8011	ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	N.D. D1	0.0094	0.028	1
Metals Dissolved		SW-846 6020	mg/l	mg/l	mg/l	
06035	Lead	7439-92-1	0.0017 J	0.0011	0.0030	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.
This sample was field filtered for dissolved metals.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z183403AA	12/07/2018 03:08	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z183403AA	12/07/2018 03:07	Hu Yang	1
10398	8011 Master Master	SW-846 8011	1	183470030A	12/19/2018 00:40	Richard A Shober	1
07786	EDB Extraction (8011)	SW-846 8011	2	183470030A	12/13/2018 20:30	Bradley W VanLeuven	1
06035	Lead	SW-846 6020	1	183411404704A	12/17/2018 08:55	Choon Y Tian	1
14047	ICPMS - Water, 3020A - U345	SW-846 3020A	1	183411404704	12/10/2018 05:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/20/2018 15:53

Group Number: 2015490

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result ug/l	MDL** ug/l	LOQ ug/l
Batch number: Z183403AA	Sample number(s): 9925861-9925866,9925868-9925870		
Benzene	N.D.	0.2	1
1,2-Dichloroethane	N.D.	2	5
Ethylbenzene	N.D.	0.2	1
Isopropylbenzene	N.D.	0.3	5
Methyl Tertiary Butyl Ether	N.D.	0.2	1
Naphthalene	N.D.	4	10
Toluene	N.D.	0.2	1
1,2,4-Trimethylbenzene	N.D.	0.3	5
1,3,5-Trimethylbenzene	N.D.	0.3	5
Xylene (Total)	N.D.	0.5	5
Batch number: 183470029A	Sample number(s): 9925861-9925866,9925868-9925869		
Ethylene dibromide	N.D.	0.010	0.030
Batch number: 183470030A	Sample number(s): 9925870		
Ethylene dibromide	N.D.	0.010	0.030
	mg/l	mg/l	mg/l
Batch number: 183411404704A	Sample number(s): 9925861-9925868,9925870		
Lead	N.D.	0.0011	0.0030

LCS/LCSD

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: Z183403AA	Sample number(s): 9925861-9925866,9925868-9925870								
Benzene	20	20.07			100		80-120		
1,2-Dichloroethane	20	21.12			106		73-124		
Ethylbenzene	20	20			100		80-120		
Isopropylbenzene	20	20.32			102		80-120		
Methyl Tertiary Butyl Ether	20	21.79			109		69-122		
Naphthalene	20	16.01			80		53-124		
Toluene	20	20.69			103		80-120		
1,2,4-Trimethylbenzene	20	19.8			99		75-120		
1,3,5-Trimethylbenzene	20	19.45			97		75-120		
Xylene (Total)	60	60.82			101		80-120		

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/20/2018 15:53

Group Number: 2015490

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 183470029A Ethylene dibromide	0.129	0.133	0.129	0.131	104	102	60-140	2	20
Batch number: 183470030A Ethylene dibromide	0.129	0.124	0.129	0.124	97	96	60-140	0	20
Batch number: 183411404704A Lead	0.0150	0.0147			98		90-110		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: Z183403AA Benzene	N.D.	20	21.21	20	21.69	106	108	80-120	2	30
1,2-Dichloroethane	N.D.	20	21.54	20	21.86	108	109	73-124	1	30
Ethylbenzene	N.D.	20	20.6	20	21.13	103	106	80-120	3	30
Isopropylbenzene	N.D.	20	20.3	20	20.95	102	105	80-120	3	30
Methyl Tertiary Butyl Ether	N.D.	20	21.52	20	21.91	108	110	69-122	2	30
Naphthalene	N.D.	20	14.43	20	14.6	72	73	53-124	1	30
Toluene	N.D.	20	21.34	20	22.04	107	110	80-120	3	30
1,2,4-Trimethylbenzene	N.D.	20	19.53	20	19.65	98	98	75-120	1	30
1,3,5-Trimethylbenzene	N.D.	20	19.07	20	19.42	95	97	75-120	2	30
Xylene (Total)	N.D.	60	61.75	60	63.16	103	105	80-120	2	30
Batch number: 183470029A Ethylene dibromide	N.D.	0.122	0.138	0.121	0.134	113	110	60-140	3	20
Batch number: 183411404704A Lead	0.00670	0.0150	0.0153	0.0150	0.0149	58*	55*	75-125	3	20

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/20/2018 15:53

Group Number: 2015490

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/l	DUP Conc mg/l	DUP RPD	DUP RPD Max
Batch number: 183411404704A	Sample number(s): 9925861-9925868,9925870 BKG: 9925864			
Lead	0.00670	N.D.	200* (1)	20

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: VOCs- 5ml Water by 8260B UST
Batch number: Z183403AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9925861	119	105	99	95
9925862	119	104	99	93
9925863	119	104	99	95
9925864	118	104	101	95
9925865	114	103	102	105
9925866	113	103	103	104
9925868	117	103	100	94
9925869	117	103	98	95
9925870	119	104	99	94
Blank	114	104	100	96
LCS	111	102	101	103
MS	114	103	102	105
MSD	113	103	103	104
Limits:	80-120	80-120	80-120	80-120

Analysis Name: 8011 Master Master
Batch number: 183470029A

	1,1,2,2-Tetrachloroethane-D1	1,1,2,2-Tetrachloroethane-D2
9925861	97	100
9925862	98	99
9925863	97	98
9925864	98	98
9925865	101	104
9925866	107	112
9925868	100	103
9925869	103	103
Blank	98	99
LCS	98	102
LCSD	92	93

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/20/2018 15:53

Group Number: 2015490

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: 8011 Master Master
Batch number: 183470029A

	1,1,2,2-Tetrachloroethane-D1	1,1,2,2-Tetrachloroethane-D2
MS	101	104
MSD	107	112
Limits:	46-136	46-136

Analysis Name: 8011 Master Master
Batch number: 183470030A

	1,1,2,2-Tetrachloroethane-D1	1,1,2,2-Tetrachloroethane-D2
9925870	101	103
Blank	135	101
LCS	119	84
LCSD	124	92
Limits:	46-136	46-136

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Environmental Analysis Request/Chain of Custody



Lancaster Laboratories Environmental

For Eurofins Lancaster Laboratories Environmental use only

Acc. # 4549 Group # W15490 Sample # 9925861-70

Page 1 of 1
COC # 568831

Client Information				Matrix				Analysis Requested										For Lab Use Only			
Client: <u>BrightFields, Inc.</u>		Acc. #: _____		Soil <input type="checkbox"/> Sediment <input type="checkbox"/> Tissue <input type="checkbox"/>		Potable <input checked="" type="checkbox"/> Ground <input type="checkbox"/> Surface <input type="checkbox"/>		NPDES <input type="checkbox"/> Other: <u>Black water</u>		Preservation and Filtration Codes										FSC: _____	SCR#: _____
Project Name/ID: <u>I-80 Pocono Gas Station</u>		PWSID #: _____		Water <input type="checkbox"/>		Total # of Containers		<u>PADEP SHORTLIST parameters for leaded gas, unleaded gas, kerosene, and fuel oil #2</u>										Preservation Codes H=HCl T=Thiosulfate N=HNO ₃ B=NaOH S=H ₂ SO ₄ P=H ₃ PO ₄ F=Field Filtered O=Other			
Project Manager: <u>Victoria Bisbing</u>		P.O. #: <u>15380</u>		Composite <input type="checkbox"/>		Grab <input type="checkbox"/>												Remarks			
Sampler: <u>M. Atterbury / C. Cumming</u>		Quote #: _____		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>																	
State where samples were collected: <u>PA</u>		For Compliance: _____																			
Sample Identification		Collected		Grab	Composite	Soil	Water	Other	Total # of Containers												
Date	Time																				
<u>PGS-GP06-W001</u>	<u>12/4/18</u>	<u>1150</u>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>		<u>6</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									<u>0 = 1ce</u>
<u>PGS-GP06-W101</u>	<u>12/4/18</u>	<u>1151</u>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>		<u>6</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									
<u>PGS-GP05-W001</u>	<u>12/4/18</u>	<u>1205</u>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>		<u>6</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									<u>* MS/MSD and extra met. vol.</u>
<u>PGS-GP08-W001*</u>	<u>12/4/18</u>	<u>1230</u>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>		<u>6</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									<u>samples collected for diss. metals analysis were field-filtered</u>
<u>PGS-GP08-W201</u>	<u>12/4/18</u>	<u>1330</u>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	<u>X</u>	<u>6</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									
<u>PGS-GP08-W301</u>	<u>12/4/18</u>	<u>1335</u>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	<u>X</u>	<u>4</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									
<u>PGS-GP03-W001</u>	<u>12/3/18</u>	<u>1545</u>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>		<u>6</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									<u>CS# 30523</u>

Turnaround Time (TAT) Requested (please circle) Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/> (Rush TAT is subject to laboratory approval and surcharge.) Requested TAT in business days: _____ E-mail address: _____	Relinquished by <u>Margaret lb</u>	Date <u>12/5/18</u>	Time <u>1205</u>	Received by <u>A. Cumming</u>	Date <u>12/5/18</u>	Time <u>1205</u>
	Relinquished by <u>A. Cumming</u>	Date <u>12/5/18</u>	Time <u>1810</u>	Received by <u>O</u>	Date	Time
	Relinquished by	Date	Time	Received by	Date	Time
	Relinquished by	Date	Time	Received by	Date	Time
	Relinquished by	Date	Time	Received by <u>S. ...</u>	Date <u>12/5/18</u>	Time <u>1810</u>

Data Package Options (circle if required)			EDD Required? Yes No		Relinquished by Commercial Carrier:	
Type I (EPA Level 3 Equivalent/non-CLP)	Type VI (Raw Data Only)		If yes, format: _____		UPS _____ FedEx _____ Other _____	
Type III (Reduced non-CLP)	NJ DKQP TX TRRP-13		Site-Specific QC (MS/MSD/Dup)? Yes No		Temperature upon receipt <u>0.02°C</u>	
NYSDEC Category A or B	MA MCP CT RCP		(If yes, indicate QC sample and submit triplicate sample volume.)			



Client: Bright Field, Inc.

Delivery and Receipt Information

Delivery Method: ELLE Courier Arrival Timestamp: 12/05/2018 18:10
 Number of Packages: 6 Number of Projects: 4
 State/Province of Origin: PA

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	Yes
Samples Chilled:	Yes	VOA IDs (≥ 6mm):	See Below
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	4
Samples Intact:	Yes	Trip Blank Type:	HCl
Missing Samples:	No	Air Quality Samples Present:	No
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

VOA Vial IDs (Headspace ≥ 6mm): PGS-GP08-W301 (3 of 4)

Unpacked by Melvin Sanchez (8943) at 22:59 on 12/05/2018

Samples Chilled Details

Thermometer Types: *DT = Digital (Temp. Bottle)* *IR = Infrared (Surface Temp)* All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT131	0.4	DT	Wet	Y	Bagged	N
2	DT131	2.1	DT	Wet	Y	Bagged	N
3	DT131	1.2	DT	Wet	Y	Bagged	N
4	DT131	0.4	DT	Wet	Y	Bagged	N
5	DT131	0.6	DT	Wet	Y	Bagged	N
6	DT131	0.0	DT	Wet	Y	Bagged	N

General Comments: Received Metals Batch QC for sample PGS-GP08-W001

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	mL	milliliter(s)
C	degrees Celsius	MPN	Most Probable Number
cfu	colony forming units	N.D.	non-detect
CP Units	cobalt-chloroplatinate units	ng	nanogram(s)
F	degrees Fahrenheit	NTU	nephelometric turbidity units
g	gram(s)	pg/L	picogram/liter
IU	International Units	RL	Reporting Limit
kg	kilogram(s)	TNTC	Too Numerous To Count
L	liter(s)	µg	microgram(s)
lb.	pound(s)	µL	microliter(s)
m3	cubic meter(s)	umhos/cm	micromhos/cm
meq	milliequivalents	MCL	Maximum Contamination Limit
mg	milligram(s)		
<	less than		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
K1	Initial Calibration Blank is above the QC limit and the sample result is ND
K2	Continuing Calibration Blank is above the QC limit and the sample result is ND
K3	Initial Calibration Verification is above the QC limit and the sample result is ND
K4	Continuing Calibration Verification is above the QC limit and the sample result is ND
J (or G, I, X)	Estimated value \geq the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
P^	Concentration difference between the primary and confirmation column $> 40\%$. The higher result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report
B	Detection in the Blank
Q0	LCS/LCSD Low
Q1	LCS/LCSD High
Q2	MS/MSD Low
Q3	MS/MSD High
Q7	LCS/LCSD RPD
Q8	DUP RPD
Q9	MS/MSD RPD

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Appendix E.8

Eurofins Analytical Data Packages

Rinehart EM, Inc.



ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Brightfields, Inc.
801 Industrial St.
Suite 1
Wilmington DE 19801

Report Date: January 04, 2018 11:00

Project: Rinehart EM, Inc.

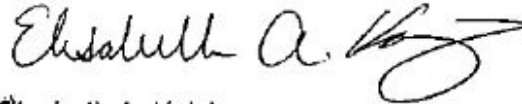
Account #: 04549
Group Number: 1882343
PO Number: 14726
State of Sample Origin: PA

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/> . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To Brightfields, Inc.
Electronic Copy To Brightfields, Inc.

Attn: James Thompson
Attn: Victoria Bisbing

Respectfully Submitted,



Elisabeth A. Knisley
Project Manager

(717) 556-7262



SAMPLE INFORMATION

<u>Client Sample Description</u>	<u>Sample Collection Date/Time</u>	<u>ELLE#</u>
REI-GP01-S001 Grab Soil	12/01/2017 09:00	9348256
REI-GP01-S001MS Grab Soil	12/01/2017 09:00	9348257
REI-GP01-S001MSD Grab Soil	12/01/2017 09:00	9348258
REI-GP01-S001DUP Grab Soil	12/01/2017 09:00	9348259
REI-GP01-S002 Grab Soil	12/01/2017 09:30	9348260
REI-GP01-W001 Grab Groundwater	12/01/2017 10:10	9348261
REI-GP01-W001MS Grab Groundwater	12/01/2017 10:10	9348262
REI-GP01-W001MSD Grab Groundwater	12/01/2017 10:10	9348263
REI-GP02-S001 Grab Soil	12/01/2017 09:55	9348264
REI-GP02-S101 Grab Soil	12/01/2017 09:57	9348265
REI-GP02-S002 Grab Soil	12/01/2017 10:15	9348266
REI-GP02-W001 Grab Groundwater	12/01/2017 11:15	9348267
REI-GP02-W101 Grab Groundwater	12/01/2017 11:17	9348268
REI-GP03-S001 Grab Soil	12/01/2017 10:20	9348269
REI-GP03-S002 Grab Soil	12/01/2017 10:30	9348270
REI-GP04-S001 Grab Soil	12/01/2017 10:40	9348271
REI-GP04-S002 Grab Soil	12/01/2017 10:50	9348272
REI-GP04-W001 Grab Groundwater	12/01/2017 11:45	9348273
REI-GP05-S001 Grab Soil	12/01/2017 12:05	9348274
REI-GP05-S002 Grab Soil	12/01/2017 12:15	9348275
REI-GP06-S001 Grab Soil	12/01/2017 12:20	9348276
REI-GP06-S002 Grab Soil	12/01/2017 12:25	9348277
REI-GP07-S001 Grab Soil	12/01/2017 12:35	9348278
REI-GP07-S002 Grab Soil	12/01/2017 12:40	9348279
REI-GP07-W001 Grab Groundwater	12/01/2017 13:00	9348280
REI-GP08-S001 Grab Soil	12/01/2017 13:45	9348281
REI-GP08-S002 Grab Soil	12/01/2017 13:50	9348282
REI-GP08-S301 Bisulfate	12/01/2017 14:00	9348283
REI-GP08-W301 Water	12/01/2017 14:05	9348284

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Sample Description: REI-GP01-S001 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348256
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 09:00

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D. Q3	0.0005	0.005	0.94
10237	1,2-Dibromoethane	106-93-4	N.D. Q3	0.001	0.005	0.94
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	0.94
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	0.94
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.005	0.94
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	0.94
10237	Naphthalene	91-20-3	N.D. Q2	0.001	0.005	0.94
10237	Toluene	108-88-3	N.D. Q3	0.001	0.005	0.94
10237	1,2,4-Trimethylbenzene	95-63-6	N.D. Q3	0.001	0.005	0.94
10237	1,3,5-Trimethylbenzene	108-67-8	N.D. Q3	0.001	0.005	0.94
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	0.94

The recovery for the sample internal standard is outside the QC acceptance limits. The following corrective action was taken: Similar results were obtained for the internal standard in the background, matrix spike and matrix spike duplicate indicating a matrix effect.

PCBs		SW-846 8082	ug/kg	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D. D1	38	180	10
10736	PCB-1221	11104-28-2	N.D. D1	48	180	10
10736	PCB-1232	11141-16-5	N.D. D1	84	180	10
10736	PCB-1242	53469-21-9	N.D. D1	35	180	10
10736	PCB-1248	12672-29-6	N.D. D1	35	180	10
10736	PCB-1254	11097-69-1	N.D. D2	35	180	10
10736	PCB-1260	11096-82-5	1,100 D2 Q3	52	180	10

The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported.
This applies to the DCB surrogate.

Metals		SW-846 6010B	mg/kg	mg/kg	mg/kg	
06944	Antimony	7440-36-0	N.D.	4.10	9.41	5
06935	Arsenic	7440-38-2	6.76	0.904	1.88	1
06947	Beryllium	7440-41-7	0.638	0.0744	0.471	1
06949	Cadmium	7440-43-9	N.D.	0.254	2.35	5
Reporting limits for metals were raised due to interference from the sample matrix.						
06951	Chromium	7440-47-3	19.0 Q3	0.160	1.41	1
06953	Copper	7440-50-8	23.5 Q3	0.226	0.941	1
06955	Lead	7439-92-1	23.6 Q3Q9	0.565	1.41	1
06961	Nickel	7440-02-0	32.9	0.141	0.941	1
06936	Selenium	7782-49-2	N.D.	0.876	1.88	1
06966	Silver	7440-22-4	N.D.	0.226	0.471	1
06925	Thallium	7440-28-0	N.D.	1.29	2.82	1
06972	Zinc	7440-66-6	108 Q2Q8Q9	0.226	1.88	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP01-S001 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348256
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 09:00

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Metals						
		SW-846 7471A	mg/kg	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.0296 J	0.0106	0.106	1
Wet Chemistry						
		SW-846 9045C modified	Std. Units	Std. Units	Std. Units	
00394	pH	n.a.	8.00	0.0100	0.0100	1
	The pH was measured in water at 18.6 C.					
Wet Chemistry						
		SM 2540 G-1997	%	%	%	
		%Moisture Calc				
00111	Moisture	n.a.	6.0 Q8	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	X173463AA	12/12/2017 23:18	Patrick T Herres	0.94
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733948210	12/01/2017 09:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733948210	12/01/2017 09:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733948210	12/01/2017 09:00	Client Supplied	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173400008A	12/19/2017 02:59	Jessica L Miller	10
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173400008A	12/06/2017 16:25	Kate E Lutte	1
06944	Antimony	SW-846 6010B	1	173390570802	12/16/2017 14:52	Elaine F Stoltzfus	5
06935	Arsenic	SW-846 6010B	1	173390570802	12/12/2017 21:55	Cindy M Gehman	1
06947	Beryllium	SW-846 6010B	1	173390570802	12/12/2017 21:55	Cindy M Gehman	1
06949	Cadmium	SW-846 6010B	1	173390570802	12/16/2017 14:52	Elaine F Stoltzfus	5
06951	Chromium	SW-846 6010B	1	173390570802	12/12/2017 21:55	Cindy M Gehman	1
06953	Copper	SW-846 6010B	1	173390570802	12/12/2017 21:55	Cindy M Gehman	1
06955	Lead	SW-846 6010B	1	173390570802	12/12/2017 21:55	Cindy M Gehman	1
06961	Nickel	SW-846 6010B	1	173390570802	12/12/2017 21:55	Cindy M Gehman	1
06936	Selenium	SW-846 6010B	1	173390570802	12/12/2017 21:55	Cindy M Gehman	1
06966	Silver	SW-846 6010B	1	173390570802	12/12/2017 21:55	Cindy M Gehman	1
06925	Thallium	SW-846 6010B	1	173390570802	12/12/2017 21:55	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173390570802	12/12/2017 21:55	Cindy M Gehman	1
00159	Mercury	SW-846 7471A	1	173390571101	12/07/2017 05:29	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173390570802	12/06/2017 16:45	Barbara A Kane	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP01-S001 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348256
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 09:00

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173390571101	12/06/2017 18:30	Barbara A Kane	1
00394	pH	SW-846 9045C modified	1	17346039403A	12/12/2017 23:20	Luz M Groff	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17341820003A	12/07/2017 10:56	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP01-S001MS Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348257
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 09:00

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	mg/kg	mg/kg	mg/kg	
10237	Benzene	71-43-2	0.027 Q3	0.0006	0.006	1.04
10237	1,2-Dibromoethane	106-93-4	0.027 Q3	0.001	0.006	1.04
10237	1,2-Dichloroethane	107-06-2	0.027	0.001	0.006	1.04
10237	Ethylbenzene	100-41-4	0.026	0.001	0.006	1.04
10237	Isopropylbenzene	98-82-8	0.020	0.001	0.006	1.04
10237	Methyl Tertiary Butyl Ether	1634-04-4	0.026	0.0006	0.006	1.04
10237	Naphthalene	91-20-3	0.009 Q2	0.001	0.006	1.04
10237	Toluene	108-88-3	0.030 Q3	0.001	0.006	1.04
10237	1,2,4-Trimethylbenzene	95-63-6	0.030 Q3	0.001	0.006	1.04
10237	1,3,5-Trimethylbenzene	108-67-8	0.031 Q3	0.001	0.006	1.04
10237	Xylene (Total)	1330-20-7	0.074	0.001	0.006	1.04

The recovery for the sample internal standard is outside the QC acceptance limits. The following corrective action was taken: Similar results were obtained for the internal standard in the background, matrix spike and matrix spike duplicate indicating a matrix effect.

PCBs		SW-846 8082	ug/kg	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	190 D2	38	180	10
10736	PCB-1221	11104-28-2	N.D. D1	49	180	10
10736	PCB-1232	11141-16-5	N.D. D1	85	180	10
10736	PCB-1242	53469-21-9	N.D. D1	35	180	10
10736	PCB-1248	12672-29-6	N.D. D1	35	180	10
10736	PCB-1254	11097-69-1	N.D. D2	35	180	10
10736	PCB-1260	11096-82-5	1,600 D2 Q3	52	180	10

The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported. This applies to the DCB surrogate.

Metals		SW-846 6010B	mg/kg	mg/kg	mg/kg	
06944	Antimony	7440-36-0	35.7	3.99	9.17	5
06935	Arsenic	7440-38-2	21.2	0.880	1.83	1
06947	Beryllium	7440-41-7	5.36	0.0725	0.459	1
06949	Cadmium	7440-43-9	4.67	0.248	2.29	5
Reporting limits for metals were raised due to interference from the sample matrix.						
06951	Chromium	7440-47-3	46.4 Q3	0.156	1.38	1
06953	Copper	7440-50-8	52.3 Q3	0.220	0.917	1
06955	Lead	7439-92-1	44.3 Q3Q9	0.550	1.38	1
06961	Nickel	7440-02-0	78.2	0.138	0.917	1
06936	Selenium	7782-49-2	12.2	0.853	1.83	1
06966	Silver	7440-22-4	4.28	0.220	0.459	1
06925	Thallium	7440-28-0	12.6	1.26	2.75	1
06972	Zinc	7440-66-6	149 Q2Q8Q9	0.220	1.83	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP01-S001MS Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348257
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 09:00

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Metals						
		SW-846 7471A	mg/kg	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.197	0.010	0.0997	1
Wet Chemistry						
		SM 2540 G-1997	%	%	%	
		%Moisture Calc				
00118	Moisture	n.a.	6.0 Q8	0.50	0.50	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	X173463AB	12/13/2017 18:56	Linda C Pape	1.04
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733948210	12/01/2017 09:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733948210	12/01/2017 09:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733948210	12/01/2017 09:00	Client Supplied	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173400008A	12/19/2017 03:10	Jessica L Miller	10
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173400008A	12/06/2017 16:25	Kate E Lutte	1
06944	Antimony	SW-846 6010B	1	173390570802	12/16/2017 15:01	Elaine F Stoltzfus	5
06935	Arsenic	SW-846 6010B	1	173390570802	12/12/2017 22:06	Cindy M Gehman	1
06947	Beryllium	SW-846 6010B	1	173390570802	12/12/2017 22:06	Cindy M Gehman	1
06949	Cadmium	SW-846 6010B	2	173390570802	12/16/2017 15:01	Elaine F Stoltzfus	5
06951	Chromium	SW-846 6010B	1	173390570802	12/12/2017 22:06	Cindy M Gehman	1
06953	Copper	SW-846 6010B	1	173390570802	12/12/2017 22:06	Cindy M Gehman	1
06955	Lead	SW-846 6010B	1	173390570802	12/12/2017 22:06	Cindy M Gehman	1
06961	Nickel	SW-846 6010B	1	173390570802	12/12/2017 22:06	Cindy M Gehman	1
06936	Selenium	SW-846 6010B	1	173390570802	12/12/2017 22:06	Cindy M Gehman	1
06966	Silver	SW-846 6010B	1	173390570802	12/12/2017 22:06	Cindy M Gehman	1
06925	Thallium	SW-846 6010B	1	173390570802	12/12/2017 22:06	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173390570802	12/12/2017 22:06	Cindy M Gehman	1
00159	Mercury	SW-846 7471A	1	173390571101	12/07/2017 05:35	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173390570802	12/06/2017 16:45	Barbara A Kane	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173390571101	12/06/2017 18:30	Barbara A Kane	1
00118	Moisture	SM 2540 G-1997 %Moisture Calc	1	17341820003A	12/07/2017 10:56	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP01-S001MSD Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348258
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 09:00

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	mg/kg	mg/kg	mg/kg	
10237	Benzene	71-43-2	0.024 Q3	0.0005	0.005	1.01
10237	1,2-Dibromoethane	106-93-4	0.025 Q3	0.001	0.005	1.01
10237	1,2-Dichloroethane	107-06-2	0.025	0.001	0.005	1.01
10237	Ethylbenzene	100-41-4	0.023	0.001	0.005	1.01
10237	Isopropylbenzene	98-82-8	0.017	0.001	0.005	1.01
10237	Methyl Tertiary Butyl Ether	1634-04-4	0.024	0.0005	0.005	1.01
10237	Naphthalene	91-20-3	0.007 Q2	0.001	0.005	1.01
10237	Toluene	108-88-3	0.027 Q3	0.001	0.005	1.01
10237	1,2,4-Trimethylbenzene	95-63-6	0.026 Q3	0.001	0.005	1.01
10237	1,3,5-Trimethylbenzene	108-67-8	0.027 Q3	0.001	0.005	1.01
10237	Xylene (Total)	1330-20-7	0.067	0.001	0.005	1.01

The recovery for the sample internal standard is outside the QC acceptance limits. The following corrective action was taken: Similar results were obtained for the internal standard in the background, matrix spike and matrix spike duplicate indicating a matrix effect.

PCBs		SW-846 8082	ug/kg	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	160 JD2	38	180	10
10736	PCB-1221	11104-28-2	N.D. D1	49	180	10
10736	PCB-1232	11141-16-5	N.D. D1	85	180	10
10736	PCB-1242	53469-21-9	N.D. D1	35	180	10
10736	PCB-1248	12672-29-6	N.D. D1	35	180	10
10736	PCB-1254	11097-69-1	N.D. D2	35	180	10
10736	PCB-1260	11096-82-5	1,200 D2 Q3	52	180	10

The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported. This applies to the DCB surrogate.

Metals		SW-846 6010B	mg/kg	mg/kg	mg/kg	
06944	Antimony	7440-36-0	41.0	3.92	9.02	5
06935	Arsenic	7440-38-2	19.6	0.865	1.80	1
06947	Beryllium	7440-41-7	5.18	0.0712	0.451	1
06949	Cadmium	7440-43-9	5.02	0.243	2.25	5
Reporting limits for metals were raised due to interference from the sample matrix.						
06951	Chromium	7440-47-3	37.9 Q3	0.153	1.35	1
06953	Copper	7440-50-8	42.7 Q3	0.216	0.902	1
06955	Lead	7439-92-1	34.8 Q3Q9	0.541	1.35	1
06961	Nickel	7440-02-0	73.7	0.135	0.902	1
06936	Selenium	7782-49-2	12.4	0.838	1.80	1
06966	Silver	7440-22-4	4.21	0.216	0.451	1
06925	Thallium	7440-28-0	13.1	1.24	2.70	1
06972	Zinc	7440-66-6	120 Q2Q8Q9	0.216	1.80	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP01-S001MSD Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348258
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 09:00

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Metals						
		SW-846 7471A	mg/kg	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.190	0.0098	0.0982	1
Wet Chemistry						
		SM 2540 G-1997	%	%	%	
		%Moisture Calc				
00118	Moisture	n.a.	6.0 Q8	0.50	0.50	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	X173463AA	12/13/2017 00:04	Patrick T Herres	1.01
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733948210	12/01/2017 09:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733948210	12/01/2017 09:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733948210	12/01/2017 09:00	Client Supplied	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173400008A	12/19/2017 03:21	Jessica L Miller	10
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173400008A	12/06/2017 16:25	Kate E Lutte	1
06944	Antimony	SW-846 6010B	1	173390570802	12/16/2017 15:05	Elaine F Stoltzfus	5
06935	Arsenic	SW-846 6010B	1	173390570802	12/12/2017 22:09	Cindy M Gehman	1
06947	Beryllium	SW-846 6010B	1	173390570802	12/12/2017 22:09	Cindy M Gehman	1
06949	Cadmium	SW-846 6010B	2	173390570802	12/16/2017 15:05	Elaine F Stoltzfus	5
06951	Chromium	SW-846 6010B	1	173390570802	12/12/2017 22:09	Cindy M Gehman	1
06953	Copper	SW-846 6010B	1	173390570802	12/12/2017 22:09	Cindy M Gehman	1
06955	Lead	SW-846 6010B	1	173390570802	12/12/2017 22:09	Cindy M Gehman	1
06961	Nickel	SW-846 6010B	1	173390570802	12/12/2017 22:09	Cindy M Gehman	1
06936	Selenium	SW-846 6010B	1	173390570802	12/12/2017 22:09	Cindy M Gehman	1
06966	Silver	SW-846 6010B	1	173390570802	12/12/2017 22:09	Cindy M Gehman	1
06925	Thallium	SW-846 6010B	1	173390570802	12/12/2017 22:09	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173390570802	12/12/2017 22:09	Cindy M Gehman	1
00159	Mercury	SW-846 7471A	1	173390571101	12/07/2017 05:37	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173390570802	12/06/2017 16:45	Barbara A Kane	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173390571101	12/06/2017 18:30	Barbara A Kane	1
00118	Moisture	SM 2540 G-1997 %Moisture Calc	1	17341820003A	12/07/2017 10:56	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP01-S001DUP Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348259
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 09:00

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Metals		SW-846 6010B	mg/kg	mg/kg	mg/kg	
06944	Antimony	7440-36-0	N.D.	4.10	9.41	5
06935	Arsenic	7440-38-2	6.70	0.904	1.88	1
06947	Beryllium	7440-41-7	0.672	0.0744	0.471	1
06949	Cadmium	7440-43-9	N.D.	0.254	2.35	5
Reporting limits for metals were raised due to interference from the sample matrix.						
06951	Chromium	7440-47-3	20.2 Q3	0.160	1.41	1
06953	Copper	7440-50-8	22.6 Q3	0.226	0.941	1
06955	Lead	7439-92-1	26.6 Q3Q9	0.565	1.41	1
06961	Nickel	7440-02-0	33.4	0.141	0.941	1
06936	Selenium	7782-49-2	N.D.	0.876	1.88	1
06966	Silver	7440-22-4	N.D.	0.226	0.471	1
06925	Thallium	7440-28-0	N.D.	1.29	2.82	1
06972	Zinc	7440-66-6	87.5 Q2Q8Q9	0.226	1.88	1
		SW-846 7471A	mg/kg	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.0286 J	0.0106	0.106	1
Wet Chemistry		SW-846 9045C modified	Std. Units	Std. Units	Std. Units	
00394	pH	n.a.	8.08	0.0100	0.0100	1
The pH was measured in water at 18.5 C.						
Wet Chemistry		SM 2540 G-1997	%	%	%	
		%Moisture Calc				
00118	Moisture	n.a.	6.0 Q8	0.50	0.50	1
00121	Moisture Duplicate	n.a.	6.9 Q8	0.50	0.50	1
The duplicate moisture value is provided to assess the precision of the moisture test. For comparability purposes, the initial moisture determination is the value used to perform dry weight calculations.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06944	Antimony	SW-846 6010B	1	173390570802	12/16/2017 14:58	Elaine F Stoltzfus	5
06935	Arsenic	SW-846 6010B	1	173390570802	12/12/2017 22:02	Cindy M Gehman	1
06947	Beryllium	SW-846 6010B	1	173390570802	12/12/2017 22:02	Cindy M Gehman	1
06949	Cadmium	SW-846 6010B	1	173390570802	12/16/2017 14:58	Elaine F Stoltzfus	5

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP01-S001DUP Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348259
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 09:00

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06951	Chromium	SW-846 6010B	1	173390570802	12/12/2017 22:02	Cindy M Gehman	1
06953	Copper	SW-846 6010B	1	173390570802	12/12/2017 22:02	Cindy M Gehman	1
06955	Lead	SW-846 6010B	1	173390570802	12/12/2017 22:02	Cindy M Gehman	1
06961	Nickel	SW-846 6010B	1	173390570802	12/12/2017 22:02	Cindy M Gehman	1
06936	Selenium	SW-846 6010B	1	173390570802	12/12/2017 22:02	Cindy M Gehman	1
06966	Silver	SW-846 6010B	1	173390570802	12/12/2017 22:02	Cindy M Gehman	1
06925	Thallium	SW-846 6010B	1	173390570802	12/12/2017 22:02	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173390570802	12/12/2017 22:02	Cindy M Gehman	1
00159	Mercury	SW-846 7471A	1	173390571101	12/07/2017 05:33	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173390570802	12/06/2017 16:45	Barbara A Kane	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173390571101	12/06/2017 18:30	Barbara A Kane	1
00394	pH	SW-846 9045C modified	1	17346039403A	12/12/2017 23:20	Luz M Groff	1
00118	Moisture	SM 2540 G-1997 %Moisture Calc	1	17341820003A	12/07/2017 10:56	Larry E Bevins	1
00121	Moisture Duplicate	SM 2540 G-1997 %Moisture Calc	1	17341820003A	12/07/2017 10:56	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP01-S002 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348260
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 09:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	mg/kg
10237	Benzene	71-43-2	N.D.	0.0005	0.005	0.97
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	0.97
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	0.97
10237	Ethylbenzene	100-41-4	0.001 J	0.001	0.005	0.97
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.005	0.97
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	0.97
10237	Naphthalene	91-20-3	N.D.	0.001	0.005	0.97
10237	Toluene	108-88-3	N.D.	0.001	0.005	0.97
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.005	0.97
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.005	0.97
10237	Xylene (Total)	1330-20-7	0.009	0.001	0.005	0.97
PCBs			SW-846 8082	ug/kg	ug/kg	ug/kg
10736	PCB-1016	12674-11-2	N.D. D1	4.0	19	1
10736	PCB-1221	11104-28-2	N.D. D1	5.1	19	1
10736	PCB-1232	11141-16-5	N.D. D1	8.9	19	1
10736	PCB-1242	53469-21-9	N.D. D1	3.7	19	1
10736	PCB-1248	12672-29-6	N.D. D1	3.7	19	1
10736	PCB-1254	11097-69-1	N.D. D2	3.7	19	1
10736	PCB-1260	11096-82-5	120 D2 Q3	5.4	19	1
<p>The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported. This applies to the DCB surrogate.</p>						
Metals			SW-846 6010B	mg/kg	mg/kg	mg/kg
06944	Antimony	7440-36-0	N.D.	4.38	10.1	5
06935	Arsenic	7440-38-2	10.0	0.966	2.01	1
06947	Beryllium	7440-41-7	0.654	0.0795	0.503	1
06949	Cadmium	7440-43-9	N.D.	0.272	2.52	5
<p>Reporting limits for metals were raised due to interference from the sample matrix.</p>						
06951	Chromium	7440-47-3	24.4 Q3	0.171	1.51	1
06953	Copper	7440-50-8	17.3 Q3	0.242	1.01	1
06955	Lead	7439-92-1	45.5 Q3Q9	0.604	1.51	1
06961	Nickel	7440-02-0	31.6	0.151	1.01	1
06936	Selenium	7782-49-2	N.D.	0.936	2.01	1
06966	Silver	7440-22-4	N.D.	0.242	0.503	1
06925	Thallium	7440-28-0	N.D.	1.38	3.02	1
06972	Zinc	7440-66-6	75.4 Q2Q8Q9	0.242	2.01	1
			SW-846 7471A	mg/kg	mg/kg	mg/kg
00159	Mercury	7439-97-6	0.0133 J	0.0110	0.110	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP01-S002 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348260
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 09:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry						
00394	pH	n.a.	8.11	0.0100	0.0100	1
The pH was measured in water at 18.8 C.						
Wet Chemistry						
00111	Moisture	n.a.	10.5 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A173461AA	12/13/2017 01:46	Stephen C Nolte	0.97
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733948210	12/01/2017 09:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733948210	12/01/2017 09:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733948210	12/01/2017 09:30	Client Supplied	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173400008A	12/19/2017 03:33	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173400008A	12/06/2017 16:25	Kate E Lutte	1
06944	Antimony	SW-846 6010B	1	173390570802	12/16/2017 15:11	Elaine F Stoltzfus	5
06935	Arsenic	SW-846 6010B	1	173390570802	12/12/2017 22:33	Cindy M Gehman	1
06947	Beryllium	SW-846 6010B	1	173390570802	12/12/2017 22:33	Cindy M Gehman	1
06949	Cadmium	SW-846 6010B	1	173390570802	12/16/2017 15:11	Elaine F Stoltzfus	5
06951	Chromium	SW-846 6010B	1	173390570802	12/12/2017 22:33	Cindy M Gehman	1
06953	Copper	SW-846 6010B	1	173390570802	12/12/2017 22:33	Cindy M Gehman	1
06955	Lead	SW-846 6010B	1	173390570802	12/12/2017 22:33	Cindy M Gehman	1
06961	Nickel	SW-846 6010B	1	173390570802	12/12/2017 22:33	Cindy M Gehman	1
06936	Selenium	SW-846 6010B	1	173390571101	12/12/2017 22:33	Cindy M Gehman	1
06966	Silver	SW-846 6010B	1	173390570802	12/12/2017 22:33	Cindy M Gehman	1
06925	Thallium	SW-846 6010B	1	173390570802	12/12/2017 22:33	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173390570802	12/12/2017 22:33	Cindy M Gehman	1
00159	Mercury	SW-846 7471A	1	173390571101	12/07/2017 05:41	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173390570802	12/06/2017 16:45	Barbara A Kane	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173390571101	12/06/2017 18:30	Barbara A Kane	1
00394	pH	SW-846 9045C modified	1	17346039402B	12/12/2017 22:45	Luz M Groff	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP01-S002 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348260
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 09:30

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17341820003A	12/07/2017 10:56	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP01-W001 Grab Groundwater
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: WW 9348261
ELLE Group #: 1882343
Matrix: Groundwater

Project Name: Rinehart EM, Inc.

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 10:10

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10945	Naphthalene	91-20-3	N.D.	1	4	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	2	1
10945	Xylene (Total)	1330-20-7	0.7 J	0.5	1	1
Volatiles by Extraction		SW-846 8011	ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	N.D. D1	0.0071	0.021	1

The recovery for the sample surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. Since the recovery is high and no target analytes were detected, the data is reported.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z173442AA	12/10/2017 21:17	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z173442AA	12/10/2017 21:17	Hu Yang	1
10398	8011 Master Master	SW-846 8011	1	173420003A	12/11/2017 16:00	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	173420003A	12/10/2017 15:15	Edwin Ortiz	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP01-W001MS Grab Groundwater
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: WW 9348262
ELLE Group #: 1882343
Matrix: Groundwater

Project Name: Rinehart EM, Inc.

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 10:10

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	21	0.5	1	1
10945	1,2-Dichloroethane	107-06-2	22	0.5	1	1
10945	Ethylbenzene	100-41-4	21	0.5	1	1
10945	Isopropylbenzene	98-82-8	21	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	20	0.5	1	1
10945	Naphthalene	91-20-3	16	1	4	1
10945	Toluene	108-88-3	21	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	21	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	21	0.5	2	1
10945	Xylene (Total)	1330-20-7	66	0.5	1	1
Volatiles by Extraction		SW-846 8011	ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	0.10 D1	0.0094	0.028	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z173442AA	12/10/2017 21:41	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z173442AA	12/10/2017 21:41	Hu Yang	1
10398	8011 Master Master	SW-846 8011	1	173420003A	12/11/2017 16:16	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	173420003A	12/10/2017 15:15	Edwin Ortiz	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP01-W001MSD Grab Groundwater
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: WW 9348263
ELLE Group #: 1882343
Matrix: Groundwater

Project Name: Rinehart EM, Inc.

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 10:10

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	20	0.5	1	1
10945	1,2-Dichloroethane	107-06-2	21	0.5	1	1
10945	Ethylbenzene	100-41-4	20	0.5	1	1
10945	Isopropylbenzene	98-82-8	21	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	19	0.5	1	1
10945	Naphthalene	91-20-3	16	1	4	1
10945	Toluene	108-88-3	20	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	20	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	20	0.5	2	1
10945	Xylene (Total)	1330-20-7	63	0.5	1	1
Volatiles by Extraction		SW-846 8011	ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	0.12 D1	0.0083	0.025	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z173442AA	12/10/2017 22:05	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z173442AA	12/10/2017 22:05	Hu Yang	1
10398	8011 Master Master	SW-846 8011	1	173420003A	12/11/2017 16:32	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	173420003A	12/10/2017 15:15	Edwin Ortiz	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP02-S001 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348264
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 09:55

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D.	0.0006	0.006	0.98
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.006	0.98
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.006	0.98
10237	Ethylbenzene	100-41-4	0.002 J	0.001	0.006	0.98
10237	Isopropylbenzene	98-82-8	0.022	0.001	0.006	0.98
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0006	0.006	0.98
10237	Naphthalene	91-20-3	0.002 J	0.001	0.006	0.98
10237	Toluene	108-88-3	0.002 J	0.001	0.006	0.98
10237	1,2,4-Trimethylbenzene	95-63-6	0.022	0.001	0.006	0.98
10237	1,3,5-Trimethylbenzene	108-67-8	0.047	0.001	0.006	0.98
10237	Xylene (Total)	1330-20-7	0.006 J	0.001	0.006	0.98

The recovery for the sample internal standard is outside the QC acceptance limits. The following corrective action was taken:
The sample was re-analyzed and the QC is again outside of the acceptance limits, indicating a matrix effect. The data is reported from the initial trial.

PCBs	SW-846 8082	ug/kg	ug/kg	ug/kg
10736	PCB-1016	12674-11-2	N.D. D1	2,100
10736	PCB-1221	11104-28-2	N.D. D1	2,700
10736	PCB-1232	11141-16-5	N.D. D1	4,600
10736	PCB-1242	53469-21-9	N.D. D1	1,900
10736	PCB-1248	12672-29-6	N.D. D1	1,900
10736	PCB-1254	11097-69-1	N.D. D2	1,900
10736	PCB-1260	11096-82-5	99,000 D2 Q3	2,800

The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported.
This applies to the DCB surrogate.

Metals	SW-846 6010B	mg/kg	mg/kg	mg/kg
06944	Antimony	7440-36-0	N.D.	0.818
06935	Arsenic	7440-38-2	15.7	0.902
06947	Beryllium	7440-41-7	0.876	0.0743
06949	Cadmium	7440-43-9	N.D.	0.0508
06951	Chromium	7440-47-3	17.4 Q3	0.160
06953	Copper	7440-50-8	22.0 Q3	0.226
06955	Lead	7439-92-1	33.9 Q3Q9	0.564
06961	Nickel	7440-02-0	29.9	0.141
06936	Selenium	7782-49-2	N.D.	0.874
06966	Silver	7440-22-4	N.D.	0.226
06925	Thallium	7440-28-0	N.D.	1.29
06972	Zinc	7440-66-6	105 Q2Q8Q9	0.226

SW-846 7471A **mg/kg** **mg/kg** **mg/kg**

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP02-S001 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348264
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 09:55

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Metals						
		SW-846 7471A	mg/kg	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.0278 J	0.0115	0.115	1
Wet Chemistry						
		SW-846 9045C modified	Std. Units	Std. Units	Std. Units	
00394	pH	n.a.	8.14	0.0100	0.0100	1
The pH was measured in water at 18.7 C.						
Wet Chemistry						
		SM 2540 G-1997	%	%	%	
		%Moisture Calc				
00111	Moisture	n.a.	14.2 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A173461AA	12/13/2017 04:47	Stephen C Nolte	0.98
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733948210	12/01/2017 09:55	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733948210	12/01/2017 09:55	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733948210	12/01/2017 09:55	Client Supplied	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173400008A	12/19/2017 03:44	Jessica L Miller	500
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173400008A	12/06/2017 16:25	Kate E Lutte	1
06944	Antimony	SW-846 6010B	1	173390570802	12/12/2017 22:36	Cindy M Gehman	1
06935	Arsenic	SW-846 6010B	1	173390570802	12/12/2017 22:36	Cindy M Gehman	1
06947	Beryllium	SW-846 6010B	1	173390570802	12/12/2017 22:36	Cindy M Gehman	1
06949	Cadmium	SW-846 6010B	1	173390570802	12/12/2017 22:36	Cindy M Gehman	1
06951	Chromium	SW-846 6010B	1	173390570802	12/12/2017 22:36	Cindy M Gehman	1
06953	Copper	SW-846 6010B	1	173390570802	12/12/2017 22:36	Cindy M Gehman	1
06955	Lead	SW-846 6010B	1	173390570802	12/12/2017 22:36	Cindy M Gehman	1
06961	Nickel	SW-846 6010B	1	173390570802	12/12/2017 22:36	Cindy M Gehman	1
06936	Selenium	SW-846 6010B	1	173390570802	12/12/2017 22:36	Cindy M Gehman	1
06966	Silver	SW-846 6010B	1	173390570802	12/12/2017 22:36	Cindy M Gehman	1
06925	Thallium	SW-846 6010B	1	173390570802	12/12/2017 22:36	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173390570802	12/12/2017 22:36	Cindy M Gehman	1
00159	Mercury	SW-846 7471A	1	173390571101	12/07/2017 05:43	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173390570802	12/06/2017 16:45	Barbara A Kane	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP02-S001 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348264
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 09:55

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173390571101	12/06/2017 18:30	Barbara A Kane	1
00394	pH	SW-846 9045C modified	1	17346039402B	12/12/2017 22:45	Luz M Groff	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17341820003A	12/07/2017 10:56	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP02-S101 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348265
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 09:57

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Benzene	71-43-2	N.D.	0.0005	0.005	0.9
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	0.9
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	0.9
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	0.9
10237	Isopropylbenzene	98-82-8	0.012	0.001	0.005	0.9
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	0.9
10237	Naphthalene	91-20-3	0.004 J	0.001	0.005	0.9
10237	Toluene	108-88-3	0.002 J	0.001	0.005	0.9
10237	1,2,4-Trimethylbenzene	95-63-6	0.012	0.001	0.005	0.9
10237	1,3,5-Trimethylbenzene	108-67-8	0.028	0.001	0.005	0.9
10237	Xylene (Total)	1330-20-7	0.003 J	0.001	0.005	0.9

The recovery for the sample internal standard is outside the QC acceptance limits. The following corrective action was taken:
The secondary vial was analyzed and no valid data was collected during re-analysis. Therefore the matrix effects observed in the initial analysis could not be confirmed. The values reported here are from the initial analysis.

PCBs		SW-846 8082	ug/kg		ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D.	D1	2,100	9,800	500
10736	PCB-1221	11104-28-2	N.D.	D1	2,600	9,800	500
10736	PCB-1232	11141-16-5	N.D.	D1	4,600	9,800	500
10736	PCB-1242	53469-21-9	N.D.	D1	1,900	9,800	500
10736	PCB-1248	12672-29-6	N.D.	D1	1,900	9,800	500
10736	PCB-1254	11097-69-1	N.D.	D2	1,900	9,800	500
10736	PCB-1260	11096-82-5	130,000	D2 Q3	2,800	9,800	500

The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported.
This applies to the DCB surrogate.

Metals		SW-846 6010B	mg/kg		mg/kg	mg/kg	
06944	Antimony	7440-36-0	N.D.		0.888	2.04	1
06935	Arsenic	7440-38-2	7.22		0.980	2.04	1
06947	Beryllium	7440-41-7	0.635		0.0807	0.511	1
06949	Cadmium	7440-43-9	N.D.		0.0551	0.511	1
06951	Chromium	7440-47-3	17.5 Q3		0.174	1.53	1
06953	Copper	7440-50-8	40.4 Q3		0.245	1.02	1
06955	Lead	7439-92-1	71.2 Q3Q9		0.613	1.53	1
06961	Nickel	7440-02-0	30.1		0.153	1.02	1
06936	Selenium	7782-49-2	N.D.		0.950	2.04	1
06966	Silver	7440-22-4	N.D.		0.245	0.511	1
06925	Thallium	7440-28-0	N.D.		1.40	3.06	1
06972	Zinc	7440-66-6	170 Q2Q8Q9		0.245	2.04	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP02-S101 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348265
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 09:57

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Metals						
		SW-846 7471A	mg/kg	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.0302 J	0.0107	0.107	1
Wet Chemistry						
		SW-846 9045C modified	Std. Units	Std. Units	Std. Units	
00394	pH	n.a.	8.18	0.0100	0.0100	1
The pH was measured in water at 18.8 C.						
Wet Chemistry						
		SM 2540 G-1997	%	%	%	
		%Moisture Calc				
00111	Moisture	n.a.	14.1 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	X173471AA	12/13/2017 17:23	Linda C Pape	0.9
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733948210	12/01/2017 09:57	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733948210	12/01/2017 09:57	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733948210	12/01/2017 09:57	Client Supplied	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173400008A	12/19/2017 03:56	Jessica L Miller	500
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173400008A	12/06/2017 16:25	Kate E Lutte	1
06944	Antimony	SW-846 6010B	1	173390570802	12/12/2017 22:39	Cindy M Gehman	1
06935	Arsenic	SW-846 6010B	1	173390570802	12/12/2017 22:39	Cindy M Gehman	1
06947	Beryllium	SW-846 6010B	1	173390570802	12/12/2017 22:39	Cindy M Gehman	1
06949	Cadmium	SW-846 6010B	1	173390570802	12/12/2017 22:39	Cindy M Gehman	1
06951	Chromium	SW-846 6010B	1	173390570802	12/12/2017 22:39	Cindy M Gehman	1
06953	Copper	SW-846 6010B	1	173390570802	12/12/2017 22:39	Cindy M Gehman	1
06955	Lead	SW-846 6010B	1	173390570802	12/12/2017 22:39	Cindy M Gehman	1
06961	Nickel	SW-846 6010B	1	173390570802	12/12/2017 22:39	Cindy M Gehman	1
06936	Selenium	SW-846 6010B	1	173390570802	12/12/2017 22:39	Cindy M Gehman	1
06966	Silver	SW-846 6010B	1	173390570802	12/12/2017 22:39	Cindy M Gehman	1
06925	Thallium	SW-846 6010B	1	173390570802	12/12/2017 22:39	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173390570802	12/12/2017 22:39	Cindy M Gehman	1
00159	Mercury	SW-846 7471A	1	173390571101	12/07/2017 05:49	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173390570802	12/06/2017 16:45	Barbara A Kane	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP02-S101 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348265
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 09:57

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173390571101	12/06/2017 18:30	Barbara A Kane	1
00394	pH	SW-846 9045C modified	1	17346039402B	12/12/2017 22:45	Luz M Groff	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17341820003A	12/07/2017 10:56	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP02-S002 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348266
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 10:15

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Benzene	71-43-2	N.D.	0.0005	0.005	1.02
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	1.02
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	1.02
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	1.02
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.005	1.02
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	1.02
10237	Naphthalene	91-20-3	N.D.	0.001	0.005	1.02
10237	Toluene	108-88-3	N.D.	0.001	0.005	1.02
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.005	1.02
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.005	1.02
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	1.02
PCBs			ug/kg	ug/kg	ug/kg	
SW-846 8082						
10736	PCB-1016	12674-11-2	N.D. D1	3.7	18	1
10736	PCB-1221	11104-28-2	N.D. D1	4.8	18	1
10736	PCB-1232	11141-16-5	N.D. D1	8.3	18	1
10736	PCB-1242	53469-21-9	N.D. D1	3.4	18	1
10736	PCB-1248	12672-29-6	N.D. D1	3.4	18	1
10736	PCB-1254	11097-69-1	N.D. D2	3.4	18	1
10736	PCB-1260	11096-82-5	160 D2 Q3	5.1	18	1
<p>The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported. This applies to the DCB surrogate.</p>						
Metals			mg/kg	mg/kg	mg/kg	
SW-846 6010B						
06944	Antimony	7440-36-0	N.D.	3.62	8.31	5
06935	Arsenic	7440-38-2	36.3	0.798	1.66	1
06947	Beryllium	7440-41-7	0.612	0.0657	0.416	1
06949	Cadmium	7440-43-9	N.D.	0.224	2.08	5
<p>Reporting limits for metals were raised due to interference from the sample matrix.</p>						
06951	Chromium	7440-47-3	18.5 Q3	0.141	1.25	1
06953	Copper	7440-50-8	32.7 Q3	0.199	0.831	1
06955	Lead	7439-92-1	71.5 Q3Q9	0.499	1.25	1
06961	Nickel	7440-02-0	29.9	0.125	0.831	1
06936	Selenium	7782-49-2	N.D.	0.773	1.66	1
06966	Silver	7440-22-4	N.D.	0.199	0.416	1
06925	Thallium	7440-28-0	N.D.	1.14	2.49	1
06972	Zinc	7440-66-6	63.8 Q2Q8Q9	0.199	1.66	1
SW-846 7471A			mg/kg	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.0187 J	0.0101	0.101	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP02-S002 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348266
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 10:15

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry						
00394	pH	n.a.	7.58	0.0100	0.0100	1
The pH was measured in water at 18.8 C.						
Wet Chemistry						
00111	Moisture	n.a.	4.5 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A173461AA	12/13/2017 02:08	Stephen C Nolte	1.02
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733948210	12/01/2017 10:15	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733948210	12/01/2017 10:15	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733948210	12/01/2017 10:15	Client Supplied	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173400008A	12/19/2017 04:07	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173400008A	12/06/2017 16:25	Kate E Lutte	1
06944	Antimony	SW-846 6010B	1	173390570802	12/16/2017 15:15	Elaine F Stoltzfus	5
06935	Arsenic	SW-846 6010B	1	173390570802	12/12/2017 22:43	Cindy M Gehman	1
06947	Beryllium	SW-846 6010B	1	173390570802	12/12/2017 22:43	Cindy M Gehman	1
06949	Cadmium	SW-846 6010B	1	173390570802	12/16/2017 15:15	Elaine F Stoltzfus	5
06951	Chromium	SW-846 6010B	1	173390570802	12/12/2017 22:43	Cindy M Gehman	1
06953	Copper	SW-846 6010B	1	173390570802	12/12/2017 22:43	Cindy M Gehman	1
06955	Lead	SW-846 6010B	1	173390570802	12/12/2017 22:43	Cindy M Gehman	1
06961	Nickel	SW-846 6010B	1	173390570802	12/12/2017 22:43	Cindy M Gehman	1
06936	Selenium	SW-846 6010B	1	173390571101	12/12/2017 22:43	Cindy M Gehman	1
06966	Silver	SW-846 6010B	1	173390570802	12/12/2017 22:43	Cindy M Gehman	1
06925	Thallium	SW-846 6010B	1	173390570802	12/12/2017 22:43	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173390570802	12/12/2017 22:43	Cindy M Gehman	1
00159	Mercury	SW-846 7471A	1	173390571101	12/07/2017 05:51	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173390570802	12/06/2017 16:45	Barbara A Kane	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173390571101	12/06/2017 18:30	Barbara A Kane	1
00394	pH	SW-846 9045C modified	1	17346039402B	12/12/2017 22:45	Luz M Groff	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP02-S002 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348266
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 10:15

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17341820003A	12/07/2017 10:56	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP02-W001 Grab Groundwater
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: WW 9348267
ELLE Group #: 1882343
Matrix: Groundwater

Project Name: Rinehart EM, Inc.

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 11:15

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10945	Naphthalene	91-20-3	N.D.	1	4	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	2	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
PCBs			SW-846 8082	ug/l	ug/l	
10227	PCB-1016	12674-11-2	N.D. D2	0.15	0.77	1
10227	PCB-1221	11104-28-2	N.D. D2	0.15	0.77	1
10227	PCB-1232	11141-16-5	N.D. D2	0.31	0.77	1
10227	PCB-1242	53469-21-9	N.D. D2	0.15	0.77	1
10227	PCB-1248	12672-29-6	N.D. D2	0.15	0.77	1
10227	PCB-1254	11097-69-1	N.D. D2	0.15	0.77	1
10227	PCB-1260	11096-82-5	N.D. D2	0.23	0.77	1
Reporting limits were raised due to limited sample volume.						
Volatiles by Extraction			SW-846 8011	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	N.D. D1	0.0057	0.017	1
Metals Dissolved			SW-846 6010B	mg/l	mg/l	
07044	Antimony	7440-36-0	N.D.	0.0435	0.100	5
07035	Arsenic	7440-38-2	0.0755 J	0.0480	0.100	5
07047	Beryllium	7440-41-7	0.0186 J	0.0100	0.0250	5
07049	Cadmium	7440-43-9	N.D.	0.0090	0.0250	5
07051	Chromium	7440-47-3	0.100	0.0165	0.0750	5
07053	Copper	7440-50-8	1.33	0.0200	0.0500	5
07055	Lead	7439-92-1	0.565	0.0300	0.0750	5
07061	Nickel	7440-02-0	0.267	0.0200	0.0500	5
07036	Selenium	7782-49-2	N.D.	0.0465	0.100	5
07066	Silver	7440-22-4	N.D.	0.0120	0.0250	5
07022	Thallium	7440-28-0	N.D.	0.0685	0.150	5
07072	Zinc	7440-66-6	0.802	0.0325	0.100	5
			SW-846 7470A	mg/l	mg/l	
00259	Mercury	7439-97-6	N.D.	0.000050	0.00020	1

03277 Lab Filtration - Metals

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP02-W001 Grab Groundwater
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: WW 9348267
ELLE Group #: 1882343
Matrix: Groundwater

Project Name: Rinehart EM, Inc.

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 11:15

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
The filtration time for dissolved metals is to be within 15 minutes from collection. Since the filtration occurred after receipt in the laboratory, the 15 minute criteria was exceeded.						
Wet Chemistry		EPA 170.1	Degrees C	Degrees C	Degrees C	
12151	Temperature of pH	n.a.	19.1	0.010	0.010	1
		SM 4500-H+ B-2000	Std. Units	Std. Units	Std. Units	
12152	pH	n.a.	7.0	0.010	0.010	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z173442AA	12/10/2017 22:31	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z173442AA	12/10/2017 22:31	Hu Yang	1
10227	PCBs in Water	SW-846 8082	1	173420039A	12/10/2017 19:31	Kirby B Turner	1
10398	8011 Master Master	SW-846 8011	1	173420003A	12/11/2017 16:47	Heather M Miller	1
11117	PCB Waters Extraction	SW-846 3510C	2	173420039A	12/08/2017 15:53	Christine E Gleim	1
07786	EDB Extraction (8011)	SW-846 8011	1	173420003A	12/10/2017 15:15	Edwin Ortiz	1
07044	Antimony	SW-846 6010B	1	173410184801	12/18/2017 04:29	Jonathan J Allen	5
07035	Arsenic	SW-846 6010B	1	173410184801	12/18/2017 04:29	Jonathan J Allen	5
07047	Beryllium	SW-846 6010B	1	173410184801	12/18/2017 04:29	Jonathan J Allen	5
07049	Cadmium	SW-846 6010B	1	173410184801	12/18/2017 04:29	Jonathan J Allen	5
07051	Chromium	SW-846 6010B	1	173410184801	12/18/2017 04:29	Jonathan J Allen	5
07053	Copper	SW-846 6010B	1	173410184801	12/18/2017 04:29	Jonathan J Allen	5
07055	Lead	SW-846 6010B	1	173410184801	12/18/2017 04:29	Jonathan J Allen	5
07061	Nickel	SW-846 6010B	1	173410184801	12/18/2017 04:29	Jonathan J Allen	5
07036	Selenium	SW-846 6010B	1	173410184801	12/18/2017 04:29	Jonathan J Allen	5
07066	Silver	SW-846 6010B	1	173410184801	12/18/2017 04:29	Jonathan J Allen	5
07022	Thallium	SW-846 6010B	1	173410184801	12/18/2017 04:29	Jonathan J Allen	5
07072	Zinc	SW-846 6010B	1	173410184801	12/18/2017 04:29	Jonathan J Allen	5
00259	Mercury	SW-846 7470A	1	173410571301	12/08/2017 18:10	Parker D Lindstrom	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	173410184801	12/08/2017 15:35	JoElla L Rice	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	173410571301	12/07/2017 23:45	Annamaria Kuhns	1
12151	Temperature of pH	EPA 170.1	1	17345121521A	12/11/2017 21:00	Jeremy L Bolf	1
12152	pH	SM 4500-H+ B-2000	1	17345121521A	12/11/2017 21:00	Jeremy L Bolf	1
01339	Laboratory Filtration	SW-846 1311	1	17342-9169-1339	12/08/2017 11:00	Craig S Pfautz	n.a.

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP02-W101 Grab Groundwater
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: WW 9348268
ELLE Group #: 1882343
Matrix: Groundwater

Project Name: Rinehart EM, Inc.

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 11:17

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10945	Naphthalene	91-20-3	N.D.	1	4	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	2	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
PCBs			SW-846 8082	ug/l	ug/l	
10227	PCB-1016	12674-11-2	N.D. D2	0.17	0.87	1
10227	PCB-1221	11104-28-2	N.D. D2	0.17	0.87	1
10227	PCB-1232	11141-16-5	N.D. D2	0.35	0.87	1
10227	PCB-1242	53469-21-9	N.D. D2	0.17	0.87	1
10227	PCB-1248	12672-29-6	N.D. D2	0.17	0.87	1
10227	PCB-1254	11097-69-1	N.D. D2	0.17	0.87	1
10227	PCB-1260	11096-82-5	N.D. D2	0.26	0.87	1
Reporting limits were raised due to limited sample volume.						
Volatiles by Extraction			SW-846 8011	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	N.D. D1	0.0059	0.018	1
Metals Dissolved			SW-846 6010B	mg/l	mg/l	
07044	Antimony	7440-36-0	N.D.	0.0435	0.100	5
07035	Arsenic	7440-38-2	0.103	0.0480	0.100	5
07047	Beryllium	7440-41-7	0.0192 J	0.0100	0.0250	5
07049	Cadmium	7440-43-9	N.D.	0.0090	0.0250	5
07051	Chromium	7440-47-3	0.0635 J	0.0165	0.0750	5
07053	Copper	7440-50-8	1.61	0.0200	0.0500	5
07055	Lead	7439-92-1	0.577	0.0300	0.0750	5
07061	Nickel	7440-02-0	0.259	0.0200	0.0500	5
07036	Selenium	7782-49-2	N.D.	0.0465	0.100	5
07066	Silver	7440-22-4	N.D.	0.0120	0.0250	5
07022	Thallium	7440-28-0	N.D.	0.0685	0.150	5
07072	Zinc	7440-66-6	0.750	0.0325	0.100	5
			SW-846 7470A	mg/l	mg/l	
00259	Mercury	7439-97-6	N.D.	0.000050	0.00020	1

03277 Lab Filtration - Metals

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP02-W101 Grab Groundwater
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: WW 9348268
ELLE Group #: 1882343
Matrix: Groundwater

Project Name: Rinehart EM, Inc.

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 11:17

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
	The filtration time for dissolved metals is to be within 15 minutes from collection. Since the filtration occurred after receipt in the laboratory, the 15 minute criteria was exceeded.					
	Wet Chemistry	EPA 170.1	Degrees C	Degrees C	Degrees C	
12151	Temperature of pH	n.a.	18.9	0.010	0.010	1
		SM 4500-H+ B-2000	Std. Units	Std. Units	Std. Units	
12152	pH	n.a.	7.1	0.010	0.010	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z173442AA	12/10/2017 22:56	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z173442AA	12/10/2017 22:56	Hu Yang	1
10227	PCBs in Water	SW-846 8082	1	173420039A	12/10/2017 19:43	Kirby B Turner	1
10398	8011 Master Master	SW-846 8011	1	173420003A	12/11/2017 17:03	Heather M Miller	1
11117	PCB Waters Extraction	SW-846 3510C	2	173420039A	12/08/2017 15:53	Christine E Gleim	1
07786	EDB Extraction (8011)	SW-846 8011	1	173420003A	12/10/2017 15:15	Edwin Ortiz	1
07044	Antimony	SW-846 6010B	1	173410184801	12/18/2017 04:33	Jonathan J Allen	5
07035	Arsenic	SW-846 6010B	1	173410184801	12/18/2017 04:33	Jonathan J Allen	5
07047	Beryllium	SW-846 6010B	1	173410184801	12/18/2017 04:33	Jonathan J Allen	5
07049	Cadmium	SW-846 6010B	1	173410184801	12/18/2017 04:33	Jonathan J Allen	5
07051	Chromium	SW-846 6010B	1	173410184801	12/18/2017 04:33	Jonathan J Allen	5
07053	Copper	SW-846 6010B	1	173410184801	12/18/2017 04:33	Jonathan J Allen	5
07055	Lead	SW-846 6010B	1	173410184801	12/18/2017 04:33	Jonathan J Allen	5
07061	Nickel	SW-846 6010B	1	173410184801	12/18/2017 04:33	Jonathan J Allen	5
07036	Selenium	SW-846 6010B	1	173410184801	12/18/2017 04:33	Jonathan J Allen	5
07066	Silver	SW-846 6010B	1	173410184801	12/18/2017 04:33	Jonathan J Allen	5
07022	Thallium	SW-846 6010B	1	173410184801	12/18/2017 04:33	Jonathan J Allen	5
07072	Zinc	SW-846 6010B	1	173410184801	12/18/2017 04:33	Jonathan J Allen	5
00259	Mercury	SW-846 7470A	1	173410571301	12/08/2017 18:12	Parker D Lindstrom	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	173410184801	12/08/2017 15:35	JoElla L Rice	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	173410571301	12/07/2017 23:45	Annamaria Kuhns	1
12151	Temperature of pH	EPA 170.1	1	17345121521A	12/11/2017 21:00	Jeremy L Bolf	1
12152	pH	SM 4500-H+ B-2000	1	17345121521A	12/11/2017 21:00	Jeremy L Bolf	1
01339	Laboratory Filtration	SW-846 1311	1	17342-9169-1339	12/08/2017 11:00	Craig S Pfautz	n.a.

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP03-S001 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348269
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 10:20

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Benzene	71-43-2	0.001 J	0.0005	0.005	0.94
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	0.94
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	0.94
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	0.94
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.005	0.94
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	0.94
10237	Naphthalene	91-20-3	N.D.	0.001	0.005	0.94
10237	Toluene	108-88-3	0.004 J	0.001	0.005	0.94
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.005	0.94
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.005	0.94
10237	Xylene (Total)	1330-20-7	0.002 J	0.001	0.005	0.94

The recovery for the sample internal standard is outside the QC acceptance limits. The following corrective action was taken: The sample was re-analyzed and the QC is again outside of the acceptance limits, indicating a matrix effect. The data is reported from the initial trial.

PCBs		SW-846 8082	ug/kg	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D. D1	3.9	18	1
10736	PCB-1221	11104-28-2	N.D. D1	5.0	18	1
10736	PCB-1232	11141-16-5	N.D. D1	8.7	18	1
10736	PCB-1242	53469-21-9	N.D. D1	3.6	18	1
10736	PCB-1248	12672-29-6	N.D. D1	3.6	18	1
10736	PCB-1254	11097-69-1	N.D. D2	3.6	18	1
10736	PCB-1260	11096-82-5	120 D2	5.3	18	1

Metals		SW-846 6010B	mg/kg	mg/kg	mg/kg	
06944	Antimony	7440-36-0	N.D.	0.805	1.85	1
06935	Arsenic	7440-38-2	5.88	0.888	1.85	1
06947	Beryllium	7440-41-7	0.681	0.0731	0.463	1
06949	Cadmium	7440-43-9	N.D.	0.250	2.31	5
Reporting limits for metals were raised due to interference from the sample matrix.						
06951	Chromium	7440-47-3	17.0 Q3	0.157	1.39	1
06953	Copper	7440-50-8	17.7 Q3	0.222	0.925	1
06955	Lead	7439-92-1	18.8 Q3Q9	0.555	1.39	1
06961	Nickel	7440-02-0	29.1	0.139	0.925	1
06936	Selenium	7782-49-2	N.D.	0.860	1.85	1
06966	Silver	7440-22-4	N.D.	0.222	0.463	1
06925	Thallium	7440-28-0	N.D.	1.27	2.78	1
06972	Zinc	7440-66-6	97.2 Q2Q8Q9	0.222	1.85	1

SW-846 7471A		mg/kg	mg/kg	mg/kg		
00159	Mercury	7439-97-6	0.0163 J	0.0102	0.102	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP03-S001 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348269
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 10:20

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry						
00394	pH	n.a.	8.06	0.0100	0.0100	1
The pH was measured in water at 18.6 C.						
Wet Chemistry						
00111	Moisture	n.a.	8.4 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A173461AA	12/13/2017 02:31	Stephen C Nolte	0.94
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733948210	12/01/2017 10:20	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733948210	12/01/2017 10:20	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733948210	12/01/2017 10:20	Client Supplied	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173540040A	12/27/2017 17:17	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	2	173540040A	12/21/2017 08:30	Michelle A Newswanger	1
06944	Antimony	SW-846 6010B	1	173390570802	12/12/2017 22:46	Cindy M Gehman	1
06935	Arsenic	SW-846 6010B	1	173390570802	12/12/2017 22:46	Cindy M Gehman	1
06947	Beryllium	SW-846 6010B	1	173390570802	12/12/2017 22:46	Cindy M Gehman	1
06949	Cadmium	SW-846 6010B	1	173390570802	12/16/2017 15:18	Elaine F Stoltzfus	5
06951	Chromium	SW-846 6010B	1	173390570802	12/12/2017 22:46	Cindy M Gehman	1
06953	Copper	SW-846 6010B	1	173390570802	12/12/2017 22:46	Cindy M Gehman	1
06955	Lead	SW-846 6010B	1	173390570802	12/12/2017 22:46	Cindy M Gehman	1
06961	Nickel	SW-846 6010B	1	173390570802	12/12/2017 22:46	Cindy M Gehman	1
06936	Selenium	SW-846 6010B	1	173390570802	12/12/2017 22:46	Cindy M Gehman	1
06966	Silver	SW-846 6010B	1	173390570802	12/12/2017 22:46	Cindy M Gehman	1
06925	Thallium	SW-846 6010B	1	173390570802	12/12/2017 22:46	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173390570802	12/12/2017 22:46	Cindy M Gehman	1
00159	Mercury	SW-846 7471A	1	173390571101	12/07/2017 05:53	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173390570802	12/06/2017 16:45	Barbara A Kane	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173390571101	12/06/2017 18:30	Barbara A Kane	1
00394	pH	SW-846 9045C modified	1	17346039402B	12/12/2017 22:45	Luz M Groff	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP03-S001 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348269
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 10:20

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17341820003A	12/07/2017 10:56	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP03-S002 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348270
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 10:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Benzene	71-43-2	N.D.	0.0005	0.005	0.97
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	0.97
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	0.97
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	0.97
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.005	0.97
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	0.97
10237	Naphthalene	91-20-3	N.D.	0.001	0.005	0.97
10237	Toluene	108-88-3	N.D.	0.001	0.005	0.97
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.005	0.97
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.005	0.97
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	0.97
PCBs			ug/kg	ug/kg	ug/kg	
SW-846 8082						
10736	PCB-1016	12674-11-2	N.D. D1	3.7	17	1
10736	PCB-1221	11104-28-2	N.D. D1	4.7	17	1
10736	PCB-1232	11141-16-5	N.D. D1	8.2	17	1
10736	PCB-1242	53469-21-9	N.D. D1	3.4	17	1
10736	PCB-1248	12672-29-6	N.D. D1	3.4	17	1
10736	PCB-1254	11097-69-1	N.D. D2	3.4	17	1
10736	PCB-1260	11096-82-5	130 D2 Q3	5.0	17	1
The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported. This applies to the DCB surrogate.						
Metals			mg/kg	mg/kg	mg/kg	
SW-846 6010B						
06944	Antimony	7440-36-0	N.D.	3.29	7.56	5
06935	Arsenic	7440-38-2	8.94	0.726	1.51	1
06947	Beryllium	7440-41-7	0.713	0.0598	0.378	1
06949	Cadmium	7440-43-9	N.D.	0.204	1.89	5
Reporting limits for metals were raised due to interference from the sample matrix.						
06951	Chromium	7440-47-3	20.7 Q3	0.129	1.13	1
06953	Copper	7440-50-8	17.9 Q3	0.182	0.756	1
06955	Lead	7439-92-1	13.1 Q3Q9	0.454	1.13	1
06961	Nickel	7440-02-0	30.6	0.113	0.756	1
06936	Selenium	7782-49-2	N.D.	0.703	1.51	1
06966	Silver	7440-22-4	N.D.	0.182	0.378	1
06925	Thallium	7440-28-0	N.D.	1.04	2.27	1
06972	Zinc	7440-66-6	106 Q2Q8Q9	0.182	1.51	1
SW-846 7471A			mg/kg	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.0142 J	0.0102	0.102	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP03-S002 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348270
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 10:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry						
00394	pH	n.a.	8.21	0.0100	0.0100	1
The pH was measured in water at 18.8 C.						
Wet Chemistry						
00111	Moisture	n.a.	3.5 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A173461AA	12/13/2017 05:10	Stephen C Nolte	0.97
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733948210	12/01/2017 10:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733948210	12/01/2017 10:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733948210	12/01/2017 10:30	Client Supplied	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173400008A	12/19/2017 04:42	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173400008A	12/06/2017 16:25	Kate E Lutte	1
06944	Antimony	SW-846 6010B	1	173390570802	12/16/2017 15:21	Elaine F Stoltzfus	5
06935	Arsenic	SW-846 6010B	1	173390570802	12/12/2017 22:50	Cindy M Gehman	1
06947	Beryllium	SW-846 6010B	1	173390570802	12/12/2017 22:50	Cindy M Gehman	1
06949	Cadmium	SW-846 6010B	1	173390570802	12/16/2017 15:21	Elaine F Stoltzfus	5
06951	Chromium	SW-846 6010B	1	173390570802	12/12/2017 22:50	Cindy M Gehman	1
06953	Copper	SW-846 6010B	1	173390570802	12/12/2017 22:50	Cindy M Gehman	1
06955	Lead	SW-846 6010B	1	173390570802	12/12/2017 22:50	Cindy M Gehman	1
06961	Nickel	SW-846 6010B	1	173390570802	12/12/2017 22:50	Cindy M Gehman	1
06936	Selenium	SW-846 6010B	1	173390571101	12/12/2017 22:50	Cindy M Gehman	1
06966	Silver	SW-846 6010B	1	173390570802	12/12/2017 22:50	Cindy M Gehman	1
06925	Thallium	SW-846 6010B	1	173390570802	12/12/2017 22:50	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173390570802	12/12/2017 22:50	Cindy M Gehman	1
00159	Mercury	SW-846 7471A	1	173390571101	12/07/2017 05:55	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173390570802	12/06/2017 16:45	Barbara A Kane	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173390571101	12/06/2017 18:30	Barbara A Kane	1
00394	pH	SW-846 9045C modified	1	17346039403A	12/12/2017 23:20	Luz M Groff	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP03-S002 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348270
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 10:30

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17341820003A	12/07/2017 10:56	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP04-S001 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348271
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 10:40

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Benzene	71-43-2	0.004 J	0.0005	0.005	0.9
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.005	0.9
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	0.9
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	0.9
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.005	0.9
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	0.9
10237	Naphthalene	91-20-3	N.D.	0.001	0.005	0.9
10237	Toluene	108-88-3	0.010	0.001	0.005	0.9
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.005	0.9
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.005	0.9
10237	Xylene (Total)	1330-20-7	0.006	0.001	0.005	0.9
PCBs			ug/kg	ug/kg	ug/kg	
SW-846 8082						
10736	PCB-1016	12674-11-2	N.D. D1	4.0	19	1
10736	PCB-1221	11104-28-2	N.D. D1	5.1	19	1
10736	PCB-1232	11141-16-5	N.D. D1	8.9	19	1
10736	PCB-1242	53469-21-9	N.D. D1	3.7	19	1
10736	PCB-1248	12672-29-6	N.D. D1	3.7	19	1
10736	PCB-1254	11097-69-1	N.D. D2	3.7	19	1
10736	PCB-1260	11096-82-5	8.2 JD2 Q3	5.4	19	1
The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported. This applies to the DCB surrogate.						
Metals			mg/kg	mg/kg	mg/kg	
SW-846 6010B						
06944	Antimony	7440-36-0	N.D.	0.808	1.86	1
06935	Arsenic	7440-38-2	88.3	0.892	1.86	1
06947	Beryllium	7440-41-7	0.686	0.0734	0.465	1
06949	Cadmium	7440-43-9	N.D.	0.251	2.32	5
Reporting limits for metals were raised due to interference from the sample matrix.						
06951	Chromium	7440-47-3	19.6 Q3	0.158	1.39	1
06953	Copper	7440-50-8	43.4 Q3	0.223	0.929	1
06955	Lead	7439-92-1	40.9 Q3Q9	0.557	1.39	1
06961	Nickel	7440-02-0	35.0	0.139	0.929	1
06936	Selenium	7782-49-2	N.D.	0.864	1.86	1
06966	Silver	7440-22-4	N.D.	0.223	0.465	1
06925	Thallium	7440-28-0	N.D.	1.27	2.79	1
06972	Zinc	7440-66-6	76.4 Q2Q8Q9	0.223	1.86	1
SW-846 7471A			mg/kg	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.0199 J	0.0110	0.110	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP04-S001 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348271
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 10:40

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry						
00394	pH	n.a.	8.19	0.0100	0.0100	1
The pH was measured in water at 18.7 C.						
Wet Chemistry						
00111	Moisture	n.a.	10.3 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	X173471AA	12/13/2017 15:04	Linda C Pape	0.9
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733948210	12/01/2017 10:40	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733948210	12/01/2017 10:40	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733948210	12/01/2017 10:40	Client Supplied	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173400008A	12/19/2017 05:28	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173400008A	12/06/2017 16:25	Kate E Lutte	1
06944	Antimony	SW-846 6010B	1	173390570802	12/12/2017 22:53	Cindy M Gehman	1
06935	Arsenic	SW-846 6010B	1	173390570802	12/12/2017 22:53	Cindy M Gehman	1
06947	Beryllium	SW-846 6010B	1	173390570802	12/12/2017 22:53	Cindy M Gehman	1
06949	Cadmium	SW-846 6010B	1	173390570802	12/16/2017 15:31	Elaine F Stoltzfus	5
06951	Chromium	SW-846 6010B	1	173390570802	12/12/2017 22:53	Cindy M Gehman	1
06953	Copper	SW-846 6010B	1	173390570802	12/12/2017 22:53	Cindy M Gehman	1
06955	Lead	SW-846 6010B	1	173390570802	12/12/2017 22:53	Cindy M Gehman	1
06961	Nickel	SW-846 6010B	1	173390570802	12/12/2017 22:53	Cindy M Gehman	1
06936	Selenium	SW-846 6010B	1	173390570802	12/12/2017 22:53	Cindy M Gehman	1
06966	Silver	SW-846 6010B	1	173390570802	12/12/2017 22:53	Cindy M Gehman	1
06925	Thallium	SW-846 6010B	1	173390570802	12/12/2017 22:53	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173390570802	12/12/2017 22:53	Cindy M Gehman	1
00159	Mercury	SW-846 7471A	1	173390571101	12/07/2017 05:57	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173390570802	12/06/2017 16:45	Barbara A Kane	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173390571101	12/06/2017 18:30	Barbara A Kane	1
00394	pH	SW-846 9045C modified	1	17346039403A	12/12/2017 23:20	Luz M Groff	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP04-S001 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348271
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 10:40

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17341820003A	12/07/2017 10:56	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP04-S002 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348272
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 10:50

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Benzene	71-43-2	0.002 J	0.0005	0.005	0.89
10237	1,2-Dibromoethane	106-93-4	N.D.	0.0009	0.005	0.89
10237	1,2-Dichloroethane	107-06-2	N.D.	0.0009	0.005	0.89
10237	Ethylbenzene	100-41-4	N.D.	0.0009	0.005	0.89
10237	Isopropylbenzene	98-82-8	N.D.	0.0009	0.005	0.89
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	0.89
10237	Naphthalene	91-20-3	N.D.	0.0009	0.005	0.89
10237	Toluene	108-88-3	0.005	0.0009	0.005	0.89
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.0009	0.005	0.89
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.0009	0.005	0.89
10237	Xylene (Total)	1330-20-7	0.004 J	0.0009	0.005	0.89
PCBs			ug/kg	ug/kg	ug/kg	
SW-846 8082						
10736	PCB-1016	12674-11-2	N.D. D1	3.8	18	1
10736	PCB-1221	11104-28-2	N.D. D1	4.9	18	1
10736	PCB-1232	11141-16-5	N.D. D1	8.5	18	1
10736	PCB-1242	53469-21-9	N.D. D1	3.5	18	1
10736	PCB-1248	12672-29-6	N.D. D1	3.5	18	1
10736	PCB-1254	11097-69-1	N.D. D2	3.5	18	1
10736	PCB-1260	11096-82-5	N.D. D2 Q3	5.2	18	1
<p>The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported. This applies to the DCB surrogate.</p>						
Metals			mg/kg	mg/kg	mg/kg	
SW-846 6010B						
06944	Antimony	7440-36-0	N.D.	4.22	9.70	5
06935	Arsenic	7440-38-2	9.17	0.931	1.94	1
06947	Beryllium	7440-41-7	0.715	0.0766	0.485	1
06949	Cadmium	7440-43-9	N.D.	0.262	2.43	5
<p>Reporting limits for metals were raised due to interference from the sample matrix.</p>						
06951	Chromium	7440-47-3	23.9 Q3	0.165	1.46	1
06953	Copper	7440-50-8	23.1 Q3	0.233	0.970	1
06955	Lead	7439-92-1	13.8 Q3Q9	0.582	1.46	1
06961	Nickel	7440-02-0	36.5	0.146	0.970	1
06936	Selenium	7782-49-2	N.D.	0.902	1.94	1
06966	Silver	7440-22-4	N.D.	0.233	0.485	1
06925	Thallium	7440-28-0	N.D.	1.33	2.91	1
06972	Zinc	7440-66-6	84.3 Q2Q8Q9	0.233	1.94	1
SW-846 7471A			mg/kg	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.0159 J	0.0099	0.0985	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP04-S002 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348272
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 10:50

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry						
00394	pH	n.a.	7.71	0.0100	0.0100	1
The pH was measured in water at 18.7 C.						
Wet Chemistry						
00111	Moisture	n.a.	6.3 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A173461AA	12/13/2017 03:16	Stephen C Nolte	0.89
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733948210	12/01/2017 10:50	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733948210	12/01/2017 10:50	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733948210	12/01/2017 10:50	Client Supplied	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173400008A	12/19/2017 05:39	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173400008A	12/06/2017 16:25	Kate E Lutte	1
06944	Antimony	SW-846 6010B	1	173390570802	12/16/2017 15:34	Elaine F Stoltzfus	5
06935	Arsenic	SW-846 6010B	1	173390570802	12/12/2017 22:56	Cindy M Gehman	1
06947	Beryllium	SW-846 6010B	1	173390570802	12/12/2017 22:56	Cindy M Gehman	1
06949	Cadmium	SW-846 6010B	1	173390570802	12/16/2017 15:34	Elaine F Stoltzfus	5
06951	Chromium	SW-846 6010B	1	173390570802	12/12/2017 22:56	Cindy M Gehman	1
06953	Copper	SW-846 6010B	1	173390570802	12/12/2017 22:56	Cindy M Gehman	1
06955	Lead	SW-846 6010B	1	173390570802	12/12/2017 22:56	Cindy M Gehman	1
06961	Nickel	SW-846 6010B	1	173390570802	12/12/2017 22:56	Cindy M Gehman	1
06936	Selenium	SW-846 6010B	1	173390571101	12/12/2017 22:56	Cindy M Gehman	1
06966	Silver	SW-846 6010B	1	173390570802	12/12/2017 22:56	Cindy M Gehman	1
06925	Thallium	SW-846 6010B	1	173390570802	12/12/2017 22:56	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173390570802	12/12/2017 22:56	Cindy M Gehman	1
00159	Mercury	SW-846 7471A	1	173390571101	12/07/2017 05:59	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173390570802	12/06/2017 16:45	Barbara A Kane	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173390571101	12/06/2017 18:30	Barbara A Kane	1
00394	pH	SW-846 9045C modified	1	17346039403A	12/12/2017 23:20	Luz M Groff	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP04-S002 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348272
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 10:50

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	SM 2540 G-1997 %Moisture Calc	2	17342820008B	12/08/2017 22:45	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP04-W001 Grab Groundwater
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: WW 9348273
ELLE Group #: 1882343
Matrix: Groundwater

Project Name: Rinehart EM, Inc.

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 11:45

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10945	Naphthalene	91-20-3	N.D.	1	4	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	2	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
PCBs			SW-846 8082	ug/l	ug/l	
10227	PCB-1016	12674-11-2	N.D. D1	0.084	0.42	1
10227	PCB-1221	11104-28-2	N.D. D1	0.084	0.42	1
10227	PCB-1232	11141-16-5	N.D. D1	0.17	0.42	1
10227	PCB-1242	53469-21-9	N.D. D1	0.084	0.42	1
10227	PCB-1248	12672-29-6	N.D. D1	0.084	0.42	1
10227	PCB-1254	11097-69-1	N.D. D1	0.084	0.42	1
10227	PCB-1260	11096-82-5	N.D. D1	0.13	0.42	1
Volatiles by Extraction			SW-846 8011	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	N.D. D1	0.0090	0.027	1
Metals Dissolved			SW-846 6010B	mg/l	mg/l	
07044	Antimony	7440-36-0	N.D.	0.0087	0.0200	1
07035	Arsenic	7440-38-2	0.121 Q8	0.0096	0.0200	1
07047	Beryllium	7440-41-7	0.0052	0.0020	0.0050	1
07049	Cadmium	7440-43-9	0.0026 J	0.0018	0.0050	1
07051	Chromium	7440-47-3	0.160	0.0033	0.0150	1
07053	Copper	7440-50-8	0.238	0.0040	0.0100	1
07055	Lead	7439-92-1	0.261 Q8	0.0060	0.0150	1
07061	Nickel	7440-02-0	0.196	0.0040	0.0100	1
07036	Selenium	7782-49-2	0.0124 J	0.0093	0.0200	1
07066	Silver	7440-22-4	N.D.	0.0024	0.0050	1
07022	Thallium	7440-28-0	N.D.	0.0137	0.0300	1
07072	Zinc	7440-66-6	0.494	0.0065	0.0200	1
			SW-846 7470A	mg/l	mg/l	
00259	Mercury	7439-97-6	0.00041	0.000050	0.00020	1
Wet Chemistry			EPA 170.1	Degrees C	Degrees C	
12151	Temperature of pH	n.a.	18.3	0.010	0.010	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP04-W001 Grab Groundwater
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: WW 9348273
ELLE Group #: 1882343
Matrix: Groundwater

Project Name: Rinehart EM, Inc.

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 11:45

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
12152	pH	SM 4500-H+ B-2000 n.a.	6.6	Std. Units 0.010	Std. Units 0.010	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z173442AA	12/10/2017 23:20	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z173442AA	12/10/2017 23:20	Hu Yang	1
10227	PCBs in Water	SW-846 8082	1	173410005A	12/14/2017 20:00	Kirby B Turner	1
10398	8011 Master Master	SW-846 8011	1	173420003A	12/11/2017 17:49	Heather M Miller	1
11117	PCB Waters Extraction	SW-846 3510C	1	173410005A	12/07/2017 17:19	Kate E Lutte	1
07786	EDB Extraction (8011)	SW-846 8011	1	173420003A	12/10/2017 15:15	Edwin Ortiz	1
07044	Antimony	SW-846 6010B	1	173400184801	12/07/2017 14:19	Eric L Eby	1
07035	Arsenic	SW-846 6010B	1	173400184801	12/07/2017 14:19	Eric L Eby	1
07047	Beryllium	SW-846 6010B	1	173400184801	12/07/2017 14:19	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	173400184801	12/07/2017 14:19	Eric L Eby	1
07051	Chromium	SW-846 6010B	1	173400184801	12/07/2017 14:19	Eric L Eby	1
07053	Copper	SW-846 6010B	1	173400184801	12/07/2017 14:19	Eric L Eby	1
07055	Lead	SW-846 6010B	1	173400184801	12/11/2017 06:19	Jonathan J Allen	1
07061	Nickel	SW-846 6010B	1	173400184801	12/07/2017 14:19	Eric L Eby	1
07036	Selenium	SW-846 6010B	1	173400184801	12/07/2017 14:19	Eric L Eby	1
07066	Silver	SW-846 6010B	1	173400184801	12/07/2017 14:19	Eric L Eby	1
07022	Thallium	SW-846 6010B	1	173400184801	12/07/2017 14:19	Eric L Eby	1
07072	Zinc	SW-846 6010B	1	173400184801	12/07/2017 14:19	Eric L Eby	1
00259	Mercury	SW-846 7470A	1	173410571301	12/08/2017 18:14	Parker D Lindstrom	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	173400184801	12/06/2017 23:27	Denise L Trimby	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	173410571301	12/07/2017 23:45	Annamaria Kuhns	1
12151	Temperature of pH	EPA 170.1	1	17345121521A	12/11/2017 21:00	Jeremy L Bolf	1
12152	pH	SM 4500-H+ B-2000	1	17345121521A	12/11/2017 21:00	Jeremy L Bolf	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP05-S001 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348274
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 12:05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Benzene	71-43-2	N.D.	0.0006	0.006	1.08
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.006	1.08
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.006	1.08
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.006	1.08
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.006	1.08
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0006	0.006	1.08
10237	Naphthalene	91-20-3	N.D.	0.001	0.006	1.08
10237	Toluene	108-88-3	N.D.	0.001	0.006	1.08
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.006	1.08
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.006	1.08
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.006	1.08

The recovery for the sample internal standard is outside the QC acceptance limits. The following corrective action was taken:
The secondary vial was analyzed and no valid data was collected during re-analysis. Therefore the matrix effects observed in the initial analysis could not be confirmed. The values reported here are from the initial analysis.

PCBs		SW-846 8082	ug/kg	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D. D1	4.1	19	1
10736	PCB-1221	11104-28-2	N.D. D1	5.2	19	1
10736	PCB-1232	11141-16-5	N.D. D1	9.0	19	1
10736	PCB-1242	53469-21-9	N.D. D1	3.7	19	1
10736	PCB-1248	12672-29-6	N.D. D1	3.7	19	1
10736	PCB-1254	11097-69-1	N.D. D2	3.7	19	1
10736	PCB-1260	11096-82-5	N.D. D2 Q3	5.5	19	1

The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported.
This applies to the DCB surrogate.

Metals		SW-846 6010B	mg/kg	mg/kg	mg/kg	
06944	Antimony	7440-36-0	N.D.	0.835	1.92	1
06935	Arsenic	7440-38-2	6.51	0.921	1.92	1
06947	Beryllium	7440-41-7	0.524	0.0758	0.480	1
06949	Cadmium	7440-43-9	N.D.	0.0518	0.480	1
06951	Chromium	7440-47-3	12.7 Q3	0.163	1.44	1
06953	Copper	7440-50-8	16.0 Q3	0.230	0.959	1
06955	Lead	7439-92-1	23.5 Q3Q9	0.576	1.44	1
06961	Nickel	7440-02-0	18.0	0.144	0.959	1
06936	Selenium	7782-49-2	N.D.	0.892	1.92	1
06966	Silver	7440-22-4	N.D.	0.230	0.480	1
06925	Thallium	7440-28-0	N.D.	1.31	2.88	1
06972	Zinc	7440-66-6	82.2 Q2Q8Q9	0.230	1.92	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP05-S001 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348274
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 12:05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Metals						
		SW-846 7471A	mg/kg	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.0224 J	0.0112	0.112	1
Wet Chemistry						
		SW-846 9045C modified	Std. Units	Std. Units	Std. Units	
00394	pH	n.a.	8.09	0.0100	0.0100	1
The pH was measured in water at 18.6 C.						
Wet Chemistry						
		SM 2540 G-1997	%	%	%	
		%Moisture Calc				
00111	Moisture	n.a.	12.4 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	X173471AA	12/13/2017 15:27	Linda C Pape	1.08
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733948210	12/01/2017 12:05	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733948210	12/01/2017 12:05	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733948210	12/01/2017 12:05	Client Supplied	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173400008A	12/19/2017 05:50	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173400008A	12/06/2017 16:25	Kate E Lutte	1
06944	Antimony	SW-846 6010B	1	173390570802	12/12/2017 23:00	Cindy M Gehman	1
06935	Arsenic	SW-846 6010B	1	173390570802	12/12/2017 23:00	Cindy M Gehman	1
06947	Beryllium	SW-846 6010B	1	173390570802	12/12/2017 23:00	Cindy M Gehman	1
06949	Cadmium	SW-846 6010B	1	173390570802	12/12/2017 23:00	Cindy M Gehman	1
06951	Chromium	SW-846 6010B	1	173390570802	12/12/2017 23:00	Cindy M Gehman	1
06953	Copper	SW-846 6010B	1	173390570802	12/12/2017 23:00	Cindy M Gehman	1
06955	Lead	SW-846 6010B	1	173390570802	12/12/2017 23:00	Cindy M Gehman	1
06961	Nickel	SW-846 6010B	1	173390570802	12/12/2017 23:00	Cindy M Gehman	1
06936	Selenium	SW-846 6010B	1	173390570802	12/12/2017 23:00	Cindy M Gehman	1
06966	Silver	SW-846 6010B	1	173390570802	12/12/2017 23:00	Cindy M Gehman	1
06925	Thallium	SW-846 6010B	1	173390570802	12/12/2017 23:00	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173390570802	12/12/2017 23:00	Cindy M Gehman	1
00159	Mercury	SW-846 7471A	1	173390571101	12/07/2017 06:01	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173390570802	12/06/2017 16:45	Barbara A Kane	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP05-S001 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348274
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 12:05

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173390571101	12/06/2017 18:30	Barbara A Kane	1
00394	pH	SW-846 9045C modified	1	17346039403A	12/12/2017 23:20	Luz M Groff	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17341820003B	12/07/2017 10:56	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP05-S002 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348275
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 12:15

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	mg/kg	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D.	0.0006	0.006	0.99
10237	1,2-Dibromoethane	106-93-4	N.D.	0.001	0.006	0.99
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.006	0.99
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.006	0.99
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.006	0.99
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0006	0.006	0.99
10237	Naphthalene	91-20-3	N.D.	0.001	0.006	0.99
10237	Toluene	108-88-3	N.D.	0.001	0.006	0.99
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.006	0.99
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.006	0.99
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.006	0.99

PCBs	SW-846 8082	ug/kg	ug/kg	ug/kg		
10736	PCB-1016	12674-11-2	N.D. D1	3.9	19	1
10736	PCB-1221	11104-28-2	N.D. D1	5.0	19	1
10736	PCB-1232	11141-16-5	N.D. D1	8.8	19	1
10736	PCB-1242	53469-21-9	N.D. D1	3.6	19	1
10736	PCB-1248	12672-29-6	N.D. D1	3.6	19	1
10736	PCB-1254	11097-69-1	N.D. D2	3.6	19	1
10736	PCB-1260	11096-82-5	N.D. D2 Q3	5.4	19	1

The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported.
This applies to the DCB surrogate.

Metals	SW-846 6010B	mg/kg	mg/kg	mg/kg		
06944	Antimony	7440-36-0	N.D.	0.821	1.89	1
06935	Arsenic	7440-38-2	4.60	0.906	1.89	1
06947	Beryllium	7440-41-7	0.515	0.0746	0.472	1
06949	Cadmium	7440-43-9	N.D.	0.0510	0.472	1
06951	Chromium	7440-47-3	14.3 Q3	0.160	1.42	1
06953	Copper	7440-50-8	11.6 Q3	0.226	0.944	1
06955	Lead	7439-92-1	12.7 Q3Q9	0.566	1.42	1
06961	Nickel	7440-02-0	21.0	0.142	0.944	1
06936	Selenium	7782-49-2	N.D.	0.878	1.89	1
06966	Silver	7440-22-4	N.D.	0.226	0.472	1
06925	Thallium	7440-28-0	N.D.	1.29	2.83	1
06972	Zinc	7440-66-6	76.2 Q2Q8Q9	0.226	1.89	1

	SW-846 7471A	mg/kg	mg/kg	mg/kg		
00159	Mercury	7439-97-6	0.0176 J	0.0106	0.106	1

Wet Chemistry	SW-846 9045C modified	Std. Units	Std. Units	Std. Units		
00394	pH	n.a.	8.06	0.0100	0.0100	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP05-S002 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348275
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 12:15

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
	Wet Chemistry	SW-846 9045C modified	Std. Units	Std. Units	Std. Units	
	The pH was measured in water at 18.6 C.					
	Wet Chemistry	SM 2540 G-1997	%	%	%	
		%Moisture Calc				
00111	Moisture	n.a.	10.2 Q8	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	A173461AA	12/13/2017 04:02	Stephen C Nolte	0.99
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733948210	12/01/2017 12:15	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733948210	12/01/2017 12:15	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733948210	12/01/2017 12:15	Client Supplied	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173400008A	12/19/2017 06:02	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173400008A	12/06/2017 16:25	Kate E Lutte	1
06944	Antimony	SW-846 6010B	1	173390570802	12/12/2017 23:09	Cindy M Gehman	1
06935	Arsenic	SW-846 6010B	1	173390570802	12/12/2017 23:09	Cindy M Gehman	1
06947	Beryllium	SW-846 6010B	1	173390570802	12/12/2017 23:09	Cindy M Gehman	1
06949	Cadmium	SW-846 6010B	1	173390570802	12/12/2017 23:09	Cindy M Gehman	1
06951	Chromium	SW-846 6010B	1	173390570802	12/12/2017 23:09	Cindy M Gehman	1
06953	Copper	SW-846 6010B	1	173390570802	12/12/2017 23:09	Cindy M Gehman	1
06955	Lead	SW-846 6010B	1	173390570802	12/12/2017 23:09	Cindy M Gehman	1
06961	Nickel	SW-846 6010B	1	173390570802	12/12/2017 23:09	Cindy M Gehman	1
06936	Selenium	SW-846 6010B	1	173390570802	12/12/2017 23:09	Cindy M Gehman	1
06966	Silver	SW-846 6010B	1	173390570802	12/12/2017 23:09	Cindy M Gehman	1
06925	Thallium	SW-846 6010B	1	173390570802	12/12/2017 23:09	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173390570802	12/12/2017 23:09	Cindy M Gehman	1
00159	Mercury	SW-846 7471A	1	173390571101	12/07/2017 06:03	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173390570802	12/06/2017 16:45	Barbara A Kane	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173390571101	12/06/2017 18:30	Barbara A Kane	1
00394	pH	SW-846 9045C modified	1	17346039403A	12/12/2017 23:20	Luz M Groff	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17341820003B	12/07/2017 10:56	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP06-S001 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348276
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 12:20

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Benzene	71-43-2	N.D.	0.0005	0.005	0.88
10237	1,2-Dibromoethane	106-93-4	N.D.	0.0009	0.005	0.88
10237	1,2-Dichloroethane	107-06-2	N.D.	0.0009	0.005	0.88
10237	Ethylbenzene	100-41-4	N.D.	0.0009	0.005	0.88
10237	Isopropylbenzene	98-82-8	N.D.	0.0009	0.005	0.88
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	0.88
10237	Naphthalene	91-20-3	N.D.	0.0009	0.005	0.88
10237	Toluene	108-88-3	N.D.	0.0009	0.005	0.88
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.0009	0.005	0.88
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.0009	0.005	0.88
10237	Xylene (Total)	1330-20-7	N.D.	0.0009	0.005	0.88

The recovery for the sample internal standard is outside the QC acceptance limits. The following corrective action was taken:
The secondary vial was analyzed and no valid data was collected during re-analysis. Therefore the matrix effects observed in the initial analysis could not be confirmed. The values reported here are from the initial analysis.

PCBs	SW-846 8082	ug/kg	ug/kg	ug/kg
10736	PCB-1016	12674-11-2	N.D. D1	3.8
10736	PCB-1221	11104-28-2	N.D. D1	4.9
10736	PCB-1232	11141-16-5	N.D. D1	8.5
10736	PCB-1242	53469-21-9	N.D. D1	3.5
10736	PCB-1248	12672-29-6	N.D. D1	3.5
10736	PCB-1254	11097-69-1	N.D. D2	3.5
10736	PCB-1260	11096-82-5	12 JD2 Q3	5.2

The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported.
This applies to the DCB surrogate.

Metals	SW-846 6010B	mg/kg	mg/kg	mg/kg
06944	Antimony	7440-36-0	N.D.	0.782
06935	Arsenic	7440-38-2	6.81	0.863
06947	Beryllium	7440-41-7	0.495	0.0710
06949	Cadmium	7440-43-9	N.D.	0.0485
06951	Chromium	7440-47-3	11.8 Q3	0.153
06953	Copper	7440-50-8	16.0 Q3	0.216
06955	Lead	7439-92-1	16.9 Q3Q9	0.539
06961	Nickel	7440-02-0	19.4	0.135
06936	Selenium	7782-49-2	N.D.	0.836
06966	Silver	7440-22-4	N.D.	0.216
06925	Thallium	7440-28-0	N.D.	1.23
06972	Zinc	7440-66-6	62.8 Q2Q8Q9	0.216

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP06-S001 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348276
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 12:20

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Metals						
		SW-846 7471A	mg/kg	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.0190 J	0.0104	0.104	1
Wet Chemistry						
		SW-846 9045C modified	Std. Units	Std. Units	Std. Units	
00394	pH	n.a.	8.36	0.0100	0.0100	1
	The pH was measured in water at 18.6 C.					
Wet Chemistry						
		SM 2540 G-1997	%	%	%	
		%Moisture Calc				
00111	Moisture	n.a.	6.5 Q8	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	X173471AA	12/13/2017 15:50	Linda C Pape	0.88
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733948210	12/01/2017 12:20	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733948210	12/01/2017 12:20	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733948210	12/01/2017 12:20	Client Supplied	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173400008A	12/19/2017 06:13	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173400008A	12/06/2017 16:25	Kate E Lutte	1
06944	Antimony	SW-846 6010B	1	173390570802	12/12/2017 23:12	Cindy M Gehman	1
06935	Arsenic	SW-846 6010B	1	173390570802	12/12/2017 23:12	Cindy M Gehman	1
06947	Beryllium	SW-846 6010B	1	173390570802	12/12/2017 23:12	Cindy M Gehman	1
06949	Cadmium	SW-846 6010B	1	173390570802	12/12/2017 23:12	Cindy M Gehman	1
06951	Chromium	SW-846 6010B	1	173390570802	12/12/2017 23:12	Cindy M Gehman	1
06953	Copper	SW-846 6010B	1	173390570802	12/12/2017 23:12	Cindy M Gehman	1
06955	Lead	SW-846 6010B	1	173390570802	12/12/2017 23:12	Cindy M Gehman	1
06961	Nickel	SW-846 6010B	1	173390570802	12/12/2017 23:12	Cindy M Gehman	1
06936	Selenium	SW-846 6010B	1	173390570802	12/12/2017 23:12	Cindy M Gehman	1
06966	Silver	SW-846 6010B	1	173390570802	12/12/2017 23:12	Cindy M Gehman	1
06925	Thallium	SW-846 6010B	1	173390570802	12/12/2017 23:12	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173390570802	12/12/2017 23:12	Cindy M Gehman	1
00159	Mercury	SW-846 7471A	1	173390571101	12/07/2017 06:05	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173390570802	12/06/2017 16:45	Barbara A Kane	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP06-S001 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348276
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 12:20

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173390571101	12/06/2017 18:30	Barbara A Kane	1
00394	pH	SW-846 9045C modified	1	17346039403A	12/12/2017 23:20	Luz M Groff	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17341820003B	12/07/2017 10:56	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP06-S002 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348277
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 12:25

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D. Q3	0.0005	0.005	0.99
10237	1,2-Dibromoethane	106-93-4	N.D. Q3	0.001	0.005	0.99
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	0.99
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	0.99
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.005	0.99
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	0.99
10237	Naphthalene	91-20-3	N.D. Q2	0.001	0.005	0.99
10237	Toluene	108-88-3	N.D. Q3	0.001	0.005	0.99
10237	1,2,4-Trimethylbenzene	95-63-6	N.D. Q3	0.001	0.005	0.99
10237	1,3,5-Trimethylbenzene	108-67-8	N.D. Q3	0.001	0.005	0.99
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	0.99
PCBs			SW-846 8082	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D. D1	3.8	18	1
10736	PCB-1221	11104-28-2	N.D. D1	4.9	18	1
10736	PCB-1232	11141-16-5	N.D. D1	8.5	18	1
10736	PCB-1242	53469-21-9	N.D. D1	3.5	18	1
10736	PCB-1248	12672-29-6	N.D. D1	3.5	18	1
10736	PCB-1254	11097-69-1	N.D. D2	3.5	18	1
10736	PCB-1260	11096-82-5	N.D. D2 Q3	5.2	18	1
<p>The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported. This applies to the DCB surrogate.</p>						
Metals			SW-846 6010B	mg/kg	mg/kg	
06944	Antimony	7440-36-0	N.D.	4.00	9.19	5
06935	Arsenic	7440-38-2	9.52	0.882	1.84	1
06947	Beryllium	7440-41-7	0.803	0.0726	0.460	1
06949	Cadmium	7440-43-9	N.D.	0.248	2.30	5
<p>Reporting limits for metals were raised due to interference from the sample matrix.</p>						
06951	Chromium	7440-47-3	23.9 Q3	0.156	1.38	1
06953	Copper	7440-50-8	26.2 Q3	0.221	0.919	1
06955	Lead	7439-92-1	16.2 Q3Q9	0.551	1.38	1
06961	Nickel	7440-02-0	36.1	0.138	0.919	1
06936	Selenium	7782-49-2	N.D.	0.855	1.84	1
06966	Silver	7440-22-4	N.D.	0.221	0.460	1
06925	Thallium	7440-28-0	N.D.	1.26	2.76	1
06972	Zinc	7440-66-6	83.8 Q2Q8Q9	0.221	1.84	1
			SW-846 7471A	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.0263 J	0.0102	0.102	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP06-S002 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348277
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 12:25

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry						
00394	pH	n.a.	8.19	0.0100	0.0100	1
The pH was measured in water at 18.7 C.						
Wet Chemistry						
00111	Moisture	n.a.	6.2 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	X173463AA	12/13/2017 03:33	Patrick T Herres	0.99
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733948210	12/01/2017 12:25	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733948210	12/01/2017 12:25	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733948210	12/01/2017 12:25	Client Supplied	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173400008A	12/19/2017 06:25	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173400008A	12/06/2017 16:25	Kate E Lutte	1
06944	Antimony	SW-846 6010B	1	173390570802	12/16/2017 15:37	Elaine F Stoltzfus	5
06935	Arsenic	SW-846 6010B	1	173390570802	12/12/2017 23:16	Cindy M Gehman	1
06947	Beryllium	SW-846 6010B	1	173390570802	12/12/2017 23:16	Cindy M Gehman	1
06949	Cadmium	SW-846 6010B	1	173390570802	12/16/2017 15:37	Elaine F Stoltzfus	5
06951	Chromium	SW-846 6010B	1	173390570802	12/12/2017 23:16	Cindy M Gehman	1
06953	Copper	SW-846 6010B	1	173390570802	12/12/2017 23:16	Cindy M Gehman	1
06955	Lead	SW-846 6010B	1	173390570802	12/12/2017 23:16	Cindy M Gehman	1
06961	Nickel	SW-846 6010B	1	173390570802	12/12/2017 23:16	Cindy M Gehman	1
06936	Selenium	SW-846 6010B	1	173390571101	12/12/2017 23:16	Cindy M Gehman	1
06966	Silver	SW-846 6010B	1	173390570802	12/12/2017 23:16	Cindy M Gehman	1
06925	Thallium	SW-846 6010B	1	173390570802	12/12/2017 23:16	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173390570802	12/12/2017 23:16	Cindy M Gehman	1
00159	Mercury	SW-846 7471A	1	173390571101	12/07/2017 06:07	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173390570802	12/06/2017 16:45	Barbara A Kane	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173390571101	12/06/2017 18:30	Barbara A Kane	1
00394	pH	SW-846 9045C modified	1	17346039403A	12/12/2017 23:20	Luz M Groff	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP06-S002 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348277
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 12:25

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17341820003B	12/07/2017 10:56	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP07-S001 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348278
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 12:35

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Benzene	71-43-2	N.D. Q3	0.0005	0.005	0.92
10237	1,2-Dibromoethane	106-93-4	N.D. Q3	0.001	0.005	0.92
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	0.92
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	0.92
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.005	0.92
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	0.92
10237	Naphthalene	91-20-3	N.D. Q2	0.001	0.005	0.92
10237	Toluene	108-88-3	N.D. Q3	0.001	0.005	0.92
10237	1,2,4-Trimethylbenzene	95-63-6	N.D. Q3	0.001	0.005	0.92
10237	1,3,5-Trimethylbenzene	108-67-8	N.D. Q3	0.001	0.005	0.92
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	0.92

The secondary vial was analyzed and no valid data was collected during re-analysis. Therefore the matrix effects observed in the initial analysis could not be confirmed. The values reported here are from the initial analysis.

PCBs	SW-846 8082	ug/kg	ug/kg	ug/kg
10736	PCB-1016	12674-11-2	N.D. D1	4.0
10736	PCB-1221	11104-28-2	N.D. D1	5.1
10736	PCB-1232	11141-16-5	N.D. D1	8.8
10736	PCB-1242	53469-21-9	N.D. D1	3.6
10736	PCB-1248	12672-29-6	N.D. D1	3.6
10736	PCB-1254	11097-69-1	N.D. D2	3.6
10736	PCB-1260	11096-82-5	110 D2 Q3	5.4

The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported. This applies to the DCB surrogate.

Metals	SW-846 6010B	mg/kg	mg/kg	mg/kg
06944	Antimony	7440-36-0	N.D.	3.89
Reporting limits for metals were raised due to interference from the sample matrix.				
06935	Arsenic	7440-38-2	8.75	0.859
06947	Beryllium	7440-41-7	0.596	0.0707
06949	Cadmium	7440-43-9	N.D.	0.0483
06951	Chromium	7440-47-3	19.2 Q3	0.152
06953	Copper	7440-50-8	26.9 Q3	0.215
06955	Lead	7439-92-1	41.2 Q3Q9	0.537
06961	Nickel	7440-02-0	27.9	0.134
06936	Selenium	7782-49-2	N.D.	0.832
06966	Silver	7440-22-4	N.D.	0.215
06925	Thallium	7440-28-0	N.D.	1.23
06972	Zinc	7440-66-6	142 Q2Q8Q9	0.215

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP07-S001 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348278
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 12:35

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Metals						
		SW-846 7471A	mg/kg	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.0213 J	0.0107	0.107	1
Wet Chemistry						
		SW-846 9045C modified	Std. Units	Std. Units	Std. Units	
00394	pH	n.a.	8.43	0.0100	0.0100	1
	The pH was measured in water at 18.9 C.					
Wet Chemistry						
		SM 2540 G-1997	%	%	%	
		%Moisture Calc				
00111	Moisture	n.a.	9.9 Q8	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	X173463AA	12/13/2017 03:56	Patrick T Herres	0.92
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733948210	12/01/2017 12:35	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733948210	12/01/2017 12:35	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733948210	12/01/2017 12:35	Client Supplied	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173400008A	12/19/2017 06:36	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173400008A	12/06/2017 16:25	Kate E Lutte	1
06944	Antimony	SW-846 6010B	1	173390570802	12/16/2017 15:41	Elaine F Stoltzfus	5
06935	Arsenic	SW-846 6010B	1	173390570802	12/12/2017 23:19	Cindy M Gehman	1
06947	Beryllium	SW-846 6010B	1	173390570802	12/12/2017 23:19	Cindy M Gehman	1
06949	Cadmium	SW-846 6010B	1	173390570802	12/12/2017 23:19	Cindy M Gehman	1
06951	Chromium	SW-846 6010B	1	173390570802	12/12/2017 23:19	Cindy M Gehman	1
06953	Copper	SW-846 6010B	1	173390570802	12/12/2017 23:19	Cindy M Gehman	1
06955	Lead	SW-846 6010B	1	173390570802	12/12/2017 23:19	Cindy M Gehman	1
06961	Nickel	SW-846 6010B	1	173390570802	12/12/2017 23:19	Cindy M Gehman	1
06936	Selenium	SW-846 6010B	1	173390570802	12/12/2017 23:19	Cindy M Gehman	1
06966	Silver	SW-846 6010B	1	173390570802	12/12/2017 23:19	Cindy M Gehman	1
06925	Thallium	SW-846 6010B	1	173390570802	12/12/2017 23:19	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173390570802	12/12/2017 23:19	Cindy M Gehman	1
00159	Mercury	SW-846 7471A	1	173390571101	12/07/2017 06:13	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173390570802	12/06/2017 16:45	Barbara A Kane	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP07-S001 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348278
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 12:35

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173390571101	12/06/2017 18:30	Barbara A Kane	1
00394	pH	SW-846 9045C modified	1	17346039403A	12/12/2017 23:20	Luz M Groff	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17341820003B	12/07/2017 10:56	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP07-S002 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348279
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 12:40

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D. Q3	0.0006	0.006	1
10237	1,2-Dibromoethane	106-93-4	N.D. Q3	0.001	0.006	1
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.006	1
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.006	1
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.006	1
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D. Q3	0.0006	0.006	1
10237	Naphthalene	91-20-3	N.D. Q2Q9	0.001	0.006	1
10237	Toluene	108-88-3	N.D. Q3	0.001	0.006	1
10237	1,2,4-Trimethylbenzene	95-63-6	N.D. Q3	0.001	0.006	1
10237	1,3,5-Trimethylbenzene	108-67-8	N.D. Q3	0.001	0.006	1
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.006	1
PCBs			SW-846 8082	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D. D1	4.3	20	1
10736	PCB-1221	11104-28-2	N.D. D1	5.5	20	1
10736	PCB-1232	11141-16-5	N.D. D1	9.6	20	1
10736	PCB-1242	53469-21-9	N.D. D1	3.9	20	1
10736	PCB-1248	12672-29-6	N.D. D1	3.9	20	1
10736	PCB-1254	11097-69-1	N.D. D2	3.9	20	1
10736	PCB-1260	11096-82-5	8.5 JPD2 Q3	5.9	20	1
The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported. This applies to the DCB surrogate.						
Metals			SW-846 6010B	mg/kg	mg/kg	
06944	Antimony	7440-36-0	N.D.	1.03	2.36	1
06935	Arsenic	7440-38-2	10.1	1.13	2.36	1
06947	Beryllium	7440-41-7	0.604	0.0931	0.589	1
06949	Cadmium	7440-43-9	N.D.	0.318	2.95	5
Reporting limits for metals were raised due to interference from the sample matrix.						
06951	Chromium	7440-47-3	20.0 Q3	0.200	1.77	1
06953	Copper	7440-50-8	13.5 Q3	0.283	1.18	1
06955	Lead	7439-92-1	13.4 Q3Q9	0.707	1.77	1
06961	Nickel	7440-02-0	27.4	0.177	1.18	1
06936	Selenium	7782-49-2	N.D.	1.10	2.36	1
06966	Silver	7440-22-4	N.D.	0.283	0.589	1
06925	Thallium	7440-28-0	N.D.	1.61	3.53	1
06972	Zinc	7440-66-6	67.2 Q2Q8Q9	0.283	2.36	1
			SW-846 7471A	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.0222 J	0.0116	0.116	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP07-S002 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348279
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 12:40

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Wet Chemistry						
00394	pH	n.a.	7.48	0.0100	0.0100	1
The pH was measured in water at 18.6 C.						
Wet Chemistry						
00111	Moisture	n.a.	17.6 Q8	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	X173462AA	12/12/2017 18:23	Linda C Pape	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733948210	12/01/2017 12:40	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733948210	12/01/2017 12:40	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733948210	12/01/2017 12:40	Client Supplied	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173400008A	12/19/2017 06:48	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173400008A	12/06/2017 16:25	Kate E Lutte	1
06944	Antimony	SW-846 6010B	1	173390570802	12/12/2017 23:22	Cindy M Gehman	1
06935	Arsenic	SW-846 6010B	1	173390570802	12/12/2017 23:22	Cindy M Gehman	1
06947	Beryllium	SW-846 6010B	1	173390570802	12/12/2017 23:22	Cindy M Gehman	1
06949	Cadmium	SW-846 6010B	1	173390570802	12/16/2017 15:44	Elaine F Stoltzfus	5
06951	Chromium	SW-846 6010B	1	173390570802	12/12/2017 23:22	Cindy M Gehman	1
06953	Copper	SW-846 6010B	1	173390570802	12/12/2017 23:22	Cindy M Gehman	1
06955	Lead	SW-846 6010B	1	173390570802	12/12/2017 23:22	Cindy M Gehman	1
06961	Nickel	SW-846 6010B	1	173390570802	12/12/2017 23:22	Cindy M Gehman	1
06936	Selenium	SW-846 6010B	1	173390571101	12/12/2017 23:22	Cindy M Gehman	1
06966	Silver	SW-846 6010B	1	173390570802	12/12/2017 23:22	Cindy M Gehman	1
06925	Thallium	SW-846 6010B	1	173390570802	12/12/2017 23:22	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173390570802	12/12/2017 23:22	Cindy M Gehman	1
00159	Mercury	SW-846 7471A	1	173390571101	12/07/2017 06:16	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173390570802	12/06/2017 16:45	Barbara A Kane	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173390571101	12/06/2017 18:30	Barbara A Kane	1
00394	pH	SW-846 9045C modified	1	17346039403B	12/12/2017 23:20	Luz M Groff	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP07-S002 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348279
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 12:40

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17341820003B	12/07/2017 10:56	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP07-W001 Grab Groundwater
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: WW 9348280
ELLE Group #: 1882343
Matrix: Groundwater

Project Name: Rinehart EM, Inc.

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 13:00

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10945	Naphthalene	91-20-3	N.D.	1	4	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	2	1
10945	Xylene (Total)	1330-20-7	0.9 J	0.5	1	1
PCBs			SW-846 8082	ug/l	ug/l	
10227	PCB-1016	12674-11-2	N.D. D1	0.081	0.41	1
10227	PCB-1221	11104-28-2	N.D. D1	0.081	0.41	1
10227	PCB-1232	11141-16-5	N.D. D1	0.16	0.41	1
10227	PCB-1242	53469-21-9	N.D. D1	0.081	0.41	1
10227	PCB-1248	12672-29-6	N.D. D1	0.081	0.41	1
10227	PCB-1254	11097-69-1	N.D. D1	0.081	0.41	1
10227	PCB-1260	11096-82-5	N.D. D1	0.12	0.41	1
Volatiles by Extraction			SW-846 8011	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	N.D. D1	0.0093	0.028	1
Metals Dissolved			SW-846 6010B	mg/l	mg/l	
07044	Antimony	7440-36-0	N.D.	0.0087	0.0200	1
07035	Arsenic	7440-38-2	0.127 Q8	0.0096	0.0200	1
07047	Beryllium	7440-41-7	0.0042 J	0.0020	0.0050	1
07049	Cadmium	7440-43-9	0.0028 J	0.0018	0.0050	1
07051	Chromium	7440-47-3	0.119	0.0033	0.0150	1
07053	Copper	7440-50-8	0.121	0.0040	0.0100	1
07055	Lead	7439-92-1	0.122 Q8	0.0060	0.0150	1
07061	Nickel	7440-02-0	0.151	0.0040	0.0100	1
07036	Selenium	7782-49-2	0.0234	0.0093	0.0200	1
07066	Silver	7440-22-4	N.D.	0.0024	0.0050	1
07022	Thallium	7440-28-0	0.0257 J	0.0137	0.0300	1
07072	Zinc	7440-66-6	0.343	0.0065	0.0200	1
			SW-846 7470A	mg/l	mg/l	
00259	Mercury	7439-97-6	0.00021	0.000050	0.00020	1
Wet Chemistry			EPA 170.1	Degrees C	Degrees C	
12151	Temperature of pH	n.a.	18.2	0.010	0.010	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP07-W001 Grab Groundwater
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: WW 9348280
ELLE Group #: 1882343
Matrix: Groundwater

Project Name: Rinehart EM, Inc.

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 13:00

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
12152	pH	SM 4500-H+ B-2000 n.a.	6.8	Std. Units 0.010	Std. Units 0.010	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z173442AA	12/10/2017 23:44	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z173442AA	12/10/2017 23:44	Hu Yang	1
10227	PCBs in Water	SW-846 8082	1	173410005A	12/14/2017 20:12	Kirby B Turner	1
10398	8011 Master Master	SW-846 8011	1	173420003A	12/11/2017 18:05	Heather M Miller	1
11117	PCB Waters Extraction	SW-846 3510C	1	173410005A	12/07/2017 17:19	Kate E Lutte	1
07786	EDB Extraction (8011)	SW-846 8011	1	173420003A	12/10/2017 15:15	Edwin Ortiz	1
07044	Antimony	SW-846 6010B	1	173400184801	12/07/2017 14:22	Eric L Eby	1
07035	Arsenic	SW-846 6010B	1	173400184801	12/07/2017 14:22	Eric L Eby	1
07047	Beryllium	SW-846 6010B	1	173400184801	12/07/2017 14:22	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	173400184801	12/07/2017 14:22	Eric L Eby	1
07051	Chromium	SW-846 6010B	1	173400184801	12/07/2017 14:22	Eric L Eby	1
07053	Copper	SW-846 6010B	1	173400184801	12/07/2017 14:22	Eric L Eby	1
07055	Lead	SW-846 6010B	1	173400184801	12/11/2017 06:22	Jonathan J Allen	1
07061	Nickel	SW-846 6010B	1	173400184801	12/07/2017 14:22	Eric L Eby	1
07036	Selenium	SW-846 6010B	1	173400184801	12/07/2017 14:22	Eric L Eby	1
07066	Silver	SW-846 6010B	1	173400184801	12/07/2017 14:22	Eric L Eby	1
07022	Thallium	SW-846 6010B	1	173400184801	12/07/2017 14:22	Eric L Eby	1
07072	Zinc	SW-846 6010B	1	173400184801	12/07/2017 14:22	Eric L Eby	1
00259	Mercury	SW-846 7470A	1	173410571301	12/08/2017 18:16	Parker D Lindstrom	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	173400184801	12/06/2017 23:27	Denise L Trimby	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	173410571301	12/07/2017 23:45	Annamaria Kuhns	1
12151	Temperature of pH	EPA 170.1	1	17345121521A	12/11/2017 21:00	Jeremy L Bolf	1
12152	pH	SM 4500-H+ B-2000	1	17345121521A	12/11/2017 21:00	Jeremy L Bolf	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP08-S001 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348281
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 13:45

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	mg/kg	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D. Q3	0.0005	0.005	0.88
10237	1,2-Dibromoethane	106-93-4	N.D. Q3	0.001	0.005	0.88
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	0.88
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	0.88
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.005	0.88
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D. Q3	0.0005	0.005	0.88
10237	Naphthalene	91-20-3	N.D. Q2Q9	0.001	0.005	0.88
10237	Toluene	108-88-3	N.D. Q3	0.001	0.005	0.88
10237	1,2,4-Trimethylbenzene	95-63-6	N.D. Q3	0.001	0.005	0.88
10237	1,3,5-Trimethylbenzene	108-67-8	N.D. Q3	0.001	0.005	0.88
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	0.88

The recovery for the sample internal standard is outside the QC acceptance limits. The following corrective action was taken:
The sample was re-analyzed and the QC is again outside of the acceptance limits, indicating a matrix effect. The data is reported from the initial trial.

PCBs	SW-846 8082	ug/kg	ug/kg	ug/kg
10736	PCB-1016	12674-11-2	N.D. D1	4.3
10736	PCB-1221	11104-28-2	N.D. D1	5.4
10736	PCB-1232	11141-16-5	N.D. D1	9.5
10736	PCB-1242	53469-21-9	N.D. D1	3.9
10736	PCB-1248	12672-29-6	N.D. D1	3.9
10736	PCB-1254	11097-69-1	N.D. D2	3.9
10736	PCB-1260	11096-82-5	130 D2 Q3	5.8

The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported.
This applies to the DCB surrogate.

Metals	SW-846 6010B	mg/kg	mg/kg	mg/kg
06944	Antimony	7440-36-0	N.D.	4.27
Reporting limits were raised due to interference from the sample matrix.				
06935	Arsenic	7440-38-2	6.75	0.942
06947	Beryllium	7440-41-7	0.738	0.0775
06949	Cadmium	7440-43-9	N.D.	0.0530
06951	Chromium	7440-47-3	27.7 Q3	0.167
06953	Copper	7440-50-8	28.2 Q3	0.236
06955	Lead	7439-92-1	39.8 Q3Q9	0.589
06961	Nickel	7440-02-0	32.1	0.147
06936	Selenium	7782-49-2	N.D.	0.913
06966	Silver	7440-22-4	N.D.	0.236
06925	Thallium	7440-28-0	N.D.	1.34
06972	Zinc	7440-66-6	127 Q2Q8Q9	0.236

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP08-S001 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348281
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 13:45

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Metals						
		SW-846 7471A	mg/kg	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.0264 J	0.0110	0.110	1
Wet Chemistry						
		SW-846 9045C modified	Std. Units	Std. Units	Std. Units	
00394	pH	n.a.	8.15	0.0100	0.0100	1
	The pH was measured in water at 18.6 C.					
Wet Chemistry						
		SM 2540 G-1997	%	%	%	
		%Moisture Calc				
00111	Moisture	n.a.	15.8 Q8	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	X173462AA	12/12/2017 18:47	Linda C Pape	0.88
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733948210	12/01/2017 13:45	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733948210	12/01/2017 13:45	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733948210	12/01/2017 13:45	Client Supplied	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173400008A	12/19/2017 06:59	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173400008A	12/06/2017 16:25	Kate E Lutte	1
06944	Antimony	SW-846 6010B	1	173390570802	12/21/2017 11:49	Eric L Eby	5
06935	Arsenic	SW-846 6010B	1	173390570802	12/12/2017 23:26	Cindy M Gehman	1
06947	Beryllium	SW-846 6010B	1	173390570802	12/12/2017 23:26	Cindy M Gehman	1
06949	Cadmium	SW-846 6010B	1	173390570802	12/12/2017 23:26	Cindy M Gehman	1
06951	Chromium	SW-846 6010B	1	173390570802	12/12/2017 23:26	Cindy M Gehman	1
06953	Copper	SW-846 6010B	1	173390570802	12/12/2017 23:26	Cindy M Gehman	1
06955	Lead	SW-846 6010B	1	173390570802	12/12/2017 23:26	Cindy M Gehman	1
06961	Nickel	SW-846 6010B	1	173390570802	12/12/2017 23:26	Cindy M Gehman	1
06936	Selenium	SW-846 6010B	1	173390570802	12/12/2017 23:26	Cindy M Gehman	1
06966	Silver	SW-846 6010B	1	173390570802	12/12/2017 23:26	Cindy M Gehman	1
06925	Thallium	SW-846 6010B	1	173390570802	12/12/2017 23:26	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173390570802	12/12/2017 23:26	Cindy M Gehman	1
00159	Mercury	SW-846 7471A	1	173390571101	12/07/2017 06:18	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173390570802	12/06/2017 16:45	Barbara A Kane	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP08-S001 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348281
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 13:45

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173390571101	12/06/2017 18:30	Barbara A Kane	1
00394	pH	SW-846 9045C modified	1	17346039403B	12/12/2017 23:20	Luz M Groff	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17341820003B	12/07/2017 10:56	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP08-S002 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348282
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 13:50

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D. Q3	0.0005	0.005	0.99
10237	1,2-Dibromoethane	106-93-4	N.D. Q3	0.001	0.005	0.99
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	0.99
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	0.99
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.005	0.99
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D. Q3	0.0005	0.005	0.99
10237	Naphthalene	91-20-3	N.D. Q2Q9	0.001	0.005	0.99
10237	Toluene	108-88-3	N.D. Q3	0.001	0.005	0.99
10237	1,2,4-Trimethylbenzene	95-63-6	N.D. Q3	0.001	0.005	0.99
10237	1,3,5-Trimethylbenzene	108-67-8	N.D. Q3	0.001	0.005	0.99
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	0.99
PCBs			SW-846 8082	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D. D1	4.0	19	1
10736	PCB-1221	11104-28-2	N.D. D1	5.1	19	1
10736	PCB-1232	11141-16-5	N.D. D1	8.8	19	1
10736	PCB-1242	53469-21-9	N.D. D1	3.6	19	1
10736	PCB-1248	12672-29-6	N.D. D1	3.6	19	1
10736	PCB-1254	11097-69-1	N.D. D2	3.6	19	1
10736	PCB-1260	11096-82-5	N.D. D2 Q3	5.4	19	1
<p>The % difference for the calibration verification standard is outside the +/- 15% criteria. Since the average of the % difference values meets the criteria, the results are reported. This applies to the DCB surrogate.</p>						
Metals			SW-846 6010B	mg/kg	mg/kg	
06944	Antimony	7440-36-0	N.D.	0.751	1.73	1
06935	Arsenic	7440-38-2	6.88	0.829	1.73	1
06947	Beryllium	7440-41-7	0.351 J	0.0682	0.432	1
06949	Cadmium	7440-43-9	N.D.	0.0466	0.432	1
06951	Chromium	7440-47-3	9.74 Q3	0.147	1.29	1
06953	Copper	7440-50-8	15.2 Q3	0.207	0.863	1
06955	Lead	7439-92-1	8.98 Q3Q9	0.518	1.29	1
06961	Nickel	7440-02-0	17.5	0.129	0.863	1
06936	Selenium	7782-49-2	N.D.	0.803	1.73	1
06966	Silver	7440-22-4	N.D.	0.207	0.432	1
06925	Thallium	7440-28-0	N.D.	1.18	2.59	1
06972	Zinc	7440-66-6	39.8 Q2Q8Q9	0.207	1.73	1
			SW-846 7471A	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.0200 J	0.0110	0.110	1
Wet Chemistry			SW-846 9045C modified	Std. Units	Std. Units	
00394	pH	n.a.	7.67	0.0100	0.0100	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP08-S002 Grab Soil
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: SW 9348282
ELLE Group #: 1882343
Matrix: Soil

Project Name: Rinehart EM, Inc.

Submission Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 13:50

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
	Wet Chemistry	SW-846 9045C modified	Std. Units	Std. Units	Std. Units	
	The pH was measured in water at 18.6 C.					
	Wet Chemistry	SM 2540 G-1997	%	%	%	
		%Moisture Calc				
00111	Moisture	n.a.	9.5 Q8	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	X173462AA	12/12/2017 19:10	Linda C Pape	0.99
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733948210	12/01/2017 13:50	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733948210	12/01/2017 13:50	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733948210	12/01/2017 13:50	Client Supplied	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	173400008A	12/19/2017 07:10	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	173400008A	12/06/2017 16:25	Kate E Lutte	1
06944	Antimony	SW-846 6010B	1	173390570802	12/12/2017 23:29	Cindy M Gehman	1
06935	Arsenic	SW-846 6010B	1	173390570802	12/12/2017 23:29	Cindy M Gehman	1
06947	Beryllium	SW-846 6010B	1	173390570802	12/12/2017 23:29	Cindy M Gehman	1
06949	Cadmium	SW-846 6010B	1	173390570802	12/12/2017 23:29	Cindy M Gehman	1
06951	Chromium	SW-846 6010B	1	173390570802	12/12/2017 23:29	Cindy M Gehman	1
06953	Copper	SW-846 6010B	1	173390570802	12/12/2017 23:29	Cindy M Gehman	1
06955	Lead	SW-846 6010B	1	173390570802	12/12/2017 23:29	Cindy M Gehman	1
06961	Nickel	SW-846 6010B	1	173390570802	12/12/2017 23:29	Cindy M Gehman	1
06936	Selenium	SW-846 6010B	1	173390570802	12/12/2017 23:29	Cindy M Gehman	1
06966	Silver	SW-846 6010B	1	173390570802	12/12/2017 23:29	Cindy M Gehman	1
06925	Thallium	SW-846 6010B	1	173390570802	12/12/2017 23:29	Cindy M Gehman	1
06972	Zinc	SW-846 6010B	1	173390570802	12/12/2017 23:29	Cindy M Gehman	1
00159	Mercury	SW-846 7471A	1	173390571101	12/07/2017 06:20	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	173390570802	12/06/2017 16:45	Barbara A Kane	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	173390571101	12/06/2017 18:30	Barbara A Kane	1
00394	pH	SW-846 9045C modified	1	17346039403B	12/12/2017 23:20	Luz M Groff	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	17341820003B	12/07/2017 10:56	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP08-S301 Bisulfate
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: G5 9348283
ELLE Group #: 1882343
Matrix: Bisulfate

Project Name: Rinehart EM, Inc.

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 14:00

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	mg/kg	mg/kg	mg/kg	
10237	Benzene	71-43-2	N.D. Q3	0.0005	0.005	1
10237	1,2-Dibromoethane	106-93-4	N.D. Q3	0.001	0.005	1
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.005	1
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.005	1
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.005	1
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D. Q3	0.0005	0.005	1
10237	Naphthalene	91-20-3	N.D. Q2Q9	0.001	0.005	1
10237	Toluene	108-88-3	N.D. Q3	0.001	0.005	1
10237	1,2,4-Trimethylbenzene	95-63-6	N.D. Q3	0.001	0.005	1
10237	1,3,5-Trimethylbenzene	108-67-8	N.D. Q3	0.001	0.005	1
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PA UST Leaded/Unleaded VOCs	SW-846 8260B	1	X173462AA	12/12/2017 13:16	Linda C Pape	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201733948210	12/01/2017 14:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201733948210	12/01/2017 14:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201733948210	12/01/2017 14:00	Client Supplied	1

*=This limit was used in the evaluation of the final result

Sample Description: REI-GP08-W301 Water
Rinehart EM, Inc.

Brightfields, Inc.
ELLE Sample #: WW 9348284
ELLE Group #: 1882343
Matrix: Water

Project Name: Rinehart EM, Inc.

Submittal Date/Time: 12/04/2017 17:25
Collection Date/Time: 12/01/2017 14:05

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10945	Naphthalene	91-20-3	N.D.	1	4	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	2	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z173442AA	12/10/2017 20:04	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z173442AA	12/10/2017 20:04	Hu Yang	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 01/04/2018 11:00

Group Number: 1882343

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	MDL**	LOQ
	mg/kg	mg/kg	mg/kg
Batch number: A173461AA	Sample number(s): 9348260,9348264,9348266,9348269-9348270,9348272,9348275		
Benzene	N.D.	0.0005	0.005
1,2-Dibromoethane	N.D.	0.001	0.005
1,2-Dichloroethane	N.D.	0.001	0.005
Ethylbenzene	N.D.	0.001	0.005
Isopropylbenzene	N.D.	0.001	0.005
Methyl Tertiary Butyl Ether	N.D.	0.0005	0.005
Naphthalene	N.D.	0.001	0.005
Toluene	N.D.	0.001	0.005
1,2,4-Trimethylbenzene	N.D.	0.001	0.005
1,3,5-Trimethylbenzene	N.D.	0.001	0.005
Xylene (Total)	N.D.	0.001	0.005
Batch number: X173462AA	Sample number(s): 9348279,9348281-9348283		
Benzene	N.D.	0.0005	0.005
1,2-Dibromoethane	N.D.	0.001	0.005
1,2-Dichloroethane	N.D.	0.001	0.005
Ethylbenzene	N.D.	0.001	0.005
Isopropylbenzene	N.D.	0.001	0.005
Methyl Tertiary Butyl Ether	N.D.	0.0005	0.005
Naphthalene	N.D.	0.001	0.005
Toluene	N.D.	0.001	0.005
1,2,4-Trimethylbenzene	N.D.	0.001	0.005
1,3,5-Trimethylbenzene	N.D.	0.001	0.005
Xylene (Total)	N.D.	0.001	0.005
Batch number: X173463AA	Sample number(s): 9348256,9348258,9348277-9348278		
Benzene	N.D.	0.0005	0.005
1,2-Dibromoethane	N.D.	0.001	0.005
1,2-Dichloroethane	N.D.	0.001	0.005
Ethylbenzene	N.D.	0.001	0.005
Isopropylbenzene	N.D.	0.001	0.005
Methyl Tertiary Butyl Ether	N.D.	0.0005	0.005
Naphthalene	N.D.	0.001	0.005
Toluene	N.D.	0.001	0.005
1,2,4-Trimethylbenzene	N.D.	0.001	0.005
1,3,5-Trimethylbenzene	N.D.	0.001	0.005
Xylene (Total)	N.D.	0.001	0.005
Batch number: X173463AB	Sample number(s): 9348257		
Benzene	N.D.	0.0005	0.005

*- Outside of specification

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(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 01/04/2018 11:00

Group Number: 1882343

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	mg/kg	mg/kg	mg/kg
1,2-Dibromoethane	N.D.	0.001	0.005
1,2-Dichloroethane	N.D.	0.001	0.005
Ethylbenzene	N.D.	0.001	0.005
Isopropylbenzene	N.D.	0.001	0.005
Methyl Tertiary Butyl Ether	N.D.	0.0005	0.005
Naphthalene	N.D.	0.001	0.005
Toluene	N.D.	0.001	0.005
1,2,4-Trimethylbenzene	N.D.	0.001	0.005
1,3,5-Trimethylbenzene	N.D.	0.001	0.005
Xylene (Total)	N.D.	0.001	0.005
Batch number: X173471AA Sample number(s): 9348265,9348271,9348274,9348276			
Benzene	N.D.	0.0005	0.005
1,2-Dibromoethane	N.D.	0.001	0.005
1,2-Dichloroethane	N.D.	0.001	0.005
Ethylbenzene	N.D.	0.001	0.005
Isopropylbenzene	N.D.	0.001	0.005
Methyl Tertiary Butyl Ether	N.D.	0.0005	0.005
Naphthalene	N.D.	0.001	0.005
Toluene	N.D.	0.001	0.005
1,2,4-Trimethylbenzene	N.D.	0.001	0.005
1,3,5-Trimethylbenzene	N.D.	0.001	0.005
Xylene (Total)	N.D.	0.001	0.005
	ug/l	ug/l	ug/l
Batch number: Z173442AA Sample number(s): 9348261-9348263,9348267-9348268,9348273,9348280,9348284			
Benzene	N.D.	0.5	1
1,2-Dichloroethane	N.D.	0.5	1
Ethylbenzene	N.D.	0.5	1
Isopropylbenzene	N.D.	0.5	2
Methyl Tertiary Butyl Ether	N.D.	0.5	1
Naphthalene	N.D.	1	4
Toluene	N.D.	0.5	1
1,2,4-Trimethylbenzene	N.D.	0.5	2
1,3,5-Trimethylbenzene	N.D.	0.5	2
Xylene (Total)	N.D.	0.5	1
	ug/kg	ug/kg	ug/kg
Batch number: 173400008A Sample number(s): 9348256-9348258,9348260,9348264-9348266,9348270-9348272,9348274-9348279,9348281-9348282			
PCB-1016	N.D.	3.6	17
PCB-1221	N.D.	4.6	17
PCB-1232	N.D.	8.0	17
PCB-1242	N.D.	3.3	17
PCB-1248	N.D.	3.3	17
PCB-1254	N.D.	3.3	17

*- Outside of specification

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(2) The unspiked result was more than four times the spike added.

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 01/04/2018 11:00

Group Number: 1882343

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	ug/kg	ug/kg	ug/kg
PCB-1260	N.D.	4.9	17
Batch number: 173540040A	Sample number(s): 9348269		
PCB-1016	N.D.	3.6	17
PCB-1221	N.D.	4.6	17
PCB-1232	N.D.	8.0	17
PCB-1242	N.D.	3.3	17
PCB-1248	N.D.	3.3	17
PCB-1254	N.D.	3.3	17
PCB-1260	N.D.	4.9	17
	ug/l	ug/l	ug/l
Batch number: 173410005A	Sample number(s): 9348273,9348280		
PCB-1016	N.D.	0.080	0.40
PCB-1221	N.D.	0.080	0.40
PCB-1232	N.D.	0.16	0.40
PCB-1242	N.D.	0.080	0.40
PCB-1248	N.D.	0.080	0.40
PCB-1254	N.D.	0.080	0.40
PCB-1260	N.D.	0.12	0.40
Batch number: 173420039A	Sample number(s): 9348267-9348268		
PCB-1016	N.D.	0.080	0.40
PCB-1221	N.D.	0.080	0.40
PCB-1232	N.D.	0.16	0.40
PCB-1242	N.D.	0.080	0.40
PCB-1248	N.D.	0.080	0.40
PCB-1254	N.D.	0.080	0.40
PCB-1260	N.D.	0.12	0.40
Batch number: 173420003A	Sample number(s): 9348261-9348263,9348267-9348268,9348273,9348280		
Ethylene dibromide	N.D.	0.010	0.030
	mg/kg	mg/kg	mg/kg
Batch number: 173390570802	Sample number(s): 9348256-9348260,9348264-9348266,9348269-9348272,9348274-9348279,9348281-9348282		
Antimony	N.D.	0.870	2.00
Arsenic	N.D.	0.960	2.00
Beryllium	N.D.	0.0790	0.500
Cadmium	N.D.	0.0540	0.500
Chromium	N.D.	0.170	1.50
Copper	N.D.	0.240	1.00
Lead	N.D.	0.600	1.50
Nickel	N.D.	0.150	1.00
Selenium	N.D.	0.930	2.00
Silver	N.D.	0.240	0.500
Thallium	N.D.	1.37	3.00

*- Outside of specification

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(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 01/04/2018 11:00

Group Number: 1882343

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	mg/kg	mg/kg	mg/kg
Zinc	N.D.	0.240	2.00
Batch number: 173390571101	Sample number(s): 9348256-9348260,9348264-9348266,9348269-9348272,9348274-9348279,9348281-9348282		
Mercury	N.D.	0.0100	0.100
	mg/l	mg/l	mg/l
Batch number: 173400184801	Sample number(s): 9348273,9348280		
Antimony	N.D.	0.0087	0.0200
Arsenic	N.D.	0.0096	0.0200
Beryllium	N.D.	0.0020	0.0050
Cadmium	N.D.	0.0018	0.0050
Chromium	N.D.	0.0033	0.0150
Copper	N.D.	0.0040	0.0100
Lead	N.D.	0.0060	0.0150
Nickel	N.D.	0.0040	0.0100
Selenium	N.D.	0.0093	0.0200
Silver	N.D.	0.0024	0.0050
Thallium	N.D.	0.0137	0.0300
Zinc	N.D.	0.0065	0.0200
Batch number: 173410184801	Sample number(s): 9348267-9348268		
Antimony	N.D.	0.0087	0.0200
Arsenic	N.D.	0.0096	0.0200
Beryllium	N.D.	0.0020	0.0050
Cadmium	N.D.	0.0018	0.0050
Chromium	N.D.	0.0033	0.0150
Copper	N.D.	0.0040	0.0100
Lead	N.D.	0.0060	0.0150
Nickel	N.D.	0.0040	0.0100
Selenium	N.D.	0.0093	0.0200
Silver	N.D.	0.0024	0.0050
Thallium	N.D.	0.0137	0.0300
Zinc	N.D.	0.0065	0.0200
Batch number: 173410571301	Sample number(s): 9348267-9348268,9348273,9348280		
Mercury	N.D.	0.000050	0.00020

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: A173461AA	Sample number(s): 9348260,9348264,9348266,9348269-9348270,9348272,9348275								

*- Outside of specification

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(2) The unspiked result was more than four times the spike added.

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 01/04/2018 11:00

Group Number: 1882343

LCS/LCSD

Analysis Name	LCS Spike Added mg/kg	LCS Conc mg/kg	LCSD Spike Added mg/kg	LCSD Conc mg/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Benzene	0.0200	0.0189	0.0200	0.0184	95	92	80-120	3	30
1,2-Dibromoethane	0.0200	0.0178	0.0200	0.0178	89	89	74-120	0	30
1,2-Dichloroethane	0.0200	0.0178	0.0200	0.0176	89	88	71-128	1	30
Ethylbenzene	0.0200	0.0179	0.0200	0.0172	90	86	80-120	4	30
Isopropylbenzene	0.0200	0.0205	0.0200	0.0185	102	92	76-120	10	30
Methyl Tertiary Butyl Ether	0.0200	0.0173	0.0200	0.0180	87	90	66-123	4	30
Naphthalene	0.0200	0.0151	0.0200	0.0155	76	78	54-132	3	30
Toluene	0.0200	0.0206	0.0200	0.0202	103	101	80-120	2	30
1,2,4-Trimethylbenzene	0.0200	0.0166	0.0200	0.0174	83	87	74-120	5	30
1,3,5-Trimethylbenzene	0.0200	0.0167	0.0200	0.0159	83	80	73-120	5	30
Xylene (Total)	0.0600	0.0555	0.0600	0.0548	93	91	80-120	1	30
Batch number: X173462AA	Sample number(s): 9348279,9348281-9348283								
Benzene	0.0200	0.0166	0.0200	0.0195	83	97	80-120	16	30
1,2-Dibromoethane	0.0200	0.0165	0.0200	0.0189	82	95	74-120	14	30
1,2-Dichloroethane	0.0200	0.0165	0.0200	0.0191	83	95	71-128	14	30
Ethylbenzene	0.0200	0.0168	0.0200	0.0197	84	98	80-120	16	30
Isopropylbenzene	0.0200	0.0170	0.0200	0.0201	85	101	76-120	17	30
Methyl Tertiary Butyl Ether	0.0200	0.0163	0.0200	0.0185	82	93	66-123	13	30
Naphthalene	0.0200	0.0148	0.0200	0.0176	74	88	54-132	18	30
Toluene	0.0200	0.0168	0.0200	0.0195	84	98	80-120	15	30
1,2,4-Trimethylbenzene	0.0200	0.0172	0.0200	0.0204	86	102	74-120	17	30
1,3,5-Trimethylbenzene	0.0200	0.0171	0.0200	0.0200	85	100	73-120	16	30
Xylene (Total)	0.0600	0.0509	0.0600	0.0598	85	100	80-120	16	30
Batch number: X173463AA	Sample number(s): 9348256,9348258,9348277-9348278								
Benzene	0.0200	0.0199	0.0200	0.0191	99	96	80-120	4	30
1,2-Dibromoethane	0.0200	0.0199	0.0200	0.0191	100	95	74-120	4	30
1,2-Dichloroethane	0.0200	0.0213	0.0200	0.0202	106	101	71-128	5	30
Ethylbenzene	0.0200	0.0194	0.0200	0.0187	97	93	80-120	4	30
Isopropylbenzene	0.0200	0.0192	0.0200	0.0186	96	93	76-120	3	30
Methyl Tertiary Butyl Ether	0.0200	0.0198	0.0200	0.0196	99	98	66-123	1	30
Naphthalene	0.0200	0.0179	0.0200	0.0177	89	89	54-132	1	30
Toluene	0.0200	0.0193	0.0200	0.0185	97	93	80-120	4	30
1,2,4-Trimethylbenzene	0.0200	0.0193	0.0200	0.0191	97	96	74-120	1	30
1,3,5-Trimethylbenzene	0.0200	0.0190	0.0200	0.0187	95	93	73-120	2	30
Xylene (Total)	0.0600	0.0584	0.0600	0.0565	97	94	80-120	3	30
Batch number: X173463AB	Sample number(s): 9348257								
Benzene	0.0200	0.0200	0.0200	0.0203	100	101	80-120	2	30
1,2-Dibromoethane	0.0200	0.0187	0.0200	0.0191	93	95	74-120	2	30
1,2-Dichloroethane	0.0200	0.0202	0.0200	0.0205	101	102	71-128	1	30
Ethylbenzene	0.0200	0.0200	0.0200	0.0204	100	102	80-120	2	30
Isopropylbenzene	0.0200	0.0200	0.0200	0.0202	100	101	76-120	1	30
Methyl Tertiary Butyl Ether	0.0200	0.0190	0.0200	0.0192	95	96	66-123	1	30

*- Outside of specification

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(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 01/04/2018 11:00

Group Number: 1882343

LCS/LCSD (continued)

Analysis Name	LCS Spike Added mg/kg	LCS Conc mg/kg	LCSD Spike Added mg/kg	LCSD Conc mg/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Naphthalene	0.0200	0.0162	0.0200	0.0160	81	80	54-132	1	30
Toluene	0.0200	0.0199	0.0200	0.0204	100	102	80-120	2	30
1,2,4-Trimethylbenzene	0.0200	0.0202	0.0200	0.0206	101	103	74-120	2	30
1,3,5-Trimethylbenzene	0.0200	0.0199	0.0200	0.0203	100	102	73-120	2	30
Xylene (Total)	0.0600	0.0602	0.0600	0.0608	100	101	80-120	1	30
Batch number: X173471AA	Sample number(s): 9348265,9348271,9348274,9348276								
Benzene	0.0200	0.0200	0.0200	0.0203	100	101	80-120	2	30
1,2-Dibromoethane	0.0200	0.0187	0.0200	0.0191	93	95	74-120	2	30
1,2-Dichloroethane	0.0200	0.0202	0.0200	0.0205	101	102	71-128	1	30
Ethylbenzene	0.0200	0.0200	0.0200	0.0204	100	102	80-120	2	30
Isopropylbenzene	0.0200	0.0200	0.0200	0.0202	100	101	76-120	1	30
Methyl Tertiary Butyl Ether	0.0200	0.0190	0.0200	0.0192	95	96	66-123	1	30
Naphthalene	0.0200	0.0162	0.0200	0.0160	81	80	54-132	1	30
Toluene	0.0200	0.0199	0.0200	0.0204	100	102	80-120	2	30
1,2,4-Trimethylbenzene	0.0200	0.0202	0.0200	0.0206	101	103	74-120	2	30
1,3,5-Trimethylbenzene	0.0200	0.0199	0.0200	0.0203	100	102	73-120	2	30
Xylene (Total)	0.0600	0.0602	0.0600	0.0608	100	101	80-120	1	30
	ug/l	ug/l	ug/l	ug/l					
Batch number: Z173442AA	Sample number(s): 9348261-9348263,9348267-9348268,9348273,9348280,9348284								
Benzene	20	18.07			90		78-120		
1,2-Dichloroethane	20	19.83			99		73-124		
Ethylbenzene	20	18.39			92		78-120		
Isopropylbenzene	20	18.91			95		80-120		
Methyl Tertiary Butyl Ether	20	18.75			94		75-120		
Naphthalene	20	16.78			84		59-120		
Toluene	20	18.44			92		80-120		
1,2,4-Trimethylbenzene	20	18.81			94		75-120		
1,3,5-Trimethylbenzene	20	18.71			94		75-120		
Xylene (Total)	60	56.68			94		80-120		
	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 173400008A	Sample number(s): 9348256-9348258,9348260,9348264-9348266,9348270-9348272,9348274-9348279,9348281-9348282								
PCB-1016	167	170			102		76-121		
PCB-1260	167	161.36			97		79-130		
Batch number: 173540040A	Sample number(s): 9348269								
PCB-1016	167	161.38			97		76-121		
PCB-1260	167	176.62			106		79-130		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 173410005A	Sample number(s): 9348273,9348280								

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 01/04/2018 11:00

Group Number: 1882343

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
PCB-1016	5.01	4.41	5.01	4.08	88	82	60-117	8	30
PCB-1260	5.01	4.48	5.01	4.03	89	80	57-134	11	30
Batch number: 173420039A	Sample number(s): 9348267-9348268								
PCB-1016	5.01	5.08	5.01	4.68	101	93	60-117	8	30
PCB-1260	5.01	5.02	5.01	4.85	100	97	57-134	4	30
	ug/l	ug/l	ug/l	ug/l					
Batch number: 173420003A	Sample number(s): 9348261-9348263,9348267-9348268,9348273,9348280								
Ethylene dibromide	0.128	0.116	0.128	0.116	91	90	60-140	0	20
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 173390570802	Sample number(s): 9348256-9348260,9348264-9348266,9348269-9348272,9348274-9348279,9348281-9348282								
Antimony	50	56.07			112		80-120		
Arsenic	15	15.66			104		80-120		
Beryllium	5.00	5.33			107		80-120		
Cadmium	5.00	5.45			109		80-120		
Chromium	20	20.64			103		80-120		
Copper	25	26.94			108		80-120		
Lead	15	15.99			107		80-120		
Nickel	50	55.01			110		80-120		
Selenium	15	16.01			107		80-120		
Silver	5.00	5.02			100		80-120		
Thallium	15	15.47			103		80-120		
Zinc	50	54.93			110		80-120		
Batch number: 173390571101	Sample number(s): 9348256-9348260,9348264-9348266,9348269-9348272,9348274-9348279,9348281-9348282								
Mercury	0.100	0.0993			99		80-120		
	mg/l	mg/l	mg/l	mg/l					
Batch number: 173400184801	Sample number(s): 9348273,9348280								
Antimony	0.500	0.519			104		80-120		
Arsenic	0.150	0.143			96		80-120		
Beryllium	0.0500	0.0481			96		80-120		
Cadmium	0.0500	0.0492			98		80-120		
Chromium	0.200	0.191			96		80-120		
Copper	0.250	0.255			102		80-120		
Lead	0.150	0.155			104		80-120		
Nickel	0.500	0.505			101		80-120		
Selenium	0.150	0.147			98		80-120		
Silver	0.0500	0.0452			90		80-120		
Thallium	0.150	0.140			94		80-120		

*- Outside of specification

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 01/04/2018 11:00

Group Number: 1882343

LCS/LCSD (continued)

Analysis Name	LCS Spike Added mg/l	LCS Conc mg/l	LCSD Spike Added mg/l	LCSD Conc mg/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Zinc	0.500	0.491			98		80-120		
Batch number: 173410184801	Sample number(s): 9348267-9348268								
Antimony	0.500	0.483			97		80-120		
Arsenic	0.150	0.139			92		80-120		
Beryllium	0.0500	0.0488			98		80-120		
Cadmium	0.0500	0.0507			101		80-120		
Chromium	0.200	0.188			94		80-120		
Copper	0.250	0.246			98		80-120		
Lead	0.150	0.150			100		80-120		
Nickel	0.500	0.503			101		80-120		
Selenium	0.150	0.137			92		80-120		
Silver	0.0500	0.0491			98		80-120		
Thallium	0.150	0.144			96		80-120		
Zinc	0.500	0.508			102		80-120		
Batch number: 173410571301	Sample number(s): 9348267-9348268,9348273,9348280								
Mercury	0.00100	0.000972			97		80-120		
	Std. Units	Std. Units	Std. Units	Std. Units					
Batch number: 17345121521A	Sample number(s): 9348267-9348268,9348273,9348280								
pH	7.00	6.98			100		95-105		
Batch number: 17346039402B	Sample number(s): 9348260,9348264-9348266,9348269								
pH	7.00	6.96			99		95-105		
Batch number: 17346039403A	Sample number(s): 9348256,9348259,9348270-9348272,9348274-9348278								
pH	7.00	7.01			100		95-105		
Batch number: 17346039403B	Sample number(s): 9348279,9348281-9348282								
pH	7.00	7.01			100		95-105		
	%	%	%	%					
Batch number: 17341820003A	Sample number(s): 9348256-9348260,9348264-9348266,9348269-9348271								
Moisture	89.5	89.42			100		99-101		
Moisture	89.5	89.42			100		99-101		
Moisture Duplicate	89.5	89.42			100		99-101		
Batch number: 17341820003B	Sample number(s): 9348274-9348279,9348281-9348282								
Moisture	89.5	89.42			100		99-101		
Batch number: 17342820008B	Sample number(s): 9348272								
Moisture	89.5	89.46			100		99-101		

*- Outside of specification

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P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 01/04/2018 11:00

Group Number: 1882343

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: A173461AA	Sample number(s): 9348260,9348264,9348266,9348269-9348270,9348272,9348275 UNSPK: P348158									
Benzene	N.D.	0.0193	0.0207	0.0182	0.0192	107	105	80-120	8	30
1,2-Dibromoethane	N.D.	0.0193	0.0207	0.0182	0.0188	107	104	74-120	9	30
1,2-Dichloroethane	N.D.	0.0193	0.0197	0.0182	0.0181	102	99	71-128	9	30
Ethylbenzene	N.D.	0.0193	0.0199	0.0182	0.0182	103	100	80-120	9	30
Isopropylbenzene	N.D.	0.0193	0.0214	0.0182	0.0194	111	106	76-120	10	30
Methyl Tertiary Butyl Ether	N.D.	0.0193	0.0203	0.0182	0.0187	105	103	66-123	8	30
Naphthalene	N.D.	0.0193	0.0162	0.0182	0.0149	84	82	54-132	8	30
Toluene	N.D.	0.0193	0.0232	0.0182	0.0213	120	117	80-120	9	30
1,2,4-Trimethylbenzene	N.D.	0.0193	0.0204	0.0182	0.0193	106	106	74-120	6	30
1,3,5-Trimethylbenzene	N.D.	0.0193	0.0187	0.0182	0.0170	97	93	73-120	10	30
Xylene (Total)	N.D.	0.0580	0.0629	0.0545	0.0551	108	101	80-120	13	30
Batch number: X173462AA	Sample number(s): 9348279,9348281-9348283 UNSPK: P348103									
Benzene	N.D.	0.0195	0.0237	0.0201	0.0232	121*	116	80-120	2	30
1,2-Dibromoethane	N.D.	0.0195	0.0259	0.0201	0.0237	133*	118	74-120	9	30
1,2-Dichloroethane	N.D.	0.0195	0.0237	0.0201	0.0228	122	113	71-128	4	30
Ethylbenzene	N.D.	0.0195	0.0230	0.0201	0.0236	118	117	80-120	3	30
Isopropylbenzene	N.D.	0.0195	0.0206	0.0201	0.0217	106	108	76-120	5	30
Methyl Tertiary Butyl Ether	N.D.	0.0195	0.0243	0.0201	0.0229	125*	114	66-123	6	30
Naphthalene	N.D.	0.0195	0.00797	0.0201	0.0115	41*	57	54-132	36*	30
Toluene	N.D.	0.0195	0.0260	0.0201	0.0262	133*	130*	80-120	1	30
1,2,4-Trimethylbenzene	N.D.	0.0195	0.0259	0.0201	0.0285	133*	142*	74-120	10	30
1,3,5-Trimethylbenzene	N.D.	0.0195	0.0265	0.0201	0.0291	136*	145*	73-120	9	30
Xylene (Total)	N.D.	0.0585	0.0663	0.0602	0.0696	113	115	80-120	5	30
Batch number: X173463AA	Sample number(s): 9348256,9348258,9348277-9348278 UNSPK: 9348256									
Benzene	N.D.	0.0207	0.0255	0.0203	0.0229	123*	113	80-120	11	30
1,2-Dibromoethane	N.D.	0.0207	0.0258	0.0203	0.0235	125*	116	74-120	9	30
1,2-Dichloroethane	N.D.	0.0207	0.0253	0.0203	0.0233	122	115	71-128	8	30
Ethylbenzene	N.D.	0.0207	0.0243	0.0203	0.0215	117	106	80-120	12	30
Isopropylbenzene	N.D.	0.0207	0.0184	0.0203	0.0158	89	78	76-120	15	30
Methyl Tertiary Butyl Ether	N.D.	0.0207	0.0241	0.0203	0.0221	116	109	66-123	8	30
Naphthalene	N.D.	0.0207	0.00868	0.0203	0.00674	42*	33*	54-132	25	30
Toluene	N.D.	0.0207	0.0285	0.0203	0.0258	138*	127*	80-120	10	30
1,2,4-Trimethylbenzene	N.D.	0.0207	0.0281	0.0203	0.0243	136*	120	74-120	14	30
1,3,5-Trimethylbenzene	N.D.	0.0207	0.0289	0.0203	0.0252	140*	124*	73-120	14	30
Xylene (Total)	N.D.	0.0621	0.0694	0.0609	0.0625	112	103	80-120	10	30
Batch number: X173463AB	Sample number(s): 9348257 UNSPK: 9348256									
Benzene	N.D.	0.0207	0.0255	0.0203	0.0229	123*	113	80-120	11	30
1,2-Dibromoethane	N.D.	0.0207	0.0258	0.0203	0.0235	125*	116	74-120	9	30
1,2-Dichloroethane	N.D.	0.0207	0.0253	0.0203	0.0233	122	115	71-128	8	30
Ethylbenzene	N.D.	0.0207	0.0243	0.0203	0.0215	117	106	80-120	12	30

*- Outside of specification

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(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 01/04/2018 11:00

Group Number: 1882343

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Isopropylbenzene	N.D.	0.0207	0.0184	0.0203	0.0158	89	78	76-120	15	30
Methyl Tertiary Butyl Ether	N.D.	0.0207	0.0241	0.0203	0.0221	116	109	66-123	8	30
Naphthalene	N.D.	0.0207	0.00868	0.0203	0.00674	42*	33*	54-132	25	30
Toluene	N.D.	0.0207	0.0285	0.0203	0.0258	138*	127*	80-120	10	30
1,2,4-Trimethylbenzene	N.D.	0.0207	0.0281	0.0203	0.0243	136*	120	74-120	14	30
1,3,5-Trimethylbenzene	N.D.	0.0207	0.0289	0.0203	0.0252	140*	124*	73-120	14	30
Xylene (Total)	N.D.	0.0621	0.0694	0.0609	0.0625	112	103	80-120	10	30
Batch number: X173471AA	Sample number(s): 9348265,9348271,9348274,9348276 UNSPK: P361473									
Benzene	N.D.	0.0201	0.0213	0.0210	0.0229	106	109	80-120	7	30
1,2-Dibromoethane	N.D.	0.0201	0.0215	0.0210	0.0229	107	109	74-120	6	30
1,2-Dichloroethane	N.D.	0.0201	0.0218	0.0210	0.0233	108	111	71-128	7	30
Ethylbenzene	N.D.	0.0201	0.0205	0.0210	0.0220	102	105	80-120	7	30
Isopropylbenzene	N.D.	0.0201	0.0205	0.0210	0.0223	102	106	76-120	8	30
Methyl Tertiary Butyl Ether	N.D.	0.0201	0.0220	0.0210	0.0242	110	115	66-123	9	30
Naphthalene	N.D.	0.0201	0.0187	0.0210	0.0190	93	91	54-132	2	30
Toluene	N.D.	0.0201	0.0207	0.0210	0.0222	103	106	80-120	7	30
1,2,4-Trimethylbenzene	N.D.	0.0201	0.0199	0.0210	0.0217	99	104	74-120	9	30
1,3,5-Trimethylbenzene	N.D.	0.0201	0.0198	0.0210	0.0217	99	104	73-120	9	30
Xylene (Total)	N.D.	0.0602	0.0607	0.0629	0.0654	101	104	80-120	7	30
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: Z173442AA	Sample number(s): 9348261-9348263,9348267-9348268,9348273,9348280,9348284 UNSPK: 9348261									
Benzene	N.D.	20	20.69	20	19.78	103	99	78-120	5	30
1,2-Dichloroethane	N.D.	20	21.9	20	21.09	110	105	73-124	4	30
Ethylbenzene	N.D.	20	21.09	20	20.36	105	102	78-120	4	30
Isopropylbenzene	N.D.	20	21.49	20	20.77	107	104	80-120	3	30
Methyl Tertiary Butyl Ether	N.D.	20	20.07	20	19.24	100	96	75-120	4	30
Naphthalene	N.D.	20	16.37	20	15.87	82	79	59-120	3	30
Toluene	N.D.	20	20.91	20	20.26	105	101	80-120	3	30
1,2,4-Trimethylbenzene	N.D.	20	20.7	20	19.97	104	100	75-120	4	30
1,3,5-Trimethylbenzene	N.D.	20	20.62	20	19.74	103	99	75-120	4	30
Xylene (Total)	0.718	60	65.82	60	63.33	109	104	80-120	4	30
	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 173400008A	Sample number(s): 9348256-9348258,9348260,9348264-9348266,9348270-9348272,9348274-9348279,9348281-9348282 UNSPK: 9348256									
PCB-1016	N.D.	167	179.07	166	147.66	107	89	76-121	19	50
PCB-1260	1006.28	167	1500.89	166	1151.74	296 (2)	88 (2)	79-130	26	50
Batch number: 173540040A	Sample number(s): 9348269 UNSPK: P371561									
PCB-1016	N.D.	167	136.18	166	138.69	82	84	76-121	2	50

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P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 01/04/2018 11:00

Group Number: 1882343

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
PCB-1260	N.D.	167	165.41	166	164.68	99	99	79-130	0	50
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: 173420003A	Sample number(s): 9348261-9348263,9348267-9348268,9348273,9348280 UNSPK: 9348261									
Ethylene dibromide	N.D.	0.121	0.103	0.106	0.120	85	113	60-140	15	20
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 173390570802	Sample number(s): 9348256-9348260,9348264-9348266,9348269-9348272,9348274-9348279,9348281-9348282 UNSPK: 9348256									
Antimony	N.D.	43.1	33.57	42.37	38.57	78	91	75-125	14	20
Arsenic	6.35	12.93	19.94	12.71	18.42	105	95	75-125	8	20
Beryllium	0.600	4.31	5.04	4.24	4.87	103	101	75-125	4	20
Cadmium	N.D.	4.31	4.39	4.24	4.72	102	111	75-125	7	20
Chromium	17.87	17.24	43.58	16.95	35.61	149*	105	75-125	20	20
Copper	22.06	21.55	49.19	21.19	40.13	126*	85	75-125	20	20
Lead	22.15	12.93	41.66	12.71	32.74	151*	83	75-125	24*	20
Nickel	30.92	43.1	73.47	42.37	69.27	99	91	75-125	6	20
Selenium	N.D.	12.93	11.47	12.71	11.64	89	92	75-125	1	20
Silver	N.D.	4.31	4.03	4.24	3.96	93	93	75-125	2	20
Thallium	N.D.	12.93	11.83	12.71	12.36	92	97	75-125	4	20
Zinc	101.7	43.1	139.8	42.37	113.09	88	27*	75-125	21*	20
Batch number: 173390571101	Sample number(s): 9348256-9348260,9348264-9348266,9348269-9348272,9348274-9348279,9348281-9348282 UNSPK: 9348256									
Mercury	0.0278	0.156	0.185	0.154	0.179	101	98	80-120	3	20
	mg/l	mg/l	mg/l	mg/l	mg/l					
Batch number: 173400184801	Sample number(s): 9348273,9348280 UNSPK: P349422									
Antimony	N.D.	0.500	0.508	0.500	0.527	102	105	75-125	4	20
Arsenic	N.D.	0.150	0.140	0.150	0.144	93	96	75-125	3	20
Beryllium	N.D.	0.0500	0.0472	0.0500	0.0482	94	96	75-125	2	20
Cadmium	N.D.	0.0500	0.0472	0.0500	0.0479	94	96	75-125	2	20
Chromium	N.D.	0.200	0.189	0.200	0.192	94	96	75-125	2	20
Copper	0.00687	0.250	0.278	0.250	0.281	108	110	75-125	1	20
Lead	N.D.	0.150	0.146	0.150	0.150	97	100	75-125	3	20
Nickel	N.D.	0.500	0.482	0.500	0.496	96	99	75-125	3	20
Selenium	N.D.	0.150	0.133	0.150	0.140	89	93	75-125	5	20
Silver	N.D.	0.0500	0.0471	0.0500	0.0487	94	97	75-125	3	20
Thallium	N.D.	0.150	0.149	0.150	0.146	100	97	75-125	3	20
Zinc	N.D.	0.500	0.496	0.500	0.506	99	101	75-125	2	20

*- Outside of specification

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(2) The unspiked result was more than four times the spike added.

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 01/04/2018 11:00

Group Number: 1882343

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/l	MS Spike Added mg/l	MS Conc mg/l	MSD Spike Added mg/l	MSD Conc mg/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 173410184801	Sample number(s): 9348267-9348268 UNSPK: P349994									
Antimony	N.D.	0.500	0.488	0.500	0.486	98	97	75-125	1	20
Arsenic	N.D.	0.150	0.138	0.150	0.138	92	92	75-125	0	20
Beryllium	N.D.	0.0500	0.0490	0.0500	0.0485	98	97	75-125	1	20
Cadmium	N.D.	0.0500	0.0485	0.0500	0.0488	97	98	75-125	1	20
Chromium	N.D.	0.200	0.184	0.200	0.181	92	91	75-125	1	20
Copper	N.D.	0.250	0.263	0.250	0.259	105	103	75-125	2	20
Lead	0.00924	0.150	0.150	0.150	0.149	94	93	75-125	1	20
Nickel	0.0239	0.500	0.509	0.500	0.508	97	97	75-125	0	20
Selenium	N.D.	0.150	0.151	0.150	0.148	101	99	75-125	2	20
Silver	N.D.	0.0500	0.0521	0.0500	0.0533	104	107	75-125	2	20
Thallium	N.D.	0.150	0.122	0.150	0.131	82	87	75-125	7	20
Zinc	0.0641	0.500	0.558	0.500	0.562	99	100	75-125	1	20
Batch number: 173410571301	Sample number(s): 9348267-9348268,9348273,9348280 UNSPK: P352720									
Mercury	0.0000553	0.00100	0.00108	0.00100	0.00107	102	101	80-120	1	20

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/kg	DUP Conc mg/kg	DUP RPD	DUP RPD Max
Batch number: 173390570802	Sample number(s): 9348256-9348260,9348264-9348266,9348269-9348272,9348274-9348279,9348281-9348282 BKG: 9348256			
Antimony	N.D.	N.D.	0 (1)	20
Arsenic	6.35	6.30	1 (1)	20
Beryllium	0.600	0.632	5 (1)	20
Cadmium	N.D.	N.D.	0 (1)	20
Chromium	17.87	19	6	20
Copper	22.06	21.21	4	20
Lead	22.15	25.05	12	20
Nickel	30.92	31.38	1	20
Selenium	N.D.	N.D.	0 (1)	20
Silver	N.D.	N.D.	0 (1)	20
Thallium	N.D.	N.D.	0 (1)	20
Zinc	101.7	82.25	21*	20
Batch number: 173390571101	Sample number(s): 9348256-9348260,9348264-9348266,9348269-9348272,9348274-9348279,9348281-9348282 BKG: 9348256			
Mercury	0.0278	0.0269	3 (1)	20

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 01/04/2018 11:00

Group Number: 1882343

Laboratory Duplicate (continued)

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/kg	DUP Conc mg/kg	DUP RPD	DUP RPD Max
	mg/l	mg/l		
Batch number: 173400184801	Sample number(s): 9348273,9348280 BKG: P349422			
Antimony	N.D.	N.D.	0 (1)	20
Arsenic	N.D.	0.0108	200* (1)	20
Beryllium	N.D.	N.D.	0 (1)	20
Cadmium	N.D.	N.D.	0 (1)	20
Chromium	N.D.	N.D.	0 (1)	20
Copper	0.00687	0.00627	9 (1)	20
Lead	N.D.	0.00802	200* (1)	20
Nickel	N.D.	N.D.	0 (1)	20
Selenium	N.D.	N.D.	0 (1)	20
Silver	N.D.	N.D.	0 (1)	20
Thallium	N.D.	N.D.	0 (1)	20
Zinc	N.D.	N.D.	0 (1)	20
Batch number: 173410184801	Sample number(s): 9348267-9348268 BKG: P349994			
Antimony	N.D.	N.D.	0 (1)	20
Arsenic	N.D.	N.D.	0 (1)	20
Beryllium	N.D.	N.D.	0 (1)	20
Cadmium	N.D.	N.D.	0 (1)	20
Chromium	N.D.	N.D.	0 (1)	20
Copper	N.D.	N.D.	0 (1)	20
Lead	0.00924	0.0111	18 (1)	20
Nickel	0.0239	0.0244	2 (1)	20
Selenium	N.D.	N.D.	0 (1)	20
Silver	N.D.	N.D.	0 (1)	20
Thallium	N.D.	N.D.	0 (1)	20
Zinc	0.0641	0.0664	4 (1)	20
Batch number: 173410571301	Sample number(s): 9348267-9348268,9348273,9348280 BKG: P352720			
Mercury	0.0000553	0.0000598	8 (1)	20
	Degrees C	Degrees C		
Batch number: 17345121521A	Sample number(s): 9348267-9348268,9348273,9348280 BKG: 9348273			
Temperature of pH	18.3	18.2	1	5
	Std. Units	Std. Units		
Batch number: 17345121521A	Sample number(s): 9348267-9348268,9348273,9348280 BKG: 9348273			
pH	6.57	6.56	0	4
Batch number: 17346039402B	Sample number(s): 9348260,9348264-9348266,9348269 BKG: P336659			
pH	6.12	6.09	0	3

*- Outside of specification

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 01/04/2018 11:00

Group Number: 1882343

Laboratory Duplicate (continued)

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc Std. Units	DUP Conc Std. Units	DUP RPD	DUP RPD Max
Batch number: 17346039403A pH	Sample number(s): 9348256,9348259,9348270-9348272,9348274-9348278 BKG: 9348256 8.00	8.08	1	3
Batch number: 17346039403B pH	Sample number(s): 9348279,9348281-9348282 BKG: P349170 8.71	8.74	0	3
	%	%		
Batch number: 17341820003A Moisture	Sample number(s): 9348256-9348260,9348264-9348266,9348269-9348271 BKG: 9348256, P348256 5.96	6.86	14*	5
Moisture	5.96	6.86	14*	5
Moisture Duplicate	5.96	6.86	14*	5
Batch number: 17341820003B Moisture	Sample number(s): 9348274-9348279,9348281-9348282 BKG: P348272 4.19	5.98	35*	5
Batch number: 17342820008B Moisture	Sample number(s): 9348272 BKG: P354731 13.92	17.84	25*	5

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report. For dual column analyses, the surrogate (at least one surrogate for multi-surrogate tests) must be within the acceptance limits on at least one of the two columns.

Analysis Name: PA UST Leaded/Unleaded VOCs
Batch number: A173461AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9348260	101	104	113	91
9348264	109	114	133	72
9348266	103	104	109	95
9348269	104	106	119	82
9348270	104	102	109	92
9348272	103	106	109	97
9348275	103	104	109	89
Blank	102	102	109	97
LCS	101	101	112	102
LCSD	99	100	112	103
MS	100	102	113	100
MSD	101	103	113	101

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 01/04/2018 11:00

Group Number: 1882343

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report. For dual column analyses, the surrogate (at least one surrogate for multi-surrogate tests) must be within the acceptance limits on at least one of the two columns.

Analysis Name: PA UST Leaded/Unleaded VOCs
Batch number: A173461AA

Limits: 50-141 54-135 52-141 50-131

Analysis Name: PA UST Leaded/Unleaded VOCs
Batch number: X173462AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9348279	109	108	98	84
9348281	107	106	99	84
9348282	109	108	96	87
9348283	105	108	96	89
Blank	101	102	99	90
LCS	100	104	101	100
LCSD	99	101	101	100
MS	105	113	113	85
MSD	101	104	113	85

Limits: 50-141 54-135 52-141 50-131

Analysis Name: PA UST Leaded/Unleaded VOCs
Batch number: X173463AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9348256	109	109	108	74
9348258	103	106	117	79
9348277	114	113	100	82
9348278	110	105	100	77
Blank	107	105	98	88
LCS	102	103	100	102
LCSD	101	102	101	102
MS	103	106	117	81
MSD	103	106	117	79

Limits: 50-141 54-135 52-141 50-131

Analysis Name: PA UST Leaded/Unleaded VOCs
Batch number: X173463AB

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9348257	103	106	117	81
Blank	105	105	99	87
LCS	100	100	101	100
LCSD	100	100	101	101
MS	103	106	117	81

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 01/04/2018 11:00

Group Number: 1882343

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report. For dual column analyses, the surrogate (at least one surrogate for multi-surrogate tests) must be within the acceptance limits on at least one of the two columns.

Analysis Name: PA UST Leaded/Unleaded VOCs
Batch number: X173463AB

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
MSD	103	106	117	79
Limits:	50-141	54-135	52-141	50-131

Analysis Name: PA UST Leaded/Unleaded VOCs
Batch number: X173471AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9348265	108	105	109	74
9348271	107	104	99	84
9348274	112	107	104	72
9348276	112	110	112	57
Blank	105	105	99	87
LCS	101	100	101	100
LCSD	100	100	101	101
MS	102	107	101	101
MSD	102	106	101	101
Limits:	50-141	54-135	52-141	50-131

Analysis Name: VOCs- 5ml Water by 8260B UST
Batch number: Z173442AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9348261	114	103	99	95
9348262	108	101	99	104
9348263	109	103	98	104
9348267	113	99	100	91
9348268	114	104	100	94
9348273	116	103	99	95
9348280	117	102	100	96
9348284	114	103	98	94
Blank	113	101	100	95
LCS	107	102	99	104
MS	108	101	99	104
MSD	109	103	98	104
Limits:	80-120	80-120	80-120	80-120

Analysis Name: PCBs in Soil (microwave)
Batch number: 173400008A

*- Outside of specification

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 01/04/2018 11:00

Group Number: 1882343

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report. For dual column analyses, the surrogate (at least one surrogate for multi-surrogate tests) must be within the acceptance limits on at least one of the two columns.

Analysis Name: PCBs in Soil (microwave)
Batch number: 173400008A

	Tetrachloro-m-xylene-D1	Decachlorobiphenyl-D1	Tetrachloro-m-xylene-D2	Decachlorobiphenyl-D2
9348256	78	80	79	79
9348257	101	104	102	97
9348258	84	86	83	84
9348260	104	97	98	80
9348264	109	150*	124	190*
9348265	97	156*	107	214*
9348266	104	101	97	89
9348270	69	59	71	53
9348271	69	48	66	42*
9348272	101	79	99	72
9348274	94	77	90	64
9348275	103	89	96	79
9348276	98	67	94	58
9348277	95	77	96	69
9348278	93	61	86	58
9348279	93	69	97	64
9348281	103	67	97	67
9348282	107	72	101	68
Blank	106	91	103	85
LCS	104	102	103	92
MS	101	104	102	97
MSD	84	86	83	84
Limits:	53-140	45-143	53-140	45-143

Analysis Name: PCBs in Water
Batch number: 173410005A

	Tetrachloro-m-xylene-D1	Decachlorobiphenyl-D1	Tetrachloro-m-xylene-D2	Decachlorobiphenyl-D2
9348273	88	31	86	30
9348280	87	28	84	27
Blank	88	15	86	15
LCS	90	64	92	57
LCSD	84	45	86	41
Limits:	33-137	10-148	33-137	10-148

Analysis Name: 8011 Master Master
Batch number: 173420003A

*- Outside of specification

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 01/04/2018 11:00

Group Number: 1882343

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report. For dual column analyses, the surrogate (at least one surrogate for multi-surrogate tests) must be within the acceptance limits on at least one of the two columns.

Analysis Name: 8011 Master Master
Batch number: 173420003A

	1,1,2,2-Tetrachloroethane-D1	1,1,2,2-Tetrachloroethane-D2
9348261	147*	150*
9348262	98	101
9348263	114	118
9348267	101	101
9348268	103	108
9348273	93	97
9348280	111	110
Blank	91	97
LCS	91	96
LCSD	96	98
MS	98	101
MSD	114	118
Limits:	46-136	46-136

Analysis Name: PCBs in Water
Batch number: 173420039A

	Tetrachloro-m-xylene-D1	Decachlorobiphenyl-D1	Tetrachloro-m-xylene-D2	Decachlorobiphenyl-D2
9348267	110	58	105	56
9348268	88	35	83	33
Blank	101	98	96	91
LCS	107	67	103	62
LCSD	100	48	96	45
Limits:	33-137	10-148	33-137	10-148

Analysis Name: PCBs in Soil (microwave)
Batch number: 173540040A

	Tetrachloro-m-xylene-D1	Decachlorobiphenyl-D1	Tetrachloro-m-xylene-D2	Decachlorobiphenyl-D2
9348269	80	83	80	89
Blank	111	113	110	109
LCS	111	115	111	113
MS	104	107	105	108
MSD	102	115	102	109
Limits:	53-140	45-143	53-140	45-143

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Environmental Analysis Request/Chain of Custody



Lancaster Laboratories Environmental

For Eurofins Lancaster Laboratories Environmental use only

Acct. # 4549 Group # 1882343 Sample # 9348256-84

COC # 538656

Client Information				Matrix			Analysis Requested					For Lab Use Only		
Client: <u>Bright Fields, Inc.</u>		Acct. #:		<input type="checkbox"/> Tissue	<input checked="" type="checkbox"/> Ground	<input type="checkbox"/> Surface	Preservation Codes					FSC:	SCR#: <u>216294</u>	
Project Name/#: <u>Kinohart EM, Inc.</u>		PWSID #:					<input type="checkbox"/> Potable	<input type="checkbox"/> NPDES	Other:	Total # of Containers	<u>Vol's (PADEP short list)</u>	<u>PPL Metals</u>		<u>pH</u>
Project Manager: <u>Victoria Bishop</u>		P.O. #:		H=HCl T=Thiosulfate		N=HNO ₃ B=NaOH							S=H ₂ SO ₄ O=Other	
Sampler: <u>James Thompson</u>		Quote #:		Remarks										
State where samples were collected: <u>Pennsylvania</u>		For Compliance: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		1 of 3										
Sample Identification		Collected		Grab	Composite	Soil <input checked="" type="checkbox"/>	Water	Other:	Total # of Containers	Vol's (PADEP short list)	PPL Metals	pH	PCBs	Remarks
Date	Time	Grab	Composite											
<u>REI-6P01-5001</u>	<u>12/11/17</u>	<u>0900</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				<u>6</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>MS/MSD</u>
<u>REI-6P01-5002</u>		<u>0930</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				<u>2</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>REI-6P01-5001</u>		<u>1010</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>			<u>14</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>MS/MSD (VOCS only)</u>
<u>REI-6P02-5001</u>		<u>0955</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				<u>2</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>REI-6P02-5101</u>		<u>0957</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				<u>2</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>REI-6P02-5002</u>		<u>1015</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				<u>2</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>REI-6P02-5001</u>		<u>1115</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>			<u>9</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Lab filtration required</u>
<u>REI-6P02-5101</u>		<u>1117</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>			<u>9</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Lab filtration required</u>
<u>REI-6P03-5001</u>		<u>1020</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				<u>2</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>REI-6P03-5002</u>		<u>1030</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				<u>2</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

Turnaround Time (TAT) Requested (please circle) Standard <input checked="" type="radio"/> Rush <input type="radio"/> (Rush TAT is subject to laboratory approval and surcharge.)		Relinquished by <u>Bothe Storage</u> Date <u>11/23/17</u> Time <u>1350</u> Received by <u>[Signature]</u> Date <u>11/23/17</u> Time <u>1250</u>
Date results are needed: _____		Relinquished by <u>[Signature]</u> Date <u>12/14/17</u> Time <u>1450</u> Received by <u>Bill D. King</u> Date <u>12/14/17</u> Time <u>1450</u>
E-mail address: _____		Relinquished by <u>Bill D. King</u> Date <u>12-4-17</u> Time <u>17:25</u> Received by _____ Date _____ Time _____
Data Package Options (circle if required)		Relinquished by _____ Date _____ Time _____ Received by _____ Date <u>12/14/17</u> Time <u>1725</u>
Type I (EPA Level 3 Equivalent/non-CLP)	Type VI (Raw Data Only)	EDD Required? Yes No If yes, format: _____
Type III (Reduced non-CLP)	NJ DKQP TX TRRP-13	Site-Specific QC (MS/MSD/Dup)? Yes No (If yes, indicate QC sample and submit triplicate sample volume.)
NYSDEC Category A or B	MA MCP CT RCP	Relinquished by Commercial Carrier: UPS _____ FedEx _____ Other <input checked="" type="checkbox"/>
		Temperature upon receipt <u>4.6-5.2°C</u>

Environmental Analysis Request/Chain of Custody



Lancaster Laboratories Environmental

For Eurofins Lancaster Laboratories Environmental use only

Acct. # 4549 Group # 1882343 Sample # 9348256-84

COC # 539165

Client Information				Matrix				Analysis Requested										For Lab Use Only					
Client: <u>Brightfields, Inc.</u>		Acct. #:		<input type="checkbox"/> Tissue <input checked="" type="checkbox"/> Sediment <input type="checkbox"/> Potable Water <input type="checkbox"/> NPDES <input type="checkbox"/> Other:		<input checked="" type="checkbox"/> Ground <input type="checkbox"/> Surface		Preservation Codes H=HCl T=Thiosulfate N=HNO ₃ B=NaOH S=H ₂ SO ₄ O=Other										FSC: _____					
Project Name/#: <u>Rinehart EM, Inc.</u>		PWSID #:						Total # of Containers <u>VOCS (PADEP Sheet 4th)</u> <u>PPL Metals</u> <u>pH</u> <u>Albs</u>										SCR#: _____					
Project Manager: <u>Victoria Bisbing</u>		P.O. #:		Grab <input type="checkbox"/> Composite <input type="checkbox"/>		State where samples were collected: <u>Pennsylvania</u>												For Compliance: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		Remarks <u>3 of 3</u>			
Sampler: <u>James Thompson</u>		Quote #:																					
Sample Identification		Collected		Grab	Composite	Soil	Water	Other	Total # of Containers	Analysis Requested													
		Date	Time																				
<u>REI-6P08-5001</u>		<u>12/1/17</u>	<u>1345</u>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			<u>2</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										
<u>REI-6P08-5002</u>			<u>1350</u>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			<u>2</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										
<u>REI-6P08-5301</u>			<u>1400</u>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			<u>3</u>	<input checked="" type="checkbox"/>													
<u>REI-6P08-5301</u>			<u>1405</u>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<u>4</u>	<input checked="" type="checkbox"/>													

Turnaround Time (TAT) Requested (please circle) Standard <input checked="" type="radio"/> Rush <input type="radio"/> (Rush TAT is subject to laboratory approval and surcharge.) Date results are needed: _____ E-mail address: _____	Relinquished by: <u>[Signature]</u>	Date: <u>12/4/17</u>	Time: <u>1450</u>	Received by: <u>[Signature]</u>	Date: <u>12/4/17</u>	Time: <u>1450</u>
	Relinquished by: _____	Date: _____	Time: _____	Received by: _____	Date: _____	Time: _____
	Relinquished by: _____	Date: _____	Time: _____	Received by: _____	Date: _____	Time: _____
	Relinquished by: _____	Date: _____	Time: _____	Received by: _____	Date: _____	Time: _____
	Relinquished by: _____	Date: _____	Time: _____	Received by: _____	Date: <u>12/4/17</u>	Time: <u>1725</u>

Data Package Options (circle if required)		
Type I (EPA Level 3 Equivalent/non-CLP)	Type VI (Raw Data Only)	
Type III (Reduced non-CLP)	NJ DKQP	TX TRRP-13
NYSDEC Category A or B	MA MCP	CT RCP

EDD Required? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, format: _____	Relinquished by Commercial Carrier: UPS _____ FedEx _____ Other <input checked="" type="checkbox"/>
Site-Specific QC (MS/MSD/Dup)? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> (If yes, indicate QC sample and submit triplicate sample volume.)	Temperature upon receipt <u>4.6-5.2°C</u>



Client: BRIGHTFIELDS, INC

RINEHART EM, INC

Delivery and Receipt Information

Delivery Method:	<u>ELLE Courier</u>	Arrival Timestamp:	<u>12/04/2017 17:25</u>
Number of Packages:	<u>3</u>	Number of Projects:	<u>1</u>
State/Province of Origin:	<u>PA</u>		

Arrival Condition Summary

Shipping Container Sealed:	No	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace \geq 6mm:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	7
Paperwork Enclosed:	Yes	Trip Blank Type:	See Below
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Trip Blank Type(s): HCL(4); 5ml (1); 5ml Sodium Bisulfate (2)

Unpacked by Ruth Shank (12390) at 06:18 on 12/05/2017

Samples Chilled Details: RINEHART EM, INC

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT42-03	5.2	DT	Wet	Y	Bagged	N
2	DT42-03	5.3	DT	Wet	Y	Bagged	N
3	DT42-03	4.6	DT	Wet	Y	Bagged	N

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	mg	milligram(s)
C	degrees Celsius	mL	milliliter(s)
cfu	colony forming units	MPN	Most Probable Number
CP Units	cobalt-chloroplatinate units	N.D.	non-detect
F	degrees Fahrenheit	ng	nanogram(s)
g	gram(s)	NTU	nephelometric turbidity units
IU	International Units	pg/L	picogram/liter
kg	kilogram(s)	RL	Reporting Limit
L	liter(s)	TNTC	Too Numerous To Count
lb.	pound(s)	µg	microgram(s)
m3	cubic meter(s)	µL	microliter(s)
meq	milliequivalents	umhos/cm	micromhos/cm
<	less than		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
J (or G, I, X)	Estimated value \geq the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report
B	Detection in the Blank
Q0	LCS/LCSD Low
Q1	LCS/LCSD High
Q2	MS/MSD Low
Q3	MS/MSD High
Q7	LCS/LCSD RPD
Q8	DUP RPD
Q9	MS/MSD RPD

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Appendix E.9

Eurofins Analytical Data Packages

Perfection Shoe Machinery Company



ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Brightfields, Inc.
801 Industrial St.
Suite 1
Wilmington DE 19801

Report Date: December 27, 2018 15:06

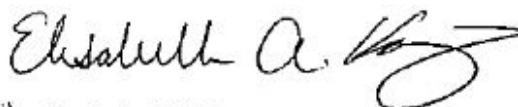
Project: I-80 Perfection Shoe Company

Account #: 04549
Group Number: 2015485
PO Number: 15380
State of Sample Origin: PA

Electronic Copy To Brightfields, Inc.
Electronic Copy To Brightfields, Inc.

Attn: Victoria Bisbing
Attn: James Thompson

Respectfully Submitted,



Elisabeth A. Knisley
Project Manager

(717) 556-7262

To view our laboratory's current scopes of accreditation please go to <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/>. Historical copies may be requested through your project manager.



SAMPLE INFORMATION

<u>Client Sample Description</u>	<u>Sample Collection Date/Time</u>	<u>ELLE#</u>
PSC-GP01-S001 Composite Soil	12/03/2018 10:10	9925816
PSC-GP01-S002 Composite Soil	12/03/2018 10:20	9925817
PSC-GP02-S001 Composite Soil	12/03/2018 10:30	9925818
PSC-GP02-S002 Composite Soil	12/03/2018 10:40	9925819
PSC-GP03-S001 Composite Soil	12/03/2018 11:00	9925820
PSC-GP03-S001 MS Composite Soil	12/03/2018 11:00	9925821
PSC-GP03-S001 MSD Composite Soil	12/03/2018 11:00	9925822
PSC-GP03-S001 DUP Composite Soil	12/03/2018 11:00	9925823
PSC-GP03-S002 Composite Soil	12/03/2018 11:15	9925824
PSC-GP04-S001 Composite Soil	12/03/2018 11:30	9925825
PSC-GP04-S002 Composite Soil	12/03/2018 11:40	9925826
PSC-GP05-S001 Composite Soil	12/03/2018 11:50	9925827
PSC-GP05-S101 Composite Soil	12/03/2018 11:51	9925828
PSC-GP05-S002 Composite Soil	12/03/2018 12:00	9925829
PSC-GP06-S001 Composite Soil	12/03/2018 12:05	9925830
PSC-GP06-S002 Composite Soil	12/03/2018 12:10	9925831
PSC-GP06-S201 Grab Water	12/03/2018 14:00	9925832
PSC-GP06-S301 Water	12/03/2018 13:56	9925833

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Sample Description: PSC-GP01-S001 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925816
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 10:10

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Acetone	67-64-1	0.14	0.009	0.030	1.23
10237	Benzene	71-43-2	0.001 J	0.0006	0.008	1.23
10237	Bromodichloromethane	75-27-4	N.D.	0.0005	0.008	1.23
10237	Bromoform	75-25-2	N.D.	0.006	0.015	1.23
10237	Bromomethane	74-83-9	N.D.	0.001	0.008	1.23
10237	2-Butanone	78-93-3	0.004 J	0.002	0.015	1.23
10237	Carbon Disulfide	75-15-0	0.088	0.0006	0.008	1.23
10237	Carbon Tetrachloride	56-23-5	N.D.	0.0008	0.008	1.23
10237	Chlorobenzene	108-90-7	N.D.	0.0006	0.008	1.23
10237	Chloroethane	75-00-3	N.D.	0.003	0.008	1.23
10237	Chloroform	67-66-3	N.D.	0.0006	0.008	1.23
10237	Chloromethane	74-87-3	N.D.	0.0008	0.008	1.23
10237	Cyclohexane	110-82-7	N.D.	0.0008	0.008	1.23
10237	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.0005	0.008	1.23
10237	Dibromochloromethane	124-48-1	N.D.	0.005	0.012	1.23
10237	1,2-Dibromoethane	106-93-4	N.D.	0.0005	0.008	1.23
10237	1,2-Dichlorobenzene	95-50-1	N.D.	0.0006	0.008	1.23
10237	1,3-Dichlorobenzene	541-73-1	N.D.	0.0006	0.008	1.23
10237	1,4-Dichlorobenzene	106-46-7	N.D.	0.0006	0.008	1.23
10237	Dichlorodifluoromethane	75-71-8	N.D.	0.0006	0.008	1.23
10237	1,1-Dichloroethane	75-34-3	N.D.	0.0006	0.008	1.23
10237	1,2-Dichloroethane	107-06-2	N.D.	0.0005	0.008	1.23
10237	1,1-Dichloroethene	75-35-4	N.D.	0.0006	0.008	1.23
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.0008	0.008	1.23
10237	trans-1,2-Dichloroethene	156-60-5	N.D.	0.0006	0.008	1.23
10237	1,2-Dichloropropane	78-87-5	N.D.	0.0006	0.008	1.23
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.0006	0.008	1.23
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.0005	0.008	1.23
10237	Ethylbenzene	100-41-4	N.D.	0.0006	0.008	1.23
10237	Freon 113	76-13-1	N.D.	0.0006	0.015	1.23
10237	2-Hexanone	591-78-6	N.D.	0.002	0.015	1.23
10237	Isopropylbenzene	98-82-8	N.D.	0.0008	0.008	1.23
10237	Methyl Acetate	79-20-9	N.D.	0.002	0.008	1.23
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0008	0.008	1.23
10237	4-Methyl-2-pentanone	108-10-1	N.D.	0.002	0.015	1.23
10237	Methylcyclohexane	108-87-2	N.D.	0.0009	0.008	1.23
10237	Methylene Chloride	75-09-2	N.D.	0.002	0.008	1.23
10237	Styrene	100-42-5	N.D.	0.0006	0.008	1.23
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.0005	0.008	1.23
10237	Tetrachloroethene	127-18-4	N.D.	0.0008	0.008	1.23
10237	Toluene	108-88-3	0.0006 J	0.0005	0.008	1.23
10237	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.001	0.008	1.23

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP01-S001 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925816
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 10:10

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	1,1,1-Trichloroethane	71-55-6	N.D.	0.0006	0.008	1.23
10237	1,1,2-Trichloroethane	79-00-5	N.D.	0.0005	0.008	1.23
10237	Trichloroethene	79-01-6	N.D.	0.0006	0.008	1.23
10237	Trichlorofluoromethane	75-69-4	N.D.	0.0009	0.008	1.23
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.0009	0.008	1.23
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.0008	0.008	1.23
10237	Vinyl Chloride	75-01-4	N.D.	0.0008	0.008	1.23
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.008	1.23

The recovery for the sample internal standard is outside the QC acceptance limits. The following action was taken: The sample was re-analyzed and the QC is again outside of the acceptance limits, indicating a matrix effect. The data is reported from the initial trial.

GC/MS Semivolatiles	SW-846 8270C	ug/kg	ug/kg	ug/kg		
10727	Acenaphthene	83-32-9	N.D.	4	20	1
10727	Acenaphthylene	208-96-8	6 J	4	20	1
10727	Acetophenone	98-86-2	N.D.	29	61	1
10727	Anthracene	120-12-7	6 J	4	20	1
10727	Atrazine	1912-24-9	N.D.	41	200	1
10727	Benzaldehyde	100-52-7	N.D.	82	200	1
10727	Benzo(a)anthracene	56-55-3	19 J	4	20	1
10727	Benzo(a)pyrene	50-32-8	17 J	8	20	1
10727	Benzo(b)fluoranthene	205-99-2	36	4	20	1
10727	Benzo(g,h,i)perylene	191-24-2	13 J	8	20	1
10727	Benzo(k)fluoranthene	207-08-9	12 J	4	20	1
10727	1,1'-Biphenyl	92-52-4	N.D.	20	45	1
10727	4-Bromophenyl-phenylether	101-55-3	N.D.	25	61	1
10727	Butylbenzylphthalate	85-68-7	N.D.	82	200	1
10727	Di-n-butylphthalate	84-74-2	N.D.	82	200	1
10727	Caprolactam	105-60-2	N.D.	41	200	1
10727	Carbazole	86-74-8	N.D.	20	45	1
10727	4-Chloro-3-methylphenol	59-50-7	N.D.	20	45	1
10727	4-Chloroaniline	106-47-8	N.D.	41	200	1
10727	bis(2-Chloroethoxy)methane	111-91-1	N.D.	20	45	1
10727	bis(2-Chloroethyl)ether	111-44-4	N.D.	29	61	1
10727	2-Chloronaphthalene	91-58-7	N.D.	8	41	1
10727	2-Chlorophenol	95-57-8	N.D.	20	45	1
10727	4-Chlorophenyl-phenylether	7005-72-3	N.D.	20	45	1
10727	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	20	45	1
Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.						
10727	Chrysene	218-01-9	40	4	21	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP01-S001 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925816
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 10:10

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles SW-846 8270C			ug/kg	ug/kg	ug/kg	
10727	Dibenz(a,h)anthracene	53-70-3	7 J	4	20	1
10727	Dibenzofuran	132-64-9	N.D.	20	45	1
10727	3,3'-Dichlorobenzidine	91-94-1	N.D.	120	410	1
10727	2,4-Dichlorophenol	120-83-2	N.D.	20	45	1
10727	Diethylphthalate	84-66-2	N.D.	82	200	1
10727	2,4-Dimethylphenol	105-67-9	N.D.	20	45	1
10727	Dimethylphthalate	131-11-3	N.D.	82	200	1
10727	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	200	610	1
10727	2,4-Dinitrophenol	51-28-5	N.D.	450	1,200	1
10727	2,4-Dinitrotoluene	121-14-2	N.D.	82	200	1
10727	2,6-Dinitrotoluene	606-20-2	N.D.	25	61	1
10727	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	82	200	1
10727	Fluoranthene	206-44-0	35	4	20	1
10727	Fluorene	86-73-7	N.D.	4	20	1
10727	Hexachlorobenzene	118-74-1	N.D.	4	20	1
10727	Hexachlorobutadiene	87-68-3	N.D.	25	61	1
10727	Hexachlorocyclopentadiene	77-47-4	N.D.	200	610	1
10727	Hexachloroethane	67-72-1	N.D.	41	200	1
10727	Indeno(1,2,3-cd)pyrene	193-39-5	10 J	8	20	1
10727	Isophorone	78-59-1	N.D.	20	45	1
10727	2-Methylnaphthalene	91-57-6	13 J	12	41	1
10727	2-Methylphenol	95-48-7	N.D.	33	82	1
10727	4-Methylphenol	106-44-5	N.D.	25	61	1
3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.						
10727	Naphthalene	91-20-3	15 J	8	21	1
10727	2-Nitroaniline	88-74-4	N.D.	25	61	1
10727	3-Nitroaniline	99-09-2	N.D.	82	200	1
10727	4-Nitroaniline	100-01-6	N.D.	82	200	1
10727	Nitrobenzene	98-95-3	N.D.	33	82	1
10727	2-Nitrophenol	88-75-5	N.D.	20	45	1
10727	4-Nitrophenol	100-02-7	N.D.	200	610	1
10727	N-Nitroso-di-n-propylamine	621-64-7	N.D.	25	61	1
10727	N-Nitrosodiphenylamine	86-30-6	N.D.	20	45	1
N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.						
10727	Di-n-octylphthalate	117-84-0	N.D.	82	200	1
10727	Pentachlorophenol	87-86-5	N.D.	45	200	1
10727	Phenanthrene	85-01-8	28	4	20	1
10727	Phenol	108-95-2	N.D.	29	61	1
10727	Pyrene	129-00-0	35	4	20	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP01-S001 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925816
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 10:10

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles			SW-846 8270C	ug/kg	ug/kg	
10727	2,4,5-Trichlorophenol	95-95-4	N.D.	25	61	1
10727	2,4,6-Trichlorophenol	88-06-2	N.D.	25	61	1
PCBs			SW-846 8082	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D. D1	4.4	21	1
10736	PCB-1221	11104-28-2	N.D. D1	5.7	21	1
10736	PCB-1232	11141-16-5	N.D. D1	9.8	21	1
10736	PCB-1242	53469-21-9	N.D. D1	4.1	21	1
10736	PCB-1248	12672-29-6	N.D. D1	4.1	21	1
10736	PCB-1254	11097-69-1	N.D. D1	4.1	21	1
10736	PCB-1260	11096-82-5	N.D. D1	6.0	21	1
Metals			SW-846 6010B	mg/kg	mg/kg	
06944	Antimony	7440-36-0	N.D.	2.00	5.89	1
06935	Arsenic	7440-38-2	8.61	1.41	5.89	1
06947	Beryllium	7440-41-7	0.868	0.118	0.589	1
06949	Cadmium	7440-43-9	N.D.	0.118	0.589	1
06951	Chromium	7440-47-3	26.4	0.248	1.77	1
06953	Copper	7440-50-8	28.6	0.589	2.36	1
06955	Lead	7439-92-1	22.7	0.707	1.77	1
06961	Nickel	7440-02-0	38.0	0.248	1.18	1
06936	Selenium	7782-49-2	5.69 J	1.77	5.89	1
06966	Silver	7440-22-4	0.614 J	0.471	1.18	1
06925	Thallium	7440-28-0	1.39 J	1.06	3.54	1
06972	Zinc	7440-66-6	150 B	0.471	2.36	1
			SW-846 7471A	mg/kg	mg/kg	
00159	Mercury	7439-97-6	N.D.	0.0362	0.0774	1
Wet Chemistry			SM 2540 G-2011	%	%	
			%Moisture Calc			
00111	Moisture ¹	n.a.	19.2	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

¹ = This analyte was not on the laboratory's PA DEP Scope of Accreditation at the time of analysis.

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP01-S001 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925816
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 10:10

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	X183421AA	12/08/2018 18:47	Stephen C Nolte	1.23
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201834052105	12/03/2018 10:10	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201834052105	12/03/2018 10:10	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201834052105	12/03/2018 10:10	Client Supplied	1
10727	TCL 8270 (microwave)	SW-846 8270C	1	18346SLC026	12/13/2018 16:13	Linda M Hartenstine	1
10809	BNA Soil Microwave	SW-846 3546	2	18346SLC026	12/12/2018 17:00	Elizabeth E Donovan	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	183410024A	12/09/2018 19:37	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	183410024A	12/07/2018 16:15	Elizabeth E Donovan	1
06944	Antimony	SW-846 6010B	1	183410570801	12/12/2018 07:04	Eric L Eby	1
06935	Arsenic	SW-846 6010B	1	183410570801	12/12/2018 07:04	Eric L Eby	1
06947	Beryllium	SW-846 6010B	1	183410570801	12/12/2018 07:04	Eric L Eby	1
06949	Cadmium	SW-846 6010B	1	183410570801	12/12/2018 07:04	Eric L Eby	1
06951	Chromium	SW-846 6010B	1	183410570801	12/12/2018 07:04	Eric L Eby	1
06953	Copper	SW-846 6010B	1	183410570801	12/12/2018 07:04	Eric L Eby	1
06955	Lead	SW-846 6010B	1	183410570801	12/12/2018 07:04	Eric L Eby	1
06961	Nickel	SW-846 6010B	1	183410570801	12/12/2018 07:04	Eric L Eby	1
06936	Selenium	SW-846 6010B	1	183410570801	12/12/2018 07:04	Eric L Eby	1
06966	Silver	SW-846 6010B	1	183410570801	12/12/2018 07:04	Eric L Eby	1
06925	Thallium	SW-846 6010B	1	183410570801	12/12/2018 07:04	Eric L Eby	1
06972	Zinc	SW-846 6010B	1	183410570801	12/12/2018 07:04	Eric L Eby	1
00159	Mercury	SW-846 7471A	1	183410571101	12/10/2018 12:19	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	183410570801	12/10/2018 07:35	Denise L Trimby	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	183410571101	12/10/2018 10:00	Denise L Trimby	1
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	18345820004A	12/11/2018 11:31	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP01-S002 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925817
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 10:20

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
		SW-846 8260B				
10237	Acetone	67-64-1	0.014 J	0.005	0.018	0.84
10237	Benzene	71-43-2	N.D.	0.0004	0.005	0.84
10237	Bromodichloromethane	75-27-4	N.D.	0.0003	0.005	0.84
10237	Bromoform	75-25-2	N.D.	0.004	0.009	0.84
10237	Bromomethane	74-83-9	N.D.	0.0007	0.005	0.84
10237	2-Butanone	78-93-3	N.D.	0.0009	0.009	0.84
10237	Carbon Disulfide	75-15-0	N.D.	0.0004	0.005	0.84
10237	Carbon Tetrachloride	56-23-5	N.D.	0.0005	0.005	0.84
10237	Chlorobenzene	108-90-7	N.D.	0.0004	0.005	0.84
10237	Chloroethane	75-00-3	N.D.	0.002	0.005	0.84
10237	Chloroform	67-66-3	N.D.	0.0004	0.005	0.84
10237	Chloromethane	74-87-3	N.D.	0.0005	0.005	0.84
10237	Cyclohexane	110-82-7	N.D.	0.0005	0.005	0.84
10237	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.0003	0.005	0.84
10237	Dibromochloromethane	124-48-1	N.D.	0.003	0.007	0.84
10237	1,2-Dibromoethane	106-93-4	N.D.	0.0003	0.005	0.84
10237	1,2-Dichlorobenzene	95-50-1	N.D.	0.0004	0.005	0.84
10237	1,3-Dichlorobenzene	541-73-1	N.D.	0.0004	0.005	0.84
10237	1,4-Dichlorobenzene	106-46-7	N.D.	0.0004	0.005	0.84
10237	Dichlorodifluoromethane	75-71-8	N.D.	0.0004	0.005	0.84
10237	1,1-Dichloroethane	75-34-3	N.D.	0.0004	0.005	0.84
10237	1,2-Dichloroethane	107-06-2	N.D.	0.0003	0.005	0.84
10237	1,1-Dichloroethene	75-35-4	N.D.	0.0004	0.005	0.84
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.0005	0.005	0.84
10237	trans-1,2-Dichloroethene	156-60-5	N.D.	0.0004	0.005	0.84
10237	1,2-Dichloropropane	78-87-5	N.D.	0.0004	0.005	0.84
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.0004	0.005	0.84
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.0003	0.005	0.84
10237	Ethylbenzene	100-41-4	N.D.	0.0004	0.005	0.84
10237	Freon 113	76-13-1	N.D.	0.0004	0.009	0.84
10237	2-Hexanone	591-78-6	N.D.	0.0009	0.009	0.84
10237	Isopropylbenzene	98-82-8	N.D.	0.0005	0.005	0.84
10237	Methyl Acetate	79-20-9	N.D.	0.0009	0.005	0.84
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	0.84
10237	4-Methyl-2-pentanone	108-10-1	N.D.	0.0009	0.009	0.84
10237	Methylcyclohexane	108-87-2	N.D.	0.0005	0.005	0.84
10237	Methylene Chloride	75-09-2	N.D.	0.0009	0.005	0.84
10237	Styrene	100-42-5	N.D.	0.0004	0.005	0.84
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.0003	0.005	0.84
10237	Tetrachloroethene	127-18-4	N.D.	0.0005	0.005	0.84
10237	Toluene	108-88-3	N.D.	0.0003	0.005	0.84
10237	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.0007	0.005	0.84

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP01-S002 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925817
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 10:20

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	1,1,1-Trichloroethane	71-55-6	N.D.	0.0004	0.005	0.84
10237	1,1,2-Trichloroethane	79-00-5	N.D.	0.0003	0.005	0.84
10237	Trichloroethene	79-01-6	N.D.	0.0004	0.005	0.84
10237	Trichlorofluoromethane	75-69-4	N.D.	0.0005	0.005	0.84
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.0005	0.005	0.84
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.0005	0.005	0.84
10237	Vinyl Chloride	75-01-4	N.D.	0.0005	0.005	0.84
10237	Xylene (Total)	1330-20-7	N.D.	0.0008	0.005	0.84
GC/MS Semivolatiles			SW-846 8270C	ug/kg	ug/kg	
10727	Acenaphthene	83-32-9	N.D.	4	18	1
10727	Acenaphthylene	208-96-8	N.D.	4	18	1
10727	Acetophenone	98-86-2	N.D.	25	53	1
10727	Anthracene	120-12-7	N.D.	4	18	1
10727	Atrazine	1912-24-9	N.D.	35	180	1
10727	Benzaldehyde	100-52-7	N.D.	71	180	1
10727	Benzo(a)anthracene	56-55-3	N.D.	4	18	1
10727	Benzo(a)pyrene	50-32-8	N.D.	7	18	1
10727	Benzo(b)fluoranthene	205-99-2	4 J	4	18	1
10727	Benzo(g,h,i)perylene	191-24-2	N.D.	7	18	1
10727	Benzo(k)fluoranthene	207-08-9	N.D.	4	18	1
10727	1,1'-Biphenyl	92-52-4	N.D.	18	39	1
10727	4-Bromophenyl-phenylether	101-55-3	N.D.	21	53	1
10727	Butylbenzylphthalate	85-68-7	N.D.	71	180	1
10727	Di-n-butylphthalate	84-74-2	N.D.	71	180	1
10727	Caprolactam	105-60-2	N.D.	35	180	1
10727	Carbazole	86-74-8	N.D.	18	39	1
10727	4-Chloro-3-methylphenol	59-50-7	N.D.	18	39	1
10727	4-Chloroaniline	106-47-8	N.D.	35	180	1
10727	bis(2-Chloroethoxy)methane	111-91-1	N.D.	18	39	1
10727	bis(2-Chloroethyl)ether	111-44-4	N.D.	25	53	1
10727	2-Chloronaphthalene	91-58-7	N.D.	7	35	1
10727	2-Chlorophenol	95-57-8	N.D.	18	39	1
10727	4-Chlorophenyl-phenylether	7005-72-3	N.D.	18	39	1
10727	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	18	39	1
Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.						
10727	Chrysene	218-01-9	N.D.	4	18	1
10727	Dibenz(a,h)anthracene	53-70-3	N.D.	4	18	1
10727	Dibenzofuran	132-64-9	N.D.	18	39	1
10727	3,3'-Dichlorobenzidine	91-94-1	N.D.	110	350	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP01-S002 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925817
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 10:20

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles		SW-846 8270C	ug/kg	ug/kg	ug/kg	
10727	2,4-Dichlorophenol	120-83-2	N.D.	18	39	1
10727	Diethylphthalate	84-66-2	N.D.	71	180	1
10727	2,4-Dimethylphenol	105-67-9	N.D.	18	39	1
10727	Dimethylphthalate	131-11-3	N.D.	71	180	1
10727	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	180	530	1
10727	2,4-Dinitrophenol	51-28-5	N.D.	390	1,100	1
10727	2,4-Dinitrotoluene	121-14-2	N.D.	71	180	1
10727	2,6-Dinitrotoluene	606-20-2	N.D.	21	53	1
10727	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	71	180	1
10727	Fluoranthene	206-44-0	4 J	4	18	1
10727	Fluorene	86-73-7	N.D.	4	18	1
10727	Hexachlorobenzene	118-74-1	N.D.	4	18	1
10727	Hexachlorobutadiene	87-68-3	N.D.	21	53	1
10727	Hexachlorocyclopentadiene	77-47-4	N.D.	180	530	1
10727	Hexachloroethane	67-72-1	N.D.	35	180	1
10727	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	7	18	1
10727	Isophorone	78-59-1	N.D.	18	39	1
10727	2-Methylnaphthalene	91-57-6	N.D.	11	35	1
10727	2-Methylphenol	95-48-7	N.D.	28	71	1
10727	4-Methylphenol	106-44-5	N.D.	21	53	1
3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.						
10727	Naphthalene	91-20-3	N.D.	7	18	1
10727	2-Nitroaniline	88-74-4	N.D.	21	53	1
10727	3-Nitroaniline	99-09-2	N.D.	71	180	1
10727	4-Nitroaniline	100-01-6	N.D.	71	180	1
10727	Nitrobenzene	98-95-3	N.D.	28	71	1
10727	2-Nitrophenol	88-75-5	N.D.	18	39	1
10727	4-Nitrophenol	100-02-7	N.D.	180	530	1
10727	N-Nitroso-di-n-propylamine	621-64-7	N.D.	21	53	1
10727	N-Nitrosodiphenylamine	86-30-6	N.D.	18	39	1
N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.						
10727	Di-n-octylphthalate	117-84-0	N.D.	71	180	1
10727	Pentachlorophenol	87-86-5	N.D.	39	180	1
10727	Phenanthrene	85-01-8	6 J	4	18	1
10727	Phenol	108-95-2	N.D.	25	53	1
10727	Pyrene	129-00-0	N.D.	4	18	1
10727	2,4,5-Trichlorophenol	95-95-4	N.D.	21	53	1
10727	2,4,6-Trichlorophenol	88-06-2	N.D.	21	53	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP01-S002 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925817
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 10:20

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
PCBs			SW-846 8082	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D. D1	3.9	18	1
10736	PCB-1221	11104-28-2	N.D. D1	4.9	18	1
10736	PCB-1232	11141-16-5	N.D. D1	8.6	18	1
10736	PCB-1242	53469-21-9	N.D. D1	3.5	18	1
10736	PCB-1248	12672-29-6	N.D. D1	3.5	18	1
10736	PCB-1254	11097-69-1	N.D. D1	3.5	18	1
10736	PCB-1260	11096-82-5	N.D. D1	5.2	18	1
Metals			SW-846 6010B	mg/kg	mg/kg	
06944	Antimony	7440-36-0	N.D.	1.32	3.88	1
06935	Arsenic	7440-38-2	3.74 J	0.932	3.88	1
06947	Beryllium	7440-41-7	0.715	0.0777	0.388	1
06949	Cadmium	7440-43-9	N.D.	0.0777	0.388	1
06951	Chromium	7440-47-3	20.8	0.163	1.17	1
06953	Copper	7440-50-8	17.9	0.388	1.55	1
06955	Lead	7439-92-1	11.7	0.466	1.17	1
06961	Nickel	7440-02-0	28.8	0.163	0.777	1
06936	Selenium	7782-49-2	3.30 J	1.17	3.88	1
06966	Silver	7440-22-4	0.311 J	0.311	0.777	1
06925	Thallium	7440-28-0	N.D.	0.699	2.33	1
06972	Zinc	7440-66-6	76.6 B	0.311	1.55	1
00159	Mercury	7439-97-6	N.D.	0.0323	0.0691	1
Wet Chemistry			SM 2540 G-2011	%	%	
00111	Moisture ¹	n.a.	6.7	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

¹ = This analyte was not on the laboratory's PA DEP Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	X183421AA	12/08/2018 19:10	Stephen C Nolte	0.84

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP01-S002 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925817
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 10:20

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201834052105	12/03/2018 10:20	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201834052105	12/03/2018 10:20	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201834052105	12/03/2018 10:20	Client Supplied	1
10727	TCL 8270 (microwave)	SW-846 8270C	1	18346SLC026	12/13/2018 16:35	Linda M Hartenstine	1
10809	BNA Soil Microwave	SW-846 3546	2	18346SLC026	12/12/2018 17:00	Elizabeth E Donovan	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	183410024A	12/09/2018 19:47	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	183410024A	12/07/2018 16:15	Elizabeth E Donovan	1
06944	Antimony	SW-846 6010B	1	183410570801	12/12/2018 07:07	Eric L Eby	1
06935	Arsenic	SW-846 6010B	1	183410570801	12/12/2018 07:07	Eric L Eby	1
06947	Beryllium	SW-846 6010B	1	183410570801	12/12/2018 07:07	Eric L Eby	1
06949	Cadmium	SW-846 6010B	1	183410570801	12/12/2018 07:07	Eric L Eby	1
06951	Chromium	SW-846 6010B	1	183410570801	12/12/2018 07:07	Eric L Eby	1
06953	Copper	SW-846 6010B	1	183410570801	12/12/2018 07:07	Eric L Eby	1
06955	Lead	SW-846 6010B	1	183410570801	12/12/2018 07:07	Eric L Eby	1
06961	Nickel	SW-846 6010B	1	183410570801	12/12/2018 07:07	Eric L Eby	1
06936	Selenium	SW-846 6010B	1	183410570801	12/12/2018 07:07	Eric L Eby	1
06966	Silver	SW-846 6010B	1	183410570801	12/12/2018 07:07	Eric L Eby	1
06925	Thallium	SW-846 6010B	1	183410570801	12/12/2018 07:07	Eric L Eby	1
06972	Zinc	SW-846 6010B	1	183410570801	12/12/2018 07:07	Eric L Eby	1
00159	Mercury	SW-846 7471A	1	183410571101	12/10/2018 12:21	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	183410570801	12/10/2018 07:35	Denise L Trimby	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	183410571101	12/10/2018 10:00	Denise L Trimby	1
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	18345820004A	12/11/2018 11:31	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP02-S001 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925818
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 10:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Acetone	67-64-1	0.29	0.007	0.024	0.81
10237	Benzene	71-43-2	N.D.	0.0005	0.006	0.81
10237	Bromodichloromethane	75-27-4	N.D.	0.0004	0.006	0.81
10237	Bromoform	75-25-2	N.D.	0.005	0.012	0.81
10237	Bromomethane	74-83-9	N.D.	0.0009	0.006	0.81
10237	2-Butanone	78-93-3	0.022	0.001	0.012	0.81
10237	Carbon Disulfide	75-15-0	0.003 J	0.0005	0.006	0.81
10237	Carbon Tetrachloride	56-23-5	N.D.	0.0006	0.006	0.81
10237	Chlorobenzene	108-90-7	N.D.	0.0005	0.006	0.81
10237	Chloroethane	75-00-3	N.D.	0.002	0.006	0.81
10237	Chloroform	67-66-3	N.D.	0.0005	0.006	0.81
10237	Chloromethane	74-87-3	N.D.	0.0006	0.006	0.81
10237	Cyclohexane	110-82-7	N.D.	0.0006	0.006	0.81
10237	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.0004	0.006	0.81
10237	Dibromochloromethane	124-48-1	N.D.	0.004	0.009	0.81
10237	1,2-Dibromoethane	106-93-4	N.D.	0.0004	0.006	0.81
10237	1,2-Dichlorobenzene	95-50-1	N.D.	0.0005	0.006	0.81
10237	1,3-Dichlorobenzene	541-73-1	N.D.	0.0005	0.006	0.81
10237	1,4-Dichlorobenzene	106-46-7	N.D.	0.0005	0.006	0.81
10237	Dichlorodifluoromethane	75-71-8	N.D.	0.0005	0.006	0.81
10237	1,1-Dichloroethane	75-34-3	N.D.	0.0005	0.006	0.81
10237	1,2-Dichloroethane	107-06-2	N.D.	0.0004	0.006	0.81
10237	1,1-Dichloroethene	75-35-4	N.D.	0.0005	0.006	0.81
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.0006	0.006	0.81
10237	trans-1,2-Dichloroethene	156-60-5	N.D.	0.0005	0.006	0.81
10237	1,2-Dichloropropane	78-87-5	N.D.	0.0005	0.006	0.81
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.0005	0.006	0.81
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.0004	0.006	0.81
10237	Ethylbenzene	100-41-4	N.D.	0.0005	0.006	0.81
10237	Freon 113	76-13-1	N.D.	0.0005	0.012	0.81
10237	2-Hexanone	591-78-6	N.D.	0.001	0.012	0.81
10237	Isopropylbenzene	98-82-8	N.D.	0.0006	0.006	0.81
10237	Methyl Acetate	79-20-9	0.003 J	0.001	0.006	0.81
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0006	0.006	0.81
10237	4-Methyl-2-pentanone	108-10-1	0.003 J	0.001	0.012	0.81
10237	Methylcyclohexane	108-87-2	N.D.	0.0007	0.006	0.81
10237	Methylene Chloride	75-09-2	N.D.	0.001	0.006	0.81
10237	Styrene	100-42-5	N.D.	0.0005	0.006	0.81
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.0004	0.006	0.81
10237	Tetrachloroethene	127-18-4	N.D.	0.0006	0.006	0.81
10237	Toluene	108-88-3	0.0007 J	0.0004	0.006	0.81
10237	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.0009	0.006	0.81

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP02-S001 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925818
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 10:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	1,1,1-Trichloroethane	71-55-6	N.D.	0.0005	0.006	0.81
10237	1,1,2-Trichloroethane	79-00-5	N.D.	0.0004	0.006	0.81
10237	Trichloroethene	79-01-6	N.D.	0.0005	0.006	0.81
10237	Trichlorofluoromethane	75-69-4	N.D.	0.0007	0.006	0.81
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.0007	0.006	0.81
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.0006	0.006	0.81
10237	Vinyl Chloride	75-01-4	N.D.	0.0006	0.006	0.81
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.006	0.81

The recovery for the sample internal standard is outside the QC acceptance limits. The following action was taken: The sample was re-analyzed and the QC is again outside of the acceptance limits, indicating a matrix effect. The data is reported from the initial trial.

GC/MS Semivolatiles	SW-846 8270C	ug/kg	ug/kg	ug/kg		
10727	Acenaphthene	83-32-9	N.D.	5	24	1
10727	Acenaphthylene	208-96-8	N.D.	5	24	1
10727	Acetophenone	98-86-2	N.D.	34	73	1
10727	Anthracene	120-12-7	N.D.	5	24	1
10727	Atrazine	1912-24-9	N.D.	49	240	1
10727	Benzaldehyde	100-52-7	N.D.	97	240	1
10727	Benzo(a)anthracene	56-55-3	16 J	5	24	1
10727	Benzo(a)pyrene	50-32-8	22 J	10	24	1
10727	Benzo(b)fluoranthene	205-99-2	38	5	24	1
10727	Benzo(g,h,i)perylene	191-24-2	26	10	24	1
10727	Benzo(k)fluoranthene	207-08-9	17 J	5	24	1
10727	1,1'-Biphenyl	92-52-4	N.D.	24	53	1
10727	4-Bromophenyl-phenylether	101-55-3	N.D.	29	73	1
10727	Butylbenzylphthalate	85-68-7	N.D.	97	240	1
10727	Di-n-butylphthalate	84-74-2	N.D.	97	240	1
10727	Caprolactam	105-60-2	N.D.	49	240	1
10727	Carbazole	86-74-8	N.D.	24	53	1
10727	4-Chloro-3-methylphenol	59-50-7	N.D.	24	53	1
10727	4-Chloroaniline	106-47-8	N.D.	49	240	1
10727	bis(2-Chloroethoxy)methane	111-91-1	N.D.	24	53	1
10727	bis(2-Chloroethyl)ether	111-44-4	N.D.	34	73	1
10727	2-Chloronaphthalene	91-58-7	N.D.	10	49	1
10727	2-Chlorophenol	95-57-8	N.D.	24	53	1
10727	4-Chlorophenyl-phenylether	7005-72-3	N.D.	24	53	1
10727	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	24	53	1
Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.						
10727	Chrysene	218-01-9	22 J	5	25	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP02-S001 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925818
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 10:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles SW-846 8270C			ug/kg	ug/kg	ug/kg	
10727	Dibenz(a,h)anthracene	53-70-3	7 J	5	24	1
10727	Dibenzofuran	132-64-9	N.D.	24	53	1
10727	3,3'-Dichlorobenzidine	91-94-1	N.D.	150	490	1
10727	2,4-Dichlorophenol	120-83-2	N.D.	24	53	1
10727	Diethylphthalate	84-66-2	N.D.	97	240	1
10727	2,4-Dimethylphenol	105-67-9	N.D.	24	53	1
10727	Dimethylphthalate	131-11-3	N.D.	97	240	1
10727	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	240	730	1
10727	2,4-Dinitrophenol	51-28-5	N.D.	530	1,500	1
10727	2,4-Dinitrotoluene	121-14-2	N.D.	97	240	1
10727	2,6-Dinitrotoluene	606-20-2	N.D.	29	73	1
10727	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	97	240	1
10727	Fluoranthene	206-44-0	28	5	24	1
10727	Fluorene	86-73-7	N.D.	5	24	1
10727	Hexachlorobenzene	118-74-1	N.D.	5	24	1
10727	Hexachlorobutadiene	87-68-3	N.D.	29	73	1
10727	Hexachlorocyclopentadiene	77-47-4	N.D.	240	730	1
10727	Hexachloroethane	67-72-1	N.D.	49	240	1
10727	Indeno(1,2,3-cd)pyrene	193-39-5	17 J	10	24	1
10727	Isophorone	78-59-1	N.D.	24	53	1
10727	2-Methylnaphthalene	91-57-6	N.D.	15	49	1
10727	2-Methylphenol	95-48-7	N.D.	39	97	1
10727	4-Methylphenol	106-44-5	N.D.	29	73	1
3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.						
10727	Naphthalene	91-20-3	33	10	25	1
10727	2-Nitroaniline	88-74-4	N.D.	29	73	1
10727	3-Nitroaniline	99-09-2	N.D.	97	240	1
10727	4-Nitroaniline	100-01-6	N.D.	97	240	1
10727	Nitrobenzene	98-95-3	N.D.	39	97	1
10727	2-Nitrophenol	88-75-5	N.D.	24	53	1
10727	4-Nitrophenol	100-02-7	N.D.	240	730	1
10727	N-Nitroso-di-n-propylamine	621-64-7	N.D.	29	73	1
10727	N-Nitrosodiphenylamine	86-30-6	N.D.	24	53	1
N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.						
10727	Di-n-octylphthalate	117-84-0	N.D.	97	240	1
10727	Pentachlorophenol	87-86-5	N.D.	53	240	1
10727	Phenanthrene	85-01-8	14 J	5	24	1
10727	Phenol	108-95-2	N.D.	34	73	1
10727	Pyrene	129-00-0	31	5	24	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP02-S001 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925818
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 10:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles			SW-846 8270C	ug/kg	ug/kg	
10727	2,4,5-Trichlorophenol	95-95-4	N.D.	29	73	1
10727	2,4,6-Trichlorophenol	88-06-2	N.D.	29	73	1
PCBs			SW-846 8082	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D. D1	5.2	25	1
10736	PCB-1221	11104-28-2	N.D. D1	6.7	25	1
10736	PCB-1232	11141-16-5	N.D. D1	12	25	1
10736	PCB-1242	53469-21-9	N.D. D1	4.8	25	1
10736	PCB-1248	12672-29-6	N.D. D1	4.8	25	1
10736	PCB-1254	11097-69-1	N.D. D1	4.8	25	1
10736	PCB-1260	11096-82-5	N.D. D1	7.1	25	1
Metals			SW-846 6010B	mg/kg	mg/kg	
06944	Antimony	7440-36-0	N.D.	1.89	5.56	1
06935	Arsenic	7440-38-2	5.19 J	1.34	5.56	1
06947	Beryllium	7440-41-7	0.802	0.111	0.556	1
06949	Cadmium	7440-43-9	N.D.	0.111	0.556	1
06951	Chromium	7440-47-3	24.9	0.234	1.67	1
06953	Copper	7440-50-8	27.4	0.556	2.23	1
06955	Lead	7439-92-1	19.2	0.668	1.67	1
06961	Nickel	7440-02-0	34.6	0.234	1.11	1
06936	Selenium	7782-49-2	4.71 J	1.67	5.56	1
06966	Silver	7440-22-4	N.D.	0.445	1.11	1
06925	Thallium	7440-28-0	1.53 J	1.00	3.34	1
06972	Zinc	7440-66-6	126 B	0.445	2.23	1
			SW-846 7471A	mg/kg	mg/kg	
00159	Mercury	7439-97-6	N.D.	0.0440	0.0940	1
Wet Chemistry			SM 2540 G-2011	%	%	
			%Moisture Calc			
00111	Moisture ¹	n.a.	31.4	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

¹ = This analyte was not on the laboratory's PA DEP Scope of Accreditation at the time of analysis.

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP02-S001 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925818
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 10:30

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	X183421AA	12/08/2018 19:33	Stephen C Nolte	0.81
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201834052105	12/03/2018 10:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201834052105	12/03/2018 10:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201834052105	12/03/2018 10:30	Client Supplied	1
10727	TCL 8270 (microwave)	SW-846 8270C	1	18346SLC026	12/13/2018 16:59	Linda M Hartenstine	1
10809	BNA Soil Microwave	SW-846 3546	2	18346SLC026	12/12/2018 17:00	Elizabeth E Donovan	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	183410024A	12/09/2018 19:57	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	183410024A	12/07/2018 16:15	Elizabeth E Donovan	1
06944	Antimony	SW-846 6010B	1	183410570801	12/12/2018 07:17	Eric L Eby	1
06935	Arsenic	SW-846 6010B	1	183410570801	12/12/2018 07:17	Eric L Eby	1
06947	Beryllium	SW-846 6010B	1	183410570801	12/12/2018 07:17	Eric L Eby	1
06949	Cadmium	SW-846 6010B	1	183410570801	12/12/2018 07:17	Eric L Eby	1
06951	Chromium	SW-846 6010B	1	183410570801	12/12/2018 07:17	Eric L Eby	1
06953	Copper	SW-846 6010B	1	183410570801	12/12/2018 07:17	Eric L Eby	1
06955	Lead	SW-846 6010B	1	183410570801	12/12/2018 07:17	Eric L Eby	1
06961	Nickel	SW-846 6010B	1	183410570801	12/12/2018 07:17	Eric L Eby	1
06936	Selenium	SW-846 6010B	1	183410570801	12/12/2018 07:17	Eric L Eby	1
06966	Silver	SW-846 6010B	1	183410570801	12/12/2018 07:17	Eric L Eby	1
06925	Thallium	SW-846 6010B	1	183410570801	12/12/2018 07:17	Eric L Eby	1
06972	Zinc	SW-846 6010B	1	183410570801	12/12/2018 07:17	Eric L Eby	1
00159	Mercury	SW-846 7471A	1	183410571101	12/10/2018 12:27	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	183410570801	12/10/2018 07:35	Denise L Trimby	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	183410571101	12/10/2018 10:00	Denise L Trimby	1
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	18345820004A	12/11/2018 11:31	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP02-S002 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925819
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 10:40

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Acetone	67-64-1	0.034	0.006	0.019	0.9
10237	Benzene	71-43-2	N.D.	0.0004	0.005	0.9
10237	Bromodichloromethane	75-27-4	N.D.	0.0003	0.005	0.9
10237	Bromoform	75-25-2	N.D.	0.004	0.01	0.9
10237	Bromomethane	74-83-9	N.D.	0.0008	0.005	0.9
10237	2-Butanone	78-93-3	0.002 J	0.001	0.01	0.9
10237	Carbon Disulfide	75-15-0	N.D.	0.0004	0.005	0.9
10237	Carbon Tetrachloride	56-23-5	N.D.	0.0005	0.005	0.9
10237	Chlorobenzene	108-90-7	N.D.	0.0004	0.005	0.9
10237	Chloroethane	75-00-3	N.D.	0.002	0.005	0.9
10237	Chloroform	67-66-3	N.D.	0.0004	0.005	0.9
10237	Chloromethane	74-87-3	N.D.	0.0005	0.005	0.9
10237	Cyclohexane	110-82-7	N.D.	0.0005	0.005	0.9
10237	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.0003	0.005	0.9
10237	Dibromochloromethane	124-48-1	N.D.	0.003	0.008	0.9
10237	1,2-Dibromoethane	106-93-4	N.D.	0.0003	0.005	0.9
10237	1,2-Dichlorobenzene	95-50-1	N.D.	0.0004	0.005	0.9
10237	1,3-Dichlorobenzene	541-73-1	N.D.	0.0004	0.005	0.9
10237	1,4-Dichlorobenzene	106-46-7	N.D.	0.0004	0.005	0.9
10237	Dichlorodifluoromethane	75-71-8	N.D.	0.0004	0.005	0.9
10237	1,1-Dichloroethane	75-34-3	N.D.	0.0004	0.005	0.9
10237	1,2-Dichloroethane	107-06-2	N.D.	0.0003	0.005	0.9
10237	1,1-Dichloroethene	75-35-4	N.D.	0.0004	0.005	0.9
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.0005	0.005	0.9
10237	trans-1,2-Dichloroethene	156-60-5	N.D.	0.0004	0.005	0.9
10237	1,2-Dichloropropane	78-87-5	N.D.	0.0004	0.005	0.9
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.0004	0.005	0.9
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.0003	0.005	0.9
10237	Ethylbenzene	100-41-4	N.D.	0.0004	0.005	0.9
10237	Freon 113	76-13-1	N.D.	0.0004	0.01	0.9
10237	2-Hexanone	591-78-6	N.D.	0.001	0.01	0.9
10237	Isopropylbenzene	98-82-8	N.D.	0.0005	0.005	0.9
10237	Methyl Acetate	79-20-9	N.D.	0.001	0.005	0.9
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	0.9
10237	4-Methyl-2-pentanone	108-10-1	N.D.	0.001	0.01	0.9
10237	Methylcyclohexane	108-87-2	N.D.	0.0006	0.005	0.9
10237	Methylene Chloride	75-09-2	N.D.	0.001	0.005	0.9
10237	Styrene	100-42-5	N.D.	0.0004	0.005	0.9
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.0003	0.005	0.9
10237	Tetrachloroethene	127-18-4	N.D.	0.0005	0.005	0.9
10237	Toluene	108-88-3	N.D.	0.0003	0.005	0.9
10237	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.0008	0.005	0.9

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP02-S002 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925819
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 10:40

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	1,1,1-Trichloroethane	71-55-6	N.D.	0.0004	0.005	0.9
10237	1,1,2-Trichloroethane	79-00-5	N.D.	0.0003	0.005	0.9
10237	Trichloroethene	79-01-6	N.D.	0.0004	0.005	0.9
10237	Trichlorofluoromethane	75-69-4	N.D.	0.0006	0.005	0.9
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.0006	0.005	0.9
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.0005	0.005	0.9
10237	Vinyl Chloride	75-01-4	N.D.	0.0005	0.005	0.9
10237	Xylene (Total)	1330-20-7	N.D.	0.0009	0.005	0.9

The recovery for the sample internal standard is outside the QC acceptance limits. The following action was taken: The sample was re-analyzed and the QC is again outside of the acceptance limits, indicating a matrix effect. The data is reported from the initial trial.

GC/MS Semivolatiles	SW-846 8270C	ug/kg	ug/kg	ug/kg		
10727	Acenaphthene	83-32-9	N.D.	4	18	1
10727	Acenaphthylene	208-96-8	N.D.	4	18	1
10727	Acetophenone	98-86-2	N.D.	25	53	1
10727	Anthracene	120-12-7	N.D.	4	18	1
10727	Atrazine	1912-24-9	N.D.	35	180	1
10727	Benzaldehyde	100-52-7	N.D.	70	180	1
10727	Benzo(a)anthracene	56-55-3	N.D.	4	18	1
10727	Benzo(a)pyrene	50-32-8	N.D.	7	18	1
10727	Benzo(b)fluoranthene	205-99-2	4 J	4	18	1
10727	Benzo(g,h,i)perylene	191-24-2	N.D.	7	18	1
10727	Benzo(k)fluoranthene	207-08-9	4 J	4	18	1
10727	1,1'-Biphenyl	92-52-4	N.D.	18	39	1
10727	4-Bromophenyl-phenylether	101-55-3	N.D.	21	53	1
10727	Butylbenzylphthalate	85-68-7	N.D.	70	180	1
10727	Di-n-butylphthalate	84-74-2	N.D.	70	180	1
10727	Caprolactam	105-60-2	N.D.	35	180	1
10727	Carbazole	86-74-8	N.D.	18	39	1
10727	4-Chloro-3-methylphenol	59-50-7	N.D.	18	39	1
10727	4-Chloroaniline	106-47-8	N.D.	35	180	1
10727	bis(2-Chloroethoxy)methane	111-91-1	N.D.	18	39	1
10727	bis(2-Chloroethyl)ether	111-44-4	N.D.	25	53	1
10727	2-Chloronaphthalene	91-58-7	N.D.	7	35	1
10727	2-Chlorophenol	95-57-8	N.D.	18	39	1
10727	4-Chlorophenyl-phenylether	7005-72-3	N.D.	18	39	1
10727	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	18	39	1
Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.						
10727	Chrysene	218-01-9	N.D.	4	18	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP02-S002 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925819
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 10:40

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles SW-846 8270C			ug/kg	ug/kg	ug/kg	
10727	Dibenz(a,h)anthracene	53-70-3	N.D.	4	18	1
10727	Dibenzofuran	132-64-9	N.D.	18	39	1
10727	3,3'-Dichlorobenzidine	91-94-1	N.D.	110	350	1
10727	2,4-Dichlorophenol	120-83-2	N.D.	18	39	1
10727	Diethylphthalate	84-66-2	N.D.	70	180	1
10727	2,4-Dimethylphenol	105-67-9	N.D.	18	39	1
10727	Dimethylphthalate	131-11-3	N.D.	70	180	1
10727	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	180	530	1
10727	2,4-Dinitrophenol	51-28-5	N.D.	390	1,100	1
10727	2,4-Dinitrotoluene	121-14-2	N.D.	70	180	1
10727	2,6-Dinitrotoluene	606-20-2	N.D.	21	53	1
10727	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	70	180	1
10727	Fluoranthene	206-44-0	N.D.	4	18	1
10727	Fluorene	86-73-7	N.D.	4	18	1
10727	Hexachlorobenzene	118-74-1	N.D.	4	18	1
10727	Hexachlorobutadiene	87-68-3	N.D.	21	53	1
10727	Hexachlorocyclopentadiene	77-47-4	N.D.	180	530	1
10727	Hexachloroethane	67-72-1	N.D.	35	180	1
10727	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	7	18	1
10727	Isophorone	78-59-1	N.D.	18	39	1
10727	2-Methylnaphthalene	91-57-6	N.D.	11	35	1
10727	2-Methylphenol	95-48-7	N.D.	28	70	1
10727	4-Methylphenol	106-44-5	N.D.	21	53	1
3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.						
10727	Naphthalene	91-20-3	N.D.	7	18	1
10727	2-Nitroaniline	88-74-4	N.D.	21	53	1
10727	3-Nitroaniline	99-09-2	N.D.	70	180	1
10727	4-Nitroaniline	100-01-6	N.D.	70	180	1
10727	Nitrobenzene	98-95-3	N.D.	28	70	1
10727	2-Nitrophenol	88-75-5	N.D.	18	39	1
10727	4-Nitrophenol	100-02-7	N.D.	180	530	1
10727	N-Nitroso-di-n-propylamine	621-64-7	N.D.	21	53	1
10727	N-Nitrosodiphenylamine	86-30-6	N.D.	18	39	1
N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.						
10727	Di-n-octylphthalate	117-84-0	N.D.	70	180	1
10727	Pentachlorophenol	87-86-5	N.D.	39	180	1
10727	Phenanthrene	85-01-8	N.D.	4	18	1
10727	Phenol	108-95-2	N.D.	25	53	1
10727	Pyrene	129-00-0	N.D.	4	18	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP02-S002 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925819
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 10:40

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles			SW-846 8270C	ug/kg	ug/kg	
10727	2,4,5-Trichlorophenol	95-95-4	N.D.	21	53	1
10727	2,4,6-Trichlorophenol	88-06-2	N.D.	21	53	1
PCBs			SW-846 8082	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D. D1	3.8	18	1
10736	PCB-1221	11104-28-2	N.D. D1	4.9	18	1
10736	PCB-1232	11141-16-5	N.D. D1	8.5	18	1
10736	PCB-1242	53469-21-9	N.D. D1	3.5	18	1
10736	PCB-1248	12672-29-6	N.D. D1	3.5	18	1
10736	PCB-1254	11097-69-1	N.D. D1	3.5	18	1
10736	PCB-1260	11096-82-5	N.D. D1	5.2	18	1
Metals			SW-846 6010B	mg/kg	mg/kg	
06944	Antimony	7440-36-0	N.D.	1.44	4.24	1
06935	Arsenic	7440-38-2	4.11 J	1.02	4.24	1
06947	Beryllium	7440-41-7	0.767	0.0848	0.424	1
06949	Cadmium	7440-43-9	N.D.	0.0848	0.424	1
06951	Chromium	7440-47-3	20.8	0.178	1.27	1
06953	Copper	7440-50-8	16.1	0.424	1.70	1
06955	Lead	7439-92-1	12.4	0.509	1.27	1
06961	Nickel	7440-02-0	34.5	0.178	0.848	1
06936	Selenium	7782-49-2	3.50 J	1.27	4.24	1
06966	Silver	7440-22-4	N.D.	0.339	0.848	1
06925	Thallium	7440-28-0	N.D.	0.763	2.54	1
06972	Zinc	7440-66-6	69.6 B	0.339	1.70	1
			SW-846 7471A	mg/kg	mg/kg	
00159	Mercury	7439-97-6	N.D.	0.0322	0.0689	1
Wet Chemistry			SM 2540 G-2011	%	%	
			%Moisture Calc			
00111	Moisture ¹	n.a.	6.4	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

¹ = This analyte was not on the laboratory's PA DEP Scope of Accreditation at the time of analysis.

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP02-S002 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925819
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 10:40

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	X183421AA	12/08/2018 19:56	Stephen C Nolte	0.9
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201834052105	12/03/2018 10:40	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201834052105	12/03/2018 10:40	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201834052105	12/03/2018 10:40	Client Supplied	1
10727	TCL 8270 (microwave)	SW-846 8270C	1	18346SLC026	12/13/2018 17:23	Linda M Hartenstine	1
10809	BNA Soil Microwave	SW-846 3546	2	18346SLC026	12/12/2018 17:00	Elizabeth E Donovan	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	183410024A	12/09/2018 20:07	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	183410024A	12/07/2018 16:15	Elizabeth E Donovan	1
06944	Antimony	SW-846 6010B	1	183410570801	12/12/2018 07:21	Eric L Eby	1
06935	Arsenic	SW-846 6010B	1	183410570801	12/12/2018 07:21	Eric L Eby	1
06947	Beryllium	SW-846 6010B	1	183410570801	12/12/2018 07:21	Eric L Eby	1
06949	Cadmium	SW-846 6010B	1	183410570801	12/12/2018 07:21	Eric L Eby	1
06951	Chromium	SW-846 6010B	1	183410570801	12/12/2018 07:21	Eric L Eby	1
06953	Copper	SW-846 6010B	1	183410570801	12/12/2018 07:21	Eric L Eby	1
06955	Lead	SW-846 6010B	1	183410570801	12/12/2018 07:21	Eric L Eby	1
06961	Nickel	SW-846 6010B	1	183410570801	12/12/2018 07:21	Eric L Eby	1
06936	Selenium	SW-846 6010B	1	183410570801	12/12/2018 07:21	Eric L Eby	1
06966	Silver	SW-846 6010B	1	183410570801	12/12/2018 07:21	Eric L Eby	1
06925	Thallium	SW-846 6010B	1	183410570801	12/12/2018 07:21	Eric L Eby	1
06972	Zinc	SW-846 6010B	1	183410570801	12/12/2018 07:21	Eric L Eby	1
00159	Mercury	SW-846 7471A	1	183410571101	12/10/2018 12:29	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	183410570801	12/10/2018 07:35	Denise L Trimby	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	183410571101	12/10/2018 10:00	Denise L Trimby	1
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	18345820004A	12/11/2018 11:31	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP03-S001 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925820
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 11:00

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	mg/kg	mg/kg	mg/kg	
10237	Acetone	67-64-1	0.22	0.006	0.021	0.85
10237	Benzene	71-43-2	N.D. Q3	0.0004	0.005	0.85
10237	Bromodichloromethane	75-27-4	N.D.	0.0003	0.005	0.85
10237	Bromoform	75-25-2	N.D.	0.004	0.011	0.85
10237	Bromomethane	74-83-9	N.D.	0.0008	0.005	0.85
10237	2-Butanone	78-93-3	0.016 Q3	0.001	0.011	0.85
10237	Carbon Disulfide	75-15-0	N.D.	0.0004	0.005	0.85
10237	Carbon Tetrachloride	56-23-5	N.D.	0.0005	0.005	0.85
10237	Chlorobenzene	108-90-7	N.D. Q3	0.0004	0.005	0.85
10237	Chloroethane	75-00-3	N.D.	0.002	0.005	0.85
10237	Chloroform	67-66-3	N.D. Q3	0.0004	0.005	0.85
10237	Chloromethane	74-87-3	N.D.	0.0005	0.005	0.85
10237	Cyclohexane	110-82-7	N.D. Q3	0.0005	0.005	0.85
10237	1,2-Dibromo-3-chloropropane	96-12-8	N.D. Q3	0.0003	0.005	0.85
10237	Dibromochloromethane	124-48-1	N.D. Q3	0.003	0.008	0.85
10237	1,2-Dibromoethane	106-93-4	N.D. Q3	0.0003	0.005	0.85
10237	1,2-Dichlorobenzene	95-50-1	N.D.	0.0004	0.005	0.85
10237	1,3-Dichlorobenzene	541-73-1	N.D. Q3	0.0004	0.005	0.85
10237	1,4-Dichlorobenzene	106-46-7	N.D. Q3	0.0004	0.005	0.85
10237	Dichlorodifluoromethane	75-71-8	N.D.	0.0004	0.005	0.85
10237	1,1-Dichloroethane	75-34-3	N.D. Q3	0.0004	0.005	0.85
10237	1,2-Dichloroethane	107-06-2	N.D.	0.0003	0.005	0.85
10237	1,1-Dichloroethene	75-35-4	N.D. Q3	0.0004	0.005	0.85
10237	cis-1,2-Dichloroethene	156-59-2	N.D. Q3	0.0005	0.005	0.85
10237	trans-1,2-Dichloroethene	156-60-5	N.D. Q3	0.0004	0.005	0.85
10237	1,2-Dichloropropane	78-87-5	N.D.	0.0004	0.005	0.85
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.0004	0.005	0.85
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.0003	0.005	0.85
10237	Ethylbenzene	100-41-4	N.D. Q3	0.0004	0.005	0.85
10237	Freon 113	76-13-1	N.D. Q3	0.0004	0.011	0.85
10237	2-Hexanone	591-78-6	N.D.	0.001	0.011	0.85
10237	Isopropylbenzene	98-82-8	N.D. Q3	0.0005	0.005	0.85
10237	Methyl Acetate	79-20-9	N.D. Q3	0.001	0.005	0.85
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	0.85
10237	4-Methyl-2-pentanone	108-10-1	N.D.	0.001	0.011	0.85
10237	Methylcyclohexane	108-87-2	N.D.	0.0006	0.005	0.85
10237	Methylene Chloride	75-09-2	N.D. Q3	0.001	0.005	0.85
10237	Styrene	100-42-5	N.D.	0.0004	0.005	0.85
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D. Q3	0.0003	0.005	0.85
10237	Tetrachloroethene	127-18-4	N.D. Q3	0.0005	0.005	0.85
10237	Toluene	108-88-3	N.D. Q3	0.0003	0.005	0.85
10237	1,2,4-Trichlorobenzene	120-82-1	N.D. Q2Q9	0.0008	0.005	0.85

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP03-S001 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925820
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 11:00

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	mg/kg	mg/kg	mg/kg	
10237	1,1,1-Trichloroethane	71-55-6	N.D. Q3	0.0004	0.005	0.85
10237	1,1,2-Trichloroethane	79-00-5	N.D. Q3	0.0003	0.005	0.85
10237	Trichloroethene	79-01-6	N.D. Q3	0.0004	0.005	0.85
10237	Trichlorofluoromethane	75-69-4	N.D.	0.0006	0.005	0.85
10237	1,2,4-Trimethylbenzene	95-63-6	N.D. Q3	0.0006	0.005	0.85
10237	1,3,5-Trimethylbenzene	108-67-8	N.D. Q3	0.0005	0.005	0.85
10237	Vinyl Chloride	75-01-4	N.D.	0.0005	0.005	0.85
10237	Xylene (Total)	1330-20-7	N.D. Q3	0.001	0.005	0.85

The recovery for the sample internal standard is outside the QC acceptance limits. The following action was taken:

The sample was re-analyzed and the QC is again outside of the acceptance limits. The data is reported from the initial trial.

GC/MS Semivolatiles	SW-846 8270C	ug/kg	ug/kg	ug/kg		
10727	Acenaphthene	83-32-9	N.D.	4	21	1
10727	Acenaphthylene	208-96-8	14 J	4	21	1
10727	Acetophenone	98-86-2	N.D.	29	62	1
10727	Anthracene	120-12-7	8 J	4	21	1
10727	Atrazine	1912-24-9	N.D.	41	210	1
10727	Benzaldehyde	100-52-7	N.D.	82	210	1
10727	Benzo(a)anthracene	56-55-3	29	4	21	1
10727	Benzo(a)pyrene	50-32-8	42	8	21	1
10727	Benzo(b)fluoranthene	205-99-2	70	4	21	1
10727	Benzo(g,h,i)perylene	191-24-2	35	8	21	1
10727	Benzo(k)fluoranthene	207-08-9	28	4	21	1
10727	1,1'-Biphenyl	92-52-4	N.D.	21	45	1
10727	4-Bromophenyl-phenylether	101-55-3	N.D.	25	62	1
10727	Butylbenzylphthalate	85-68-7	N.D.	82	210	1
10727	Di-n-butylphthalate	84-74-2	N.D.	82	210	1
10727	Caprolactam	105-60-2	N.D.	41	210	1
10727	Carbazole	86-74-8	N.D.	21	45	1
10727	4-Chloro-3-methylphenol	59-50-7	N.D.	21	45	1
10727	4-Chloroaniline	106-47-8	N.D. Q9	41	210	1
10727	bis(2-Chloroethoxy)methane	111-91-1	N.D.	21	45	1
10727	bis(2-Chloroethyl)ether	111-44-4	N.D.	29	62	1
10727	2-Chloronaphthalene	91-58-7	N.D.	8	41	1
10727	2-Chlorophenol	95-57-8	N.D.	21	45	1
10727	4-Chlorophenyl-phenylether	7005-72-3	N.D.	21	45	1
10727	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	21	45	1
Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.						
10727	Chrysene	218-01-9	44	4	21	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP03-S001 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925820
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 11:00

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles SW-846 8270C			ug/kg	ug/kg	ug/kg	
10727	Dibenz(a,h)anthracene	53-70-3	10 J	4	21	1
10727	Dibenzofuran	132-64-9	N.D.	21	45	1
10727	3,3'-Dichlorobenzidine	91-94-1	N.D. Q2Q9	120	410	1
10727	2,4-Dichlorophenol	120-83-2	N.D.	21	45	1
10727	Diethylphthalate	84-66-2	N.D.	82	210	1
10727	2,4-Dimethylphenol	105-67-9	N.D.	21	45	1
10727	Dimethylphthalate	131-11-3	N.D.	82	210	1
10727	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	210	620	1
10727	2,4-Dinitrophenol	51-28-5	N.D.	450	1,200	1
10727	2,4-Dinitrotoluene	121-14-2	N.D.	82	210	1
10727	2,6-Dinitrotoluene	606-20-2	N.D.	25	62	1
10727	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	82	210	1
10727	Fluoranthene	206-44-0	69	4	21	1
10727	Fluorene	86-73-7	N.D.	4	21	1
10727	Hexachlorobenzene	118-74-1	N.D.	4	21	1
10727	Hexachlorobutadiene	87-68-3	N.D.	25	62	1
10727	Hexachlorocyclopentadiene	77-47-4	N.D.	210	620	1
10727	Hexachloroethane	67-72-1	N.D.	41	210	1
10727	Indeno(1,2,3-cd)pyrene	193-39-5	30	8	21	1
10727	Isophorone	78-59-1	N.D.	21	45	1
10727	2-Methylnaphthalene	91-57-6	N.D.	12	41	1
10727	2-Methylphenol	95-48-7	N.D.	33	82	1
10727	4-Methylphenol	106-44-5	N.D.	25	62	1
3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.						
10727	Naphthalene	91-20-3	N.D.	8	21	1
10727	2-Nitroaniline	88-74-4	N.D.	25	62	1
10727	3-Nitroaniline	99-09-2	N.D. Q2	82	210	1
10727	4-Nitroaniline	100-01-6	N.D.	82	210	1
10727	Nitrobenzene	98-95-3	N.D.	33	82	1
10727	2-Nitrophenol	88-75-5	N.D.	21	45	1
10727	4-Nitrophenol	100-02-7	N.D.	210	620	1
10727	N-Nitroso-di-n-propylamine	621-64-7	N.D.	25	62	1
10727	N-Nitrosodiphenylamine	86-30-6	N.D.	21	45	1
N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.						
10727	Di-n-octylphthalate	117-84-0	N.D.	82	210	1
10727	Pentachlorophenol	87-86-5	N.D.	45	210	1
10727	Phenanthrene	85-01-8	46	4	21	1
10727	Phenol	108-95-2	N.D.	29	62	1
10727	Pyrene	129-00-0	70	4	21	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP03-S001 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925820
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 11:00

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles			SW-846 8270C	ug/kg	ug/kg	
10727	2,4,5-Trichlorophenol	95-95-4	N.D.	25	62	1
10727	2,4,6-Trichlorophenol	88-06-2	N.D.	25	62	1
PCBs			SW-846 8082	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D. D1	4.5	21	1
10736	PCB-1221	11104-28-2	N.D. D1	5.7	21	1
10736	PCB-1232	11141-16-5	N.D. D1	10	21	1
10736	PCB-1242	53469-21-9	N.D. D1	4.1	21	1
10736	PCB-1248	12672-29-6	N.D. D1	4.1	21	1
10736	PCB-1254	11097-69-1	N.D. D1	4.1	21	1
10736	PCB-1260	11096-82-5	N.D. D2	6.1	21	1
Metals			SW-846 6010B	mg/kg	mg/kg	
06944	Antimony	7440-36-0	N.D. Q2	1.99	5.86	1
06935	Arsenic	7440-38-2	4.88 J	1.41	5.86	1
06947	Beryllium	7440-41-7	0.614	0.117	0.586	1
06949	Cadmium	7440-43-9	N.D.	0.117	0.586	1
06951	Chromium	7440-47-3	16.9	0.246	1.76	1
06953	Copper	7440-50-8	18.1	0.586	2.35	1
06955	Lead	7439-92-1	55.9 Q2Q8	0.704	1.76	1
06961	Nickel	7440-02-0	19.2	0.246	1.17	1
06936	Selenium	7782-49-2	3.53 J	1.76	5.86	1
06966	Silver	7440-22-4	N.D.	0.469	1.17	1
06925	Thallium	7440-28-0	N.D.	1.06	3.52	1
06972	Zinc	7440-66-6	88.5 B	0.469	2.35	1
			SW-846 7471A	mg/kg	mg/kg	
00159	Mercury	7439-97-6	N.D.	0.0367	0.0784	1
Wet Chemistry			SM 2540 G-2011	%	%	
			%Moisture Calc			
00111	Moisture ¹	n.a.	20.3	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

¹ = This analyte was not on the laboratory's PA DEP Scope of Accreditation at the time of analysis.

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP03-S001 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925820
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 11:00

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	X183421AA	12/08/2018 13:45	Stephen C Nolte	0.85
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201834052105	12/03/2018 11:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201834052105	12/03/2018 11:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201834052105	12/03/2018 11:00	Client Supplied	1
10727	TCL 8270 (microwave)	SW-846 8270C	1	18346SLC026	12/13/2018 17:46	Linda M Hartenstine	1
10809	BNA Soil Microwave	SW-846 3546	2	18346SLC026	12/12/2018 17:00	Elizabeth E Donovan	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	183410024A	12/09/2018 20:27	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	183410024A	12/07/2018 16:15	Elizabeth E Donovan	1
06944	Antimony	SW-846 6010B	1	183410570801	12/12/2018 06:43	Eric L Eby	1
06935	Arsenic	SW-846 6010B	1	183410570801	12/12/2018 06:43	Eric L Eby	1
06947	Beryllium	SW-846 6010B	1	183410570801	12/12/2018 06:43	Eric L Eby	1
06949	Cadmium	SW-846 6010B	1	183410570801	12/12/2018 06:43	Eric L Eby	1
06951	Chromium	SW-846 6010B	1	183410570801	12/12/2018 06:43	Eric L Eby	1
06953	Copper	SW-846 6010B	1	183410570801	12/12/2018 06:43	Eric L Eby	1
06955	Lead	SW-846 6010B	1	183410570801	12/12/2018 06:43	Eric L Eby	1
06961	Nickel	SW-846 6010B	1	183410570801	12/12/2018 06:43	Eric L Eby	1
06936	Selenium	SW-846 6010B	1	183410570801	12/12/2018 06:43	Eric L Eby	1
06966	Silver	SW-846 6010B	1	183410570801	12/12/2018 06:43	Eric L Eby	1
06925	Thallium	SW-846 6010B	1	183410570801	12/12/2018 06:43	Eric L Eby	1
06972	Zinc	SW-846 6010B	1	183410570801	12/12/2018 06:43	Eric L Eby	1
00159	Mercury	SW-846 7471A	1	183410571101	12/10/2018 12:07	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	183410570801	12/10/2018 07:35	Denise L Trimby	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	183410571101	12/10/2018 10:00	Denise L Trimby	1
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	18345820004A	12/11/2018 11:31	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP03-S001 MS Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925821
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 11:00

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Acetone	67-64-1	0.45	0.007	0.022	0.88
10237	Benzene	71-43-2	0.027	0.0004	0.006	0.88
10237	Bromodichloromethane	75-27-4	0.026	0.0003	0.006	0.88
10237	Bromoform	75-25-2	0.023	0.004	0.011	0.88
10237	Bromomethane	74-83-9	0.022	0.0009	0.006	0.88
10237	2-Butanone	78-93-3	0.24	0.001	0.011	0.88
10237	Carbon Disulfide	75-15-0	0.029	0.0004	0.006	0.88
10237	Carbon Tetrachloride	56-23-5	0.029	0.0006	0.006	0.88
10237	Chlorobenzene	108-90-7	0.027	0.0004	0.006	0.88
10237	Chloroethane	75-00-3	0.024	0.002	0.006	0.88
10237	Chloroform	67-66-3	0.028	0.0004	0.006	0.88
10237	Chloromethane	74-87-3	0.024	0.0006	0.006	0.88
10237	Cyclohexane	110-82-7	0.029	0.0006	0.006	0.88
10237	1,2-Dibromo-3-chloropropane	96-12-8	0.030	0.0003	0.006	0.88
10237	Dibromochloromethane	124-48-1	0.029	0.003	0.009	0.88
10237	1,2-Dibromoethane	106-93-4	0.029	0.0003	0.006	0.88
10237	1,2-Dichlorobenzene	95-50-1	0.026	0.0004	0.006	0.88
10237	1,3-Dichlorobenzene	541-73-1	0.027	0.0004	0.006	0.88
10237	1,4-Dichlorobenzene	106-46-7	0.027	0.0004	0.006	0.88
10237	Dichlorodifluoromethane	75-71-8	0.021	0.0004	0.006	0.88
10237	1,1-Dichloroethane	75-34-3	0.028	0.0004	0.006	0.88
10237	1,2-Dichloroethane	107-06-2	0.028	0.0003	0.006	0.88
10237	1,1-Dichloroethene	75-35-4	0.033	0.0004	0.006	0.88
10237	cis-1,2-Dichloroethene	156-59-2	0.029	0.0006	0.006	0.88
10237	trans-1,2-Dichloroethene	156-60-5	0.030	0.0004	0.006	0.88
10237	1,2-Dichloropropane	78-87-5	0.027	0.0004	0.006	0.88
10237	cis-1,3-Dichloropropene	10061-01-5	0.024	0.0004	0.006	0.88
10237	trans-1,3-Dichloropropene	10061-02-6	0.027	0.0003	0.006	0.88
10237	Ethylbenzene	100-41-4	0.028	0.0004	0.006	0.88
10237	Freon 113	76-13-1	0.034	0.0004	0.011	0.88
10237	2-Hexanone	591-78-6	0.16	0.001	0.011	0.88
10237	Isopropylbenzene	98-82-8	0.029	0.0006	0.006	0.88
10237	Methyl Acetate	79-20-9	0.035	0.001	0.006	0.88
10237	Methyl Tertiary Butyl Ether	1634-04-4	0.026	0.0006	0.006	0.88
10237	4-Methyl-2-pentanone	108-10-1	0.14	0.001	0.011	0.88
10237	Methylcyclohexane	108-87-2	0.023	0.0007	0.006	0.88
10237	Methylene Chloride	75-09-2	0.028	0.001	0.006	0.88
10237	Styrene	100-42-5	0.022	0.0004	0.006	0.88
10237	1,1,2,2-Tetrachloroethane	79-34-5	0.037	0.0003	0.006	0.88
10237	Tetrachloroethene	127-18-4	0.030	0.0006	0.006	0.88
10237	Toluene	108-88-3	0.030	0.0003	0.006	0.88
10237	1,2,4-Trichlorobenzene	120-82-1	0.015	0.0009	0.006	0.88

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP03-S001 MS Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925821
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 11:00

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	1,1,1-Trichloroethane	71-55-6	0.029	0.0004	0.006	0.88
10237	1,1,2-Trichloroethane	79-00-5	0.030	0.0003	0.006	0.88
10237	Trichloroethene	79-01-6	0.027	0.0004	0.006	0.88
10237	Trichlorofluoromethane	75-69-4	0.027	0.0007	0.006	0.88
10237	1,2,4-Trimethylbenzene	95-63-6	0.035	0.0007	0.006	0.88
10237	1,3,5-Trimethylbenzene	108-67-8	0.037	0.0006	0.006	0.88
10237	Vinyl Chloride	75-01-4	0.026	0.0006	0.006	0.88
10237	Xylene (Total)	1330-20-7	0.081	0.001	0.006	0.88
GC/MS Semivolatiles			ug/kg	ug/kg	ug/kg	
SW-846 8270C						
10727	Acenaphthene	83-32-9	2,000	4	21	1
10727	Acenaphthylene	208-96-8	2,100	4	21	1
10727	Acetophenone	98-86-2	1,900	29	62	1
10727	Anthracene	120-12-7	1,900	4	21	1
10727	Atrazine	1912-24-9	1,900	42	210	1
10727	Benzaldehyde	100-52-7	1,700	83	210	1
10727	Benzo(a)anthracene	56-55-3	1,800	4	21	1
10727	Benzo(a)pyrene	50-32-8	2,000	8	21	1
10727	Benzo(b)fluoranthene	205-99-2	2,000	4	21	1
10727	Benzo(g,h,i)perylene	191-24-2	1,900	8	21	1
10727	Benzo(k)fluoranthene	207-08-9	1,900	4	21	1
10727	1,1'-Biphenyl	92-52-4	2,000	21	46	1
10727	4-Bromophenyl-phenylether	101-55-3	1,900	25	62	1
10727	Butylbenzylphthalate	85-68-7	1,900	83	210	1
10727	Di-n-butylphthalate	84-74-2	1,900	83	210	1
10727	Caprolactam	105-60-2	1,800	42	210	1
10727	Carbazole	86-74-8	1,800	21	46	1
10727	4-Chloro-3-methylphenol	59-50-7	1,800	21	46	1
10727	4-Chloroaniline	106-47-8	290	42	210	1
10727	bis(2-Chloroethoxy)methane	111-91-1	1,800	21	46	1
10727	bis(2-Chloroethyl)ether	111-44-4	1,800	29	62	1
10727	2-Chloronaphthalene	91-58-7	1,600	8	42	1
10727	2-Chlorophenol	95-57-8	2,000	21	46	1
10727	4-Chlorophenyl-phenylether	7005-72-3	1,900	21	46	1
10727	2,2'-oxybis(1-Chloropropane)	108-60-1	1,700	21	46	1
Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.						
10727	Chrysene	218-01-9	1,700	4	21	1
10727	Dibenz(a,h)anthracene	53-70-3	2,000	4	21	1
10727	Dibenzofuran	132-64-9	1,900	21	46	1
10727	3,3'-Dichlorobenzidine	91-94-1	240 J	120	420	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP03-S001 MS Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925821
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 11:00

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles SW-846 8270C			ug/kg	ug/kg	ug/kg	
10727	2,4-Dichlorophenol	120-83-2	1,900	21	46	1
10727	Diethylphthalate	84-66-2	1,800	83	210	1
10727	2,4-Dimethylphenol	105-67-9	1,500	21	46	1
10727	Dimethylphthalate	131-11-3	1,800	83	210	1
10727	4,6-Dinitro-2-methylphenol	534-52-1	1,800	210	620	1
10727	2,4-Dinitrophenol	51-28-5	3,400	460	1,200	1
10727	2,4-Dinitrotoluene	121-14-2	1,800	83	210	1
10727	2,6-Dinitrotoluene	606-20-2	1,900	25	62	1
10727	bis(2-Ethylhexyl)phthalate	117-81-7	2,000	83	210	1
10727	Fluoranthene	206-44-0	1,800	4	21	1
10727	Fluorene	86-73-7	1,900	4	21	1
10727	Hexachlorobenzene	118-74-1	1,900	4	21	1
10727	Hexachlorobutadiene	87-68-3	1,900	25	62	1
10727	Hexachlorocyclopentadiene	77-47-4	4,200	210	620	1
10727	Hexachloroethane	67-72-1	1,800	42	210	1
10727	Indeno(1,2,3-cd)pyrene	193-39-5	1,900	8	21	1
10727	Isophorone	78-59-1	1,800	21	46	1
10727	2-Methylnaphthalene	91-57-6	1,900	12	42	1
10727	2-Methylphenol	95-48-7	1,800	33	83	1
10727	4-Methylphenol	106-44-5	1,800	25	62	1
3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.						
10727	Naphthalene	91-20-3	1,800	8	21	1
10727	2-Nitroaniline	88-74-4	1,900	25	62	1
10727	3-Nitroaniline	99-09-2	1,100	83	210	1
10727	4-Nitroaniline	100-01-6	1,100	83	210	1
10727	Nitrobenzene	98-95-3	1,800	33	83	1
10727	2-Nitrophenol	88-75-5	1,900	21	46	1
10727	4-Nitrophenol	100-02-7	1,500	210	620	1
10727	N-Nitroso-di-n-propylamine	621-64-7	1,700	25	62	1
10727	N-Nitrosodiphenylamine	86-30-6	2,000	21	46	1
N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.						
10727	Di-n-octylphthalate	117-84-0	2,200	83	210	1
10727	Pentachlorophenol	87-86-5	2,200	46	210	1
10727	Phenanthrene	85-01-8	2,000	4	21	1
10727	Phenol	108-95-2	1,900	29	62	1
10727	Pyrene	129-00-0	2,000	4	21	1
10727	2,4,5-Trichlorophenol	95-95-4	2,000	25	62	1
10727	2,4,6-Trichlorophenol	88-06-2	2,000	25	62	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP03-S001 MS Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925821
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submittal Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 11:00

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
PCBs			SW-846 8082	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	210 D1	4.5	21	1
10736	PCB-1221	11104-28-2	N.D. D1	5.7	21	1
10736	PCB-1232	11141-16-5	N.D. D1	10	21	1
10736	PCB-1242	53469-21-9	N.D. D1	4.1	21	1
10736	PCB-1248	12672-29-6	N.D. D1	4.1	21	1
10736	PCB-1254	11097-69-1	N.D. D1	4.1	21	1
10736	PCB-1260	11096-82-5	200 D1	6.1	21	1
Metals			SW-846 6010B	mg/kg	mg/kg	
06944	Antimony	7440-36-0	32.7	1.78	5.23	1
06935	Arsenic	7440-38-2	22.0	1.25	5.23	1
06947	Beryllium	7440-41-7	5.62	0.105	0.523	1
06949	Cadmium	7440-43-9	4.90	0.105	0.523	1
06951	Chromium	7440-47-3	39.4	0.220	1.57	1
06953	Copper	7440-50-8	45.5	0.523	2.09	1
06955	Lead	7439-92-1	64.6	0.627	1.57	1
06961	Nickel	7440-02-0	67.7	0.220	1.05	1
06936	Selenium	7782-49-2	18.3	1.57	5.23	1
06966	Silver	7440-22-4	4.97	0.418	1.05	1
06925	Thallium	7440-28-0	15.6	0.941	3.14	1
06972	Zinc	7440-66-6	129 B	0.418	2.09	1
			SW-846 7471A	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.243	0.0378	0.0809	1
Wet Chemistry			SM 2540 G-2011	%	%	
			%Moisture Calc			
00118	Moisture ¹	n.a.	20.3	0.50	0.50	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

¹ = This analyte was not on the laboratory's PA DEP Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	X183421AA	12/08/2018 14:09	Stephen C Nolte	0.88
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201834052105	12/03/2018 11:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201834052105	12/03/2018 11:00	Client Supplied	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP03-S001 MS Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925821
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submittal Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 11:00

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201834052105	12/03/2018 11:00	Client Supplied	1
10727	TCL 8270 (microwave)	SW-846 8270C	1	18346SLC026	12/13/2018 18:09	Linda M Hartenstine	1
10809	BNA Soil Microwave	SW-846 3546	2	18346SLC026	12/12/2018 17:00	Elizabeth E Donovan	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	183410024A	12/09/2018 20:37	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	183410024A	12/07/2018 16:15	Elizabeth E Donovan	1
06944	Antimony	SW-846 6010B	1	183410570801	12/12/2018 06:54	Eric L Eby	1
06935	Arsenic	SW-846 6010B	1	183410570801	12/12/2018 06:54	Eric L Eby	1
06947	Beryllium	SW-846 6010B	1	183410570801	12/12/2018 06:54	Eric L Eby	1
06949	Cadmium	SW-846 6010B	1	183410570801	12/12/2018 06:54	Eric L Eby	1
06951	Chromium	SW-846 6010B	1	183410570801	12/12/2018 06:54	Eric L Eby	1
06953	Copper	SW-846 6010B	1	183410570801	12/12/2018 06:54	Eric L Eby	1
06955	Lead	SW-846 6010B	1	183410570801	12/12/2018 06:54	Eric L Eby	1
06961	Nickel	SW-846 6010B	1	183410570801	12/12/2018 06:54	Eric L Eby	1
06936	Selenium	SW-846 6010B	1	183410570801	12/12/2018 06:54	Eric L Eby	1
06966	Silver	SW-846 6010B	1	183410570801	12/12/2018 06:54	Eric L Eby	1
06925	Thallium	SW-846 6010B	1	183410570801	12/12/2018 06:54	Eric L Eby	1
06972	Zinc	SW-846 6010B	1	183410570801	12/12/2018 06:54	Eric L Eby	1
00159	Mercury	SW-846 7471A	1	183410571101	12/10/2018 12:13	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	183410570801	12/10/2018 07:35	Denise L Trimby	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	183410571101	12/10/2018 10:00	Denise L Trimby	1
00118	Moisture	SM 2540 G-2011 %Moisture Calc	1	18345820004A	12/11/2018 11:31	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP03-S001 MSD Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925822
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 11:00

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Acetone	67-64-1	0.40	0.006	0.020	0.79
10237	Benzene	71-43-2	0.024	0.0004	0.005	0.79
10237	Bromodichloromethane	75-27-4	0.023	0.0003	0.005	0.79
10237	Bromoform	75-25-2	0.020	0.004	0.01	0.79
10237	Bromomethane	74-83-9	0.020	0.0008	0.005	0.79
10237	2-Butanone	78-93-3	0.21	0.001	0.01	0.79
10237	Carbon Disulfide	75-15-0	0.026	0.0004	0.005	0.79
10237	Carbon Tetrachloride	56-23-5	0.025	0.0005	0.005	0.79
10237	Chlorobenzene	108-90-7	0.023	0.0004	0.005	0.79
10237	Chloroethane	75-00-3	0.021	0.002	0.005	0.79
10237	Chloroform	67-66-3	0.025	0.0004	0.005	0.79
10237	Chloromethane	74-87-3	0.021	0.0005	0.005	0.79
10237	Cyclohexane	110-82-7	0.026	0.0005	0.005	0.79
10237	1,2-Dibromo-3-chloropropane	96-12-8	0.027	0.0003	0.005	0.79
10237	Dibromochloromethane	124-48-1	0.025	0.003	0.008	0.79
10237	1,2-Dibromoethane	106-93-4	0.025	0.0003	0.005	0.79
10237	1,2-Dichlorobenzene	95-50-1	0.021	0.0004	0.005	0.79
10237	1,3-Dichlorobenzene	541-73-1	0.022	0.0004	0.005	0.79
10237	1,4-Dichlorobenzene	106-46-7	0.021	0.0004	0.005	0.79
10237	Dichlorodifluoromethane	75-71-8	0.019	0.0004	0.005	0.79
10237	1,1-Dichloroethane	75-34-3	0.025	0.0004	0.005	0.79
10237	1,2-Dichloroethane	107-06-2	0.024	0.0003	0.005	0.79
10237	1,1-Dichloroethene	75-35-4	0.029	0.0004	0.005	0.79
10237	cis-1,2-Dichloroethene	156-59-2	0.026	0.0005	0.005	0.79
10237	trans-1,2-Dichloroethene	156-60-5	0.026	0.0004	0.005	0.79
10237	1,2-Dichloropropane	78-87-5	0.023	0.0004	0.005	0.79
10237	cis-1,3-Dichloropropene	10061-01-5	0.021	0.0004	0.005	0.79
10237	trans-1,3-Dichloropropene	10061-02-6	0.023	0.0003	0.005	0.79
10237	Ethylbenzene	100-41-4	0.024	0.0004	0.005	0.79
10237	Freon 113	76-13-1	0.030	0.0004	0.01	0.79
10237	2-Hexanone	591-78-6	0.14	0.001	0.01	0.79
10237	Isopropylbenzene	98-82-8	0.025	0.0005	0.005	0.79
10237	Methyl Acetate	79-20-9	0.031	0.001	0.005	0.79
10237	Methyl Tertiary Butyl Ether	1634-04-4	0.024	0.0005	0.005	0.79
10237	4-Methyl-2-pentanone	108-10-1	0.12	0.001	0.01	0.79
10237	Methylcyclohexane	108-87-2	0.021	0.0006	0.005	0.79
10237	Methylene Chloride	75-09-2	0.025	0.001	0.005	0.79
10237	Styrene	100-42-5	0.018	0.0004	0.005	0.79
10237	1,1,2,2-Tetrachloroethane	79-34-5	0.032	0.0003	0.005	0.79
10237	Tetrachloroethene	127-18-4	0.026	0.0005	0.005	0.79
10237	Toluene	108-88-3	0.027	0.0003	0.005	0.79
10237	1,2,4-Trichlorobenzene	120-82-1	0.010	0.0008	0.005	0.79

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP03-S001 MSD Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925822
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 11:00

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	1,1,1-Trichloroethane	71-55-6	0.026	0.0004	0.005	0.79
10237	1,1,2-Trichloroethane	79-00-5	0.027	0.0003	0.005	0.79
10237	Trichloroethane	79-01-6	0.024	0.0004	0.005	0.79
10237	Trichlorofluoromethane	75-69-4	0.023	0.0006	0.005	0.79
10237	1,2,4-Trimethylbenzene	95-63-6	0.030	0.0006	0.005	0.79
10237	1,3,5-Trimethylbenzene	108-67-8	0.032	0.0005	0.005	0.79
10237	Vinyl Chloride	75-01-4	0.023	0.0005	0.005	0.79
10237	Xylene (Total)	1330-20-7	0.070	0.0009	0.005	0.79
GC/MS Semivolatiles			ug/kg	ug/kg	ug/kg	
SW-846 8270C						
10727	Acenaphthene	83-32-9	2,000	4	21	1
10727	Acenaphthylene	208-96-8	2,200	4	21	1
10727	Acetophenone	98-86-2	1,800	29	63	1
10727	Anthracene	120-12-7	1,900	4	21	1
10727	Atrazine	1912-24-9	2,000	42	210	1
10727	Benzaldehyde	100-52-7	1,400	83	210	1
10727	Benzo(a)anthracene	56-55-3	1,900	4	21	1
10727	Benzo(a)pyrene	50-32-8	2,000	8	21	1
10727	Benzo(b)fluoranthene	205-99-2	2,000	4	21	1
10727	Benzo(g,h,i)perylene	191-24-2	2,000	8	21	1
10727	Benzo(k)fluoranthene	207-08-9	2,000	4	21	1
10727	1,1'-Biphenyl	92-52-4	2,000	21	46	1
10727	4-Bromophenyl-phenylether	101-55-3	2,000	25	63	1
10727	Butylbenzylphthalate	85-68-7	2,000	83	210	1
10727	Di-n-butylphthalate	84-74-2	1,900	83	210	1
10727	Caprolactam	105-60-2	1,800	42	210	1
10727	Carbazole	86-74-8	1,900	21	46	1
10727	4-Chloro-3-methylphenol	59-50-7	1,800	21	46	1
10727	4-Chloroaniline	106-47-8	530	42	210	1
10727	bis(2-Chloroethoxy)methane	111-91-1	1,800	21	46	1
10727	bis(2-Chloroethyl)ether	111-44-4	1,800	29	63	1
10727	2-Chloronaphthalene	91-58-7	1,600	8	42	1
10727	2-Chlorophenol	95-57-8	1,900	21	46	1
10727	4-Chlorophenyl-phenylether	7005-72-3	1,900	21	46	1
10727	2,2'-oxybis(1-Chloropropane)	108-60-1	1,700	21	46	1
Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.						
10727	Chrysene	218-01-9	1,800	4	21	1
10727	Dibenz(a,h)anthracene	53-70-3	2,000	4	21	1
10727	Dibenzofuran	132-64-9	1,900	21	46	1
10727	3,3'-Dichlorobenzidine	91-94-1	470	130	420	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP03-S001 MSD Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925822
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 11:00

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles SW-846 8270C			ug/kg	ug/kg	ug/kg	
10727	2,4-Dichlorophenol	120-83-2	1,900	21	46	1
10727	Diethylphthalate	84-66-2	1,900	83	210	1
10727	2,4-Dimethylphenol	105-67-9	1,500	21	46	1
10727	Dimethylphthalate	131-11-3	1,900	83	210	1
10727	4,6-Dinitro-2-methylphenol	534-52-1	1,800	210	630	1
10727	2,4-Dinitrophenol	51-28-5	3,400	460	1,300	1
10727	2,4-Dinitrotoluene	121-14-2	1,800	83	210	1
10727	2,6-Dinitrotoluene	606-20-2	2,000	25	63	1
10727	bis(2-Ethylhexyl)phthalate	117-81-7	2,000	83	210	1
10727	Fluoranthene	206-44-0	1,900	4	21	1
10727	Fluorene	86-73-7	2,000	4	21	1
10727	Hexachlorobenzene	118-74-1	2,000	4	21	1
10727	Hexachlorobutadiene	87-68-3	2,000	25	63	1
10727	Hexachlorocyclopentadiene	77-47-4	4,000	210	630	1
10727	Hexachloroethane	67-72-1	1,800	42	210	1
10727	Indeno(1,2,3-cd)pyrene	193-39-5	2,000	8	21	1
10727	Isophorone	78-59-1	1,800	21	46	1
10727	2-Methylnaphthalene	91-57-6	1,900	13	42	1
10727	2-Methylphenol	95-48-7	1,700	33	83	1
10727	4-Methylphenol	106-44-5	1,700	25	63	1
3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.						
10727	Naphthalene	91-20-3	1,800	8	21	1
10727	2-Nitroaniline	88-74-4	2,000	25	63	1
10727	3-Nitroaniline	99-09-2	1,300	83	210	1
10727	4-Nitroaniline	100-01-6	1,300	83	210	1
10727	Nitrobenzene	98-95-3	1,800	33	83	1
10727	2-Nitrophenol	88-75-5	1,900	21	46	1
10727	4-Nitrophenol	100-02-7	1,500	210	630	1
10727	N-Nitroso-di-n-propylamine	621-64-7	1,700	25	63	1
10727	N-Nitrosodiphenylamine	86-30-6	2,100	21	46	1
N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.						
10727	Di-n-octylphthalate	117-84-0	2,100	83	210	1
10727	Pentachlorophenol	87-86-5	2,100	46	210	1
10727	Phenanthrene	85-01-8	2,100	4	21	1
10727	Phenol	108-95-2	1,900	29	63	1
10727	Pyrene	129-00-0	2,100	4	21	1
10727	2,4,5-Trichlorophenol	95-95-4	2,000	25	63	1
10727	2,4,6-Trichlorophenol	88-06-2	2,100	25	63	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP03-S001 MSD Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925822
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 11:00

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
PCBs			SW-846 8082	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	200 D1	4.5	21	1
10736	PCB-1221	11104-28-2	N.D. D1	5.7	21	1
10736	PCB-1232	11141-16-5	N.D. D1	9.9	21	1
10736	PCB-1242	53469-21-9	N.D. D1	4.1	21	1
10736	PCB-1248	12672-29-6	N.D. D1	4.1	21	1
10736	PCB-1254	11097-69-1	N.D. D1	4.1	21	1
10736	PCB-1260	11096-82-5	190 D2	6.1	21	1
Metals			SW-846 6010B	mg/kg	mg/kg	
06944	Antimony	7440-36-0	29.0	1.56	4.58	1
06935	Arsenic	7440-38-2	19.7	1.10	4.58	1
06947	Beryllium	7440-41-7	5.17	0.0916	0.458	1
06949	Cadmium	7440-43-9	4.34	0.0916	0.458	1
06951	Chromium	7440-47-3	39.1	0.192	1.37	1
06953	Copper	7440-50-8	46.7	0.458	1.83	1
06955	Lead	7439-92-1	59.6	0.550	1.37	1
06961	Nickel	7440-02-0	65.5	0.192	0.916	1
06936	Selenium	7782-49-2	15.8	1.37	4.58	1
06966	Silver	7440-22-4	4.48	0.366	0.916	1
06925	Thallium	7440-28-0	13.4	0.824	2.75	1
06972	Zinc	7440-66-6	138 B	0.366	1.83	1
			SW-846 7471A	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.238	0.0372	0.0797	1
Wet Chemistry			SM 2540 G-2011	%	%	
			%Moisture Calc			
00118	Moisture ¹	n.a.	20.3	0.50	0.50	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

¹ = This analyte was not on the laboratory's PA DEP Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	X183421AA	12/08/2018 14:32	Stephen C Nolte	0.79
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201834052105	12/03/2018 11:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201834052105	12/03/2018 11:00	Client Supplied	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP03-S001 MSD Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925822
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submittal Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 11:00

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201834052105	12/03/2018 11:00	Client Supplied	1
10727	TCL 8270 (microwave)	SW-846 8270C	1	18346SLC026	12/13/2018 18:32	Linda M Hartenstine	1
10809	BNA Soil Microwave	SW-846 3546	2	18346SLC026	12/12/2018 17:00	Elizabeth E Donovan	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	183410024A	12/09/2018 20:47	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	183410024A	12/07/2018 16:15	Elizabeth E Donovan	1
06944	Antimony	SW-846 6010B	1	183410570801	12/12/2018 06:57	Eric L Eby	1
06935	Arsenic	SW-846 6010B	1	183410570801	12/12/2018 06:57	Eric L Eby	1
06947	Beryllium	SW-846 6010B	1	183410570801	12/12/2018 06:57	Eric L Eby	1
06949	Cadmium	SW-846 6010B	1	183410570801	12/12/2018 06:57	Eric L Eby	1
06951	Chromium	SW-846 6010B	1	183410570801	12/12/2018 06:57	Eric L Eby	1
06953	Copper	SW-846 6010B	1	183410570801	12/12/2018 06:57	Eric L Eby	1
06955	Lead	SW-846 6010B	1	183410570801	12/12/2018 06:57	Eric L Eby	1
06961	Nickel	SW-846 6010B	1	183410570801	12/12/2018 06:57	Eric L Eby	1
06936	Selenium	SW-846 6010B	1	183410570801	12/12/2018 06:57	Eric L Eby	1
06966	Silver	SW-846 6010B	1	183410570801	12/12/2018 06:57	Eric L Eby	1
06925	Thallium	SW-846 6010B	1	183410570801	12/12/2018 06:57	Eric L Eby	1
06972	Zinc	SW-846 6010B	1	183410570801	12/12/2018 06:57	Eric L Eby	1
00159	Mercury	SW-846 7471A	1	183410571101	12/10/2018 12:15	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	183410570801	12/10/2018 07:35	Denise L Trimby	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	183410571101	12/10/2018 10:00	Denise L Trimby	1
00118	Moisture	SM 2540 G-2011 %Moisture Calc	1	18345820004A	12/11/2018 11:31	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP03-S001 DUP Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925823
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submittal Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 11:00

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Metals			mg/kg	mg/kg	mg/kg	
SW-846 6010B						
06944	Antimony	7440-36-0	N.D.	1.84	5.41	1
06935	Arsenic	7440-38-2	4.86 J	1.30	5.41	1
06947	Beryllium	7440-41-7	0.619	0.108	0.541	1
06949	Cadmium	7440-43-9	N.D.	0.108	0.541	1
06951	Chromium	7440-47-3	18.3	0.227	1.62	1
06953	Copper	7440-50-8	17.4	0.541	2.16	1
06955	Lead	7439-92-1	38.0	0.649	1.62	1
06961	Nickel	7440-02-0	20.4	0.227	1.08	1
06936	Selenium	7782-49-2	2.76 J	1.62	5.41	1
06966	Silver	7440-22-4	N.D.	0.433	1.08	1
06925	Thallium	7440-28-0	N.D.	0.973	3.24	1
06972	Zinc	7440-66-6	80.8 B	0.433	2.16	1
SW-846 7471A			mg/kg	mg/kg	mg/kg	
00159	Mercury	7439-97-6	N.D.	0.0367	0.0784	1
Wet Chemistry			%	%	%	
SM 2540 G-2011						
%Moisture Calc						
00118	Moisture ¹	n.a.	20.3	0.50	0.50	1
00121	Moisture Duplicate ¹	n.a.	19.6	0.50	0.50	1

The duplicate moisture value is provided to assess the precision of the moisture test. For comparability purposes, the initial moisture determination is the value used to perform dry weight calculations.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

¹ = This analyte was not on the laboratory's PA DEP Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06944	Antimony	SW-846 6010B	1	183410570801	12/12/2018 06:50	Eric L Eby	1
06935	Arsenic	SW-846 6010B	1	183410570801	12/12/2018 06:50	Eric L Eby	1
06947	Beryllium	SW-846 6010B	1	183410570801	12/12/2018 06:50	Eric L Eby	1
06949	Cadmium	SW-846 6010B	1	183410570801	12/12/2018 06:50	Eric L Eby	1
06951	Chromium	SW-846 6010B	1	183410570801	12/12/2018 06:50	Eric L Eby	1
06953	Copper	SW-846 6010B	1	183410570801	12/12/2018 06:50	Eric L Eby	1
06955	Lead	SW-846 6010B	1	183410570801	12/12/2018 06:50	Eric L Eby	1
06961	Nickel	SW-846 6010B	1	183410570801	12/12/2018 06:50	Eric L Eby	1
06936	Selenium	SW-846 6010B	1	183410570801	12/12/2018 06:50	Eric L Eby	1
06966	Silver	SW-846 6010B	1	183410570801	12/12/2018 06:50	Eric L Eby	1
06925	Thallium	SW-846 6010B	1	183410570801	12/12/2018 06:50	Eric L Eby	1
06972	Zinc	SW-846 6010B	1	183410570801	12/12/2018 06:50	Eric L Eby	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP03-S001 DUP Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925823
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submittal Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 11:00

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00159	Mercury	SW-846 7471A	1	183410571101	12/10/2018 12:11	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	183410570801	12/10/2018 07:35	Denise L Trimby	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	183410571101	12/10/2018 10:00	Denise L Trimby	1
00118	Moisture	SM 2540 G-2011 %Moisture Calc	1	18345820004A	12/11/2018 11:31	Larry E Bevins	1
00121	Moisture Duplicate	SM 2540 G-2011 %Moisture Calc	1	18345820004A	12/11/2018 11:31	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP03-S002 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925824
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 11:15

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
		SW-846 8260B				
10237	Acetone	67-64-1	0.044	0.006	0.022	1.04
10237	Benzene	71-43-2	N.D.	0.0004	0.005	1.04
10237	Bromodichloromethane	75-27-4	N.D.	0.0003	0.005	1.04
10237	Bromoform	75-25-2	N.D.	0.004	0.011	1.04
10237	Bromomethane	74-83-9	N.D.	0.0009	0.005	1.04
10237	2-Butanone	78-93-3	0.002 J	0.001	0.011	1.04
10237	Carbon Disulfide	75-15-0	N.D.	0.0004	0.005	1.04
10237	Carbon Tetrachloride	56-23-5	N.D.	0.0005	0.005	1.04
10237	Chlorobenzene	108-90-7	N.D.	0.0004	0.005	1.04
10237	Chloroethane	75-00-3	N.D.	0.002	0.005	1.04
10237	Chloroform	67-66-3	N.D.	0.0004	0.005	1.04
10237	Chloromethane	74-87-3	N.D.	0.0005	0.005	1.04
10237	Cyclohexane	110-82-7	N.D.	0.0005	0.005	1.04
10237	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.0003	0.005	1.04
10237	Dibromochloromethane	124-48-1	N.D.	0.003	0.009	1.04
10237	1,2-Dibromoethane	106-93-4	N.D.	0.0003	0.005	1.04
10237	1,2-Dichlorobenzene	95-50-1	N.D.	0.0004	0.005	1.04
10237	1,3-Dichlorobenzene	541-73-1	N.D.	0.0004	0.005	1.04
10237	1,4-Dichlorobenzene	106-46-7	N.D.	0.0004	0.005	1.04
10237	Dichlorodifluoromethane	75-71-8	N.D.	0.0004	0.005	1.04
10237	1,1-Dichloroethane	75-34-3	N.D.	0.0004	0.005	1.04
10237	1,2-Dichloroethane	107-06-2	N.D.	0.0003	0.005	1.04
10237	1,1-Dichloroethene	75-35-4	N.D.	0.0004	0.005	1.04
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.0005	0.005	1.04
10237	trans-1,2-Dichloroethene	156-60-5	N.D.	0.0004	0.005	1.04
10237	1,2-Dichloropropane	78-87-5	N.D.	0.0004	0.005	1.04
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.0004	0.005	1.04
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.0003	0.005	1.04
10237	Ethylbenzene	100-41-4	N.D.	0.0004	0.005	1.04
10237	Freon 113	76-13-1	N.D.	0.0004	0.011	1.04
10237	2-Hexanone	591-78-6	N.D.	0.001	0.011	1.04
10237	Isopropylbenzene	98-82-8	N.D.	0.0005	0.005	1.04
10237	Methyl Acetate	79-20-9	N.D.	0.001	0.005	1.04
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	1.04
10237	4-Methyl-2-pentanone	108-10-1	N.D.	0.001	0.011	1.04
10237	Methylcyclohexane	108-87-2	N.D.	0.0006	0.005	1.04
10237	Methylene Chloride	75-09-2	N.D.	0.001	0.005	1.04
10237	Styrene	100-42-5	N.D.	0.0004	0.005	1.04
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.0003	0.005	1.04
10237	Tetrachloroethene	127-18-4	N.D.	0.0005	0.005	1.04
10237	Toluene	108-88-3	N.D.	0.0003	0.005	1.04
10237	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.0009	0.005	1.04

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP03-S002 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925824
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 11:15

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	mg/kg	mg/kg	mg/kg	
10237	1,1,1-Trichloroethane	71-55-6	N.D.	0.0004	0.005	1.04
10237	1,1,2-Trichloroethane	79-00-5	N.D.	0.0003	0.005	1.04
10237	Trichloroethene	79-01-6	N.D.	0.0004	0.005	1.04
10237	Trichlorofluoromethane	75-69-4	N.D.	0.0006	0.005	1.04
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.0006	0.005	1.04
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.0005	0.005	1.04
10237	Vinyl Chloride	75-01-4	N.D.	0.0005	0.005	1.04
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	1.04
GC/MS Semivolatiles		SW-846 8270C	ug/kg	ug/kg	ug/kg	
10727	Acenaphthene	83-32-9	N.D.	3	17	1
10727	Acenaphthylene	208-96-8	N.D.	3	17	1
10727	Acetophenone	98-86-2	N.D.	24	52	1
10727	Anthracene	120-12-7	N.D.	3	17	1
10727	Atrazine	1912-24-9	N.D.	34	170	1
10727	Benzaldehyde	100-52-7	N.D.	69	170	1
10727	Benzo(a)anthracene	56-55-3	8 J	3	17	1
10727	Benzo(a)pyrene	50-32-8	8 J	7	17	1
10727	Benzo(b)fluoranthene	205-99-2	15 J	3	17	1
10727	Benzo(g,h,i)perylene	191-24-2	N.D.	7	17	1
10727	Benzo(k)fluoranthene	207-08-9	7 J	3	17	1
10727	1,1'-Biphenyl	92-52-4	N.D.	17	38	1
10727	4-Bromophenyl-phenylether	101-55-3	N.D.	21	52	1
10727	Butylbenzylphthalate	85-68-7	N.D.	69	170	1
10727	Di-n-butylphthalate	84-74-2	N.D.	69	170	1
10727	Caprolactam	105-60-2	N.D.	34	170	1
10727	Carbazole	86-74-8	N.D.	17	38	1
10727	4-Chloro-3-methylphenol	59-50-7	N.D.	17	38	1
10727	4-Chloroaniline	106-47-8	N.D. QO	34	170	1
10727	bis(2-Chloroethoxy)methane	111-91-1	N.D.	17	38	1
10727	bis(2-Chloroethyl)ether	111-44-4	N.D.	24	52	1
10727	2-Chloronaphthalene	91-58-7	N.D.	7	34	1
10727	2-Chlorophenol	95-57-8	N.D.	17	38	1
10727	4-Chlorophenyl-phenylether	7005-72-3	N.D.	17	38	1
10727	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	17	38	1
Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.						
10727	Chrysene	218-01-9	12 J	3	18	1
10727	Dibenz(a,h)anthracene	53-70-3	N.D.	3	17	1
10727	Dibenzofuran	132-64-9	N.D.	17	38	1
10727	3,3'-Dichlorobenzidine	91-94-1	N.D.	100	340	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP03-S002 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925824
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 11:15

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles		SW-846 8270C	ug/kg	ug/kg	ug/kg	
10727	2,4-Dichlorophenol	120-83-2	N.D.	17	38	1
10727	Diethylphthalate	84-66-2	N.D.	69	170	1
10727	2,4-Dimethylphenol	105-67-9	N.D.	17	38	1
10727	Dimethylphthalate	131-11-3	N.D.	69	170	1
10727	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	170	520	1
10727	2,4-Dinitrophenol	51-28-5	N.D.	380	1,000	1
10727	2,4-Dinitrotoluene	121-14-2	N.D.	69	170	1
10727	2,6-Dinitrotoluene	606-20-2	N.D.	21	52	1
10727	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	69	170	1
10727	Fluoranthene	206-44-0	17 J	3	17	1
10727	Fluorene	86-73-7	N.D.	3	17	1
10727	Hexachlorobenzene	118-74-1	N.D.	3	17	1
10727	Hexachlorobutadiene	87-68-3	N.D.	21	52	1
10727	Hexachlorocyclopentadiene	77-47-4	N.D.	170	520	1
10727	Hexachloroethane	67-72-1	N.D.	34	170	1
10727	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	7	17	1
10727	Isophorone	78-59-1	N.D.	17	38	1
10727	2-Methylnaphthalene	91-57-6	N.D.	10	34	1
10727	2-Methylphenol	95-48-7	N.D.	28	69	1
10727	4-Methylphenol	106-44-5	N.D.	21	52	1
3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.						
10727	Naphthalene	91-20-3	N.D.	7	18	1
10727	2-Nitroaniline	88-74-4	N.D.	21	52	1
10727	3-Nitroaniline	99-09-2	N.D.	69	170	1
10727	4-Nitroaniline	100-01-6	N.D.	69	170	1
10727	Nitrobenzene	98-95-3	N.D.	28	69	1
10727	2-Nitrophenol	88-75-5	N.D.	17	38	1
10727	4-Nitrophenol	100-02-7	N.D.	170	520	1
10727	N-Nitroso-di-n-propylamine	621-64-7	N.D.	21	52	1
10727	N-Nitrosodiphenylamine	86-30-6	N.D.	17	38	1
N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.						
10727	Di-n-octylphthalate	117-84-0	N.D.	69	170	1
10727	Pentachlorophenol	87-86-5	N.D.	38	170	1
10727	Phenanthrene	85-01-8	10 J	3	17	1
10727	Phenol	108-95-2	N.D.	24	52	1
10727	Pyrene	129-00-0	19	3	17	1
10727	2,4,5-Trichlorophenol	95-95-4	N.D.	21	52	1
10727	2,4,6-Trichlorophenol	88-06-2	N.D.	21	52	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP03-S002 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925824
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 11:15

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
action was taken: The sample was re-extracted within the method required holding time and the QC is compliant, however the recovery for the sample surrogate(s) is outside the QC acceptance limits. All results are reported from the first trial.						
PCBs		SW-846 8082	ug/kg	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D. D1	3.7	18	1
10736	PCB-1221	11104-28-2	N.D. D1	4.8	18	1
10736	PCB-1232	11141-16-5	N.D. D1	8.3	18	1
10736	PCB-1242	53469-21-9	N.D. D1	3.4	18	1
10736	PCB-1248	12672-29-6	N.D. D1	3.4	18	1
10736	PCB-1254	11097-69-1	N.D. D1	3.4	18	1
10736	PCB-1260	11096-82-5	N.D. D1	5.1	18	1
Metals		SW-846 6010B	mg/kg	mg/kg	mg/kg	
06944	Antimony	7440-36-0	N.D.	1.58	4.65	1
06935	Arsenic	7440-38-2	6.59	1.12	4.65	1
06947	Beryllium	7440-41-7	0.627	0.0930	0.465	1
06949	Cadmium	7440-43-9	N.D.	0.0930	0.465	1
06951	Chromium	7440-47-3	20.9	0.195	1.40	1
06953	Copper	7440-50-8	17.2	0.465	1.86	1
06955	Lead	7439-92-1	15.7	0.558	1.40	1
06961	Nickel	7440-02-0	27.1	0.195	0.930	1
06936	Selenium	7782-49-2	4.26 J	1.40	4.65	1
06966	Silver	7440-22-4	N.D.	0.372	0.930	1
06925	Thallium	7440-28-0	1.19 J	0.837	2.79	1
06972	Zinc	7440-66-6	67.8 B	0.372	1.86	1
		SW-846 7471A	mg/kg	mg/kg	mg/kg	
00159	Mercury	7439-97-6	N.D.	0.0304	0.0651	1
Wet Chemistry		SM 2540 G-2011	%	%	%	
		%Moisture Calc				
00111	Moisture ¹	n.a.	4.0	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

¹ = This analyte was not on the laboratory's PA DEP Scope of Accreditation at the time of analysis.

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP03-S002 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925824
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 11:15

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	X183441AA	12/10/2018 16:33	Stephen C Nolte	1.04
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201834052105	12/03/2018 11:15	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201834052105	12/03/2018 11:15	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201834052105	12/03/2018 11:15	Client Supplied	1
10727	TCL 8270 (microwave)	SW-846 8270C	1	18340SLF026	12/10/2018 19:24	Linda M Hartenstine	1
10809	BNA Soil Microwave	SW-846 3546	1	18340SLF026	12/07/2018 08:00	Kayla A Yuditsky	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	183410024A	12/09/2018 20:58	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	183410024A	12/07/2018 16:15	Elizabeth E Donovan	1
06944	Antimony	SW-846 6010B	1	183410570801	12/12/2018 07:24	Eric L Eby	1
06935	Arsenic	SW-846 6010B	1	183410570801	12/12/2018 07:24	Eric L Eby	1
06947	Beryllium	SW-846 6010B	1	183410570801	12/12/2018 07:24	Eric L Eby	1
06949	Cadmium	SW-846 6010B	1	183410570801	12/12/2018 07:24	Eric L Eby	1
06951	Chromium	SW-846 6010B	1	183410570801	12/12/2018 07:24	Eric L Eby	1
06953	Copper	SW-846 6010B	1	183410570801	12/12/2018 07:24	Eric L Eby	1
06955	Lead	SW-846 6010B	1	183410570801	12/12/2018 07:24	Eric L Eby	1
06961	Nickel	SW-846 6010B	1	183410570801	12/12/2018 07:24	Eric L Eby	1
06936	Selenium	SW-846 6010B	1	183410570801	12/12/2018 07:24	Eric L Eby	1
06966	Silver	SW-846 6010B	1	183410570801	12/12/2018 07:24	Eric L Eby	1
06925	Thallium	SW-846 6010B	1	183410570801	12/12/2018 07:24	Eric L Eby	1
06972	Zinc	SW-846 6010B	1	183410570801	12/12/2018 07:24	Eric L Eby	1
00159	Mercury	SW-846 7471A	1	183410571101	12/10/2018 12:31	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	183410570801	12/10/2018 07:35	Denise L Trimby	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	183410571101	12/10/2018 10:00	Denise L Trimby	1
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	18345820004A	12/11/2018 11:31	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP04-S001 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925825
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 11:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Acetone	67-64-1	0.097	0.005	0.018	0.79
10237	Benzene	71-43-2	N.D.	0.0004	0.004	0.79
10237	Bromodichloromethane	75-27-4	N.D.	0.0003	0.004	0.79
10237	Bromoform	75-25-2	N.D.	0.004	0.009	0.79
10237	Bromomethane	74-83-9	N.D.	0.0007	0.004	0.79
10237	2-Butanone	78-93-3	0.009 J	0.0009	0.009	0.79
10237	Carbon Disulfide	75-15-0	N.D.	0.0004	0.004	0.79
10237	Carbon Tetrachloride	56-23-5	N.D.	0.0004	0.004	0.79
10237	Chlorobenzene	108-90-7	N.D.	0.0004	0.004	0.79
10237	Chloroethane	75-00-3	N.D.	0.002	0.004	0.79
10237	Chloroform	67-66-3	N.D.	0.0004	0.004	0.79
10237	Chloromethane	74-87-3	N.D.	0.0004	0.004	0.79
10237	Cyclohexane	110-82-7	N.D.	0.0004	0.004	0.79
10237	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.0003	0.004	0.79
10237	Dibromochloromethane	124-48-1	N.D.	0.003	0.007	0.79
10237	1,2-Dibromoethane	106-93-4	N.D.	0.0003	0.004	0.79
10237	1,2-Dichlorobenzene	95-50-1	N.D.	0.0004	0.004	0.79
10237	1,3-Dichlorobenzene	541-73-1	N.D.	0.0004	0.004	0.79
10237	1,4-Dichlorobenzene	106-46-7	N.D.	0.0004	0.004	0.79
10237	Dichlorodifluoromethane	75-71-8	N.D.	0.0004	0.004	0.79
10237	1,1-Dichloroethane	75-34-3	N.D.	0.0004	0.004	0.79
10237	1,2-Dichloroethane	107-06-2	N.D.	0.0003	0.004	0.79
10237	1,1-Dichloroethene	75-35-4	N.D.	0.0004	0.004	0.79
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.0004	0.004	0.79
10237	trans-1,2-Dichloroethene	156-60-5	N.D.	0.0004	0.004	0.79
10237	1,2-Dichloropropane	78-87-5	N.D.	0.0004	0.004	0.79
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.0004	0.004	0.79
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.0003	0.004	0.79
10237	Ethylbenzene	100-41-4	N.D.	0.0004	0.004	0.79
10237	Freon 113	76-13-1	N.D.	0.0004	0.009	0.79
10237	2-Hexanone	591-78-6	N.D.	0.0009	0.009	0.79
10237	Isopropylbenzene	98-82-8	N.D.	0.0004	0.004	0.79
10237	Methyl Acetate	79-20-9	N.D.	0.0009	0.004	0.79
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0004	0.004	0.79
10237	4-Methyl-2-pentanone	108-10-1	N.D.	0.0009	0.009	0.79
10237	Methylcyclohexane	108-87-2	N.D.	0.0005	0.004	0.79
10237	Methylene Chloride	75-09-2	N.D.	0.0009	0.004	0.79
10237	Styrene	100-42-5	N.D.	0.0004	0.004	0.79
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.0003	0.004	0.79
10237	Tetrachloroethene	127-18-4	N.D.	0.0004	0.004	0.79
10237	Toluene	108-88-3	N.D.	0.0003	0.004	0.79
10237	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.0007	0.004	0.79

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP04-S001 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925825
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 11:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	mg/kg	mg/kg	mg/kg	
10237	1,1,1-Trichloroethane	71-55-6	N.D.	0.0004	0.004	0.79
10237	1,1,2-Trichloroethane	79-00-5	N.D.	0.0003	0.004	0.79
10237	Trichloroethene	79-01-6	N.D.	0.0004	0.004	0.79
10237	Trichlorofluoromethane	75-69-4	N.D.	0.0005	0.004	0.79
10237	1,2,4-Trimethylbenzene	95-63-6	0.0007 J	0.0005	0.004	0.79
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.0004	0.004	0.79
10237	Vinyl Chloride	75-01-4	N.D.	0.0004	0.004	0.79
10237	Xylene (Total)	1330-20-7	N.D.	0.0008	0.004	0.79
GC/MS Semivolatiles		SW-846 8270C	ug/kg	ug/kg	ug/kg	
10727	Acenaphthene	83-32-9	N.D.	4	19	1
10727	Acenaphthylene	208-96-8	12 J	4	19	1
10727	Acetophenone	98-86-2	N.D.	26	56	1
10727	Anthracene	120-12-7	6 J	4	19	1
10727	Atrazine	1912-24-9	N.D.	37	190	1
10727	Benzaldehyde	100-52-7	N.D.	74	190	1
10727	Benzo(a)anthracene	56-55-3	22	4	19	1
10727	Benzo(a)pyrene	50-32-8	26	7	19	1
10727	Benzo(b)fluoranthene	205-99-2	40	4	19	1
10727	Benzo(g,h,i)perylene	191-24-2	22	7	19	1
10727	Benzo(k)fluoranthene	207-08-9	18 J	4	19	1
10727	1,1'-Biphenyl	92-52-4	N.D.	19	41	1
10727	4-Bromophenyl-phenylether	101-55-3	N.D.	22	56	1
10727	Butylbenzylphthalate	85-68-7	N.D.	74	190	1
10727	Di-n-butylphthalate	84-74-2	N.D.	74	190	1
10727	Caprolactam	105-60-2	N.D.	37	190	1
10727	Carbazole	86-74-8	N.D.	19	41	1
10727	4-Chloro-3-methylphenol	59-50-7	N.D.	19	41	1
10727	4-Chloroaniline	106-47-8	N.D. Q9	37	190	1
10727	bis(2-Chloroethoxy)methane	111-91-1	N.D.	19	41	1
10727	bis(2-Chloroethyl)ether	111-44-4	N.D.	26	56	1
10727	2-Chloronaphthalene	91-58-7	N.D. Q3Q9	7	37	1
10727	2-Chlorophenol	95-57-8	N.D.	19	41	1
10727	4-Chlorophenyl-phenylether	7005-72-3	N.D.	19	41	1
10727	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	19	41	1
Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.						
10727	Chrysene	218-01-9	25	4	19	1
10727	Dibenz(a,h)anthracene	53-70-3	6 J	4	19	1
10727	Dibenzofuran	132-64-9	N.D.	19	41	1
10727	3,3'-Dichlorobenzidine	91-94-1	N.D.	110	370	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP04-S001 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925825
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 11:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles SW-846 8270C			ug/kg	ug/kg	ug/kg	
10727	2,4-Dichlorophenol	120-83-2	N.D.	19	41	1
10727	Diethylphthalate	84-66-2	N.D.	74	190	1
10727	2,4-Dimethylphenol	105-67-9	N.D.	19	41	1
10727	Dimethylphthalate	131-11-3	N.D.	74	190	1
10727	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	190	560	1
10727	2,4-Dinitrophenol	51-28-5	N.D.	410	1,100	1
10727	2,4-Dinitrotoluene	121-14-2	N.D.	74	190	1
10727	2,6-Dinitrotoluene	606-20-2	N.D.	22	56	1
10727	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	74	190	1
10727	Fluoranthene	206-44-0	31	4	19	1
10727	Fluorene	86-73-7	N.D.	4	19	1
10727	Hexachlorobenzene	118-74-1	N.D.	4	19	1
10727	Hexachlorobutadiene	87-68-3	N.D.	22	56	1
10727	Hexachlorocyclopentadiene	77-47-4	N.D.	190	560	1
10727	Hexachloroethane	67-72-1	N.D.	37	190	1
10727	Indeno(1,2,3-cd)pyrene	193-39-5	19	7	19	1
10727	Isophorone	78-59-1	N.D.	19	41	1
10727	2-Methylnaphthalene	91-57-6	N.D.	11	37	1
10727	2-Methylphenol	95-48-7	N.D.	30	74	1
10727	4-Methylphenol	106-44-5	N.D.	22	56	1
3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.						
10727	Naphthalene	91-20-3	N.D.	7	19	1
10727	2-Nitroaniline	88-74-4	N.D.	22	56	1
10727	3-Nitroaniline	99-09-2	N.D.	74	190	1
10727	4-Nitroaniline	100-01-6	N.D.	74	190	1
10727	Nitrobenzene	98-95-3	N.D.	30	74	1
10727	2-Nitrophenol	88-75-5	N.D.	19	41	1
10727	4-Nitrophenol	100-02-7	N.D.	190	560	1
10727	N-Nitroso-di-n-propylamine	621-64-7	N.D.	22	56	1
10727	N-Nitrosodiphenylamine	86-30-6	N.D.	19	41	1
N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.						
10727	Di-n-octylphthalate	117-84-0	N.D.	74	190	1
10727	Pentachlorophenol	87-86-5	N.D.	41	190	1
10727	Phenanthrene	85-01-8	17 J	4	19	1
10727	Phenol	108-95-2	N.D.	26	56	1
10727	Pyrene	129-00-0	31	4	19	1
10727	2,4,5-Trichlorophenol	95-95-4	N.D.	22	56	1
10727	2,4,6-Trichlorophenol	88-06-2	N.D.	22	56	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP04-S001 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925825
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 11:30

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
PCBs			SW-846 8082	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D. D1	4.0	19	1
10736	PCB-1221	11104-28-2	N.D. D1	5.2	19	1
10736	PCB-1232	11141-16-5	N.D. D1	9.0	19	1
10736	PCB-1242	53469-21-9	N.D. D1	3.7	19	1
10736	PCB-1248	12672-29-6	N.D. D1	3.7	19	1
10736	PCB-1254	11097-69-1	N.D. D1	3.7	19	1
10736	PCB-1260	11096-82-5	N.D. D1	5.5	19	1
Metals			SW-846 6010B	mg/kg	mg/kg	
06944	Antimony	7440-36-0	N.D.	1.45	4.27	1
06935	Arsenic	7440-38-2	4.91	1.02	4.27	1
06947	Beryllium	7440-41-7	0.393 J	0.0853	0.427	1
06949	Cadmium	7440-43-9	N.D.	0.0853	0.427	1
06951	Chromium	7440-47-3	11.3	0.179	1.28	1
06953	Copper	7440-50-8	10.1	0.427	1.71	1
06955	Lead	7439-92-1	18.0	0.512	1.28	1
06961	Nickel	7440-02-0	13.1	0.179	0.853	1
06936	Selenium	7782-49-2	N.D.	1.28	4.27	1
06966	Silver	7440-22-4	N.D.	0.341	0.853	1
06925	Thallium	7440-28-0	N.D.	0.768	2.56	1
06972	Zinc	7440-66-6	45.0 B	0.341	1.71	1
00159	Mercury	7439-97-6	N.D.	0.0329	0.0704	1
Wet Chemistry			SM 2540 G-2011	%	%	
00111	Moisture ¹	n.a.	11.2	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

¹ = This analyte was not on the laboratory's PA DEP Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	X183441AA	12/10/2018 16:56	Stephen C Nolte	0.79

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP04-S001 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925825
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 11:30

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201834052105	12/03/2018 11:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201834052105	12/03/2018 11:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201834052105	12/03/2018 11:30	Client Supplied	1
10727	TCL 8270 (microwave)	SW-846 8270C	1	18341SLC026	12/10/2018 19:48	Linda M Hartenstine	1
10809	BNA Soil Microwave	SW-846 3546	1	18341SLC026	12/10/2018 02:00	Sherry L Morrow	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	183410024A	12/09/2018 21:08	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	183410024A	12/07/2018 16:15	Elizabeth E Donovan	1
06944	Antimony	SW-846 6010B	1	183410570801	12/12/2018 07:27	Eric L Eby	1
06935	Arsenic	SW-846 6010B	1	183410570801	12/12/2018 07:27	Eric L Eby	1
06947	Beryllium	SW-846 6010B	1	183410570801	12/12/2018 07:27	Eric L Eby	1
06949	Cadmium	SW-846 6010B	1	183410570801	12/12/2018 07:27	Eric L Eby	1
06951	Chromium	SW-846 6010B	1	183410570801	12/12/2018 07:27	Eric L Eby	1
06953	Copper	SW-846 6010B	1	183410570801	12/12/2018 07:27	Eric L Eby	1
06955	Lead	SW-846 6010B	1	183410570801	12/12/2018 07:27	Eric L Eby	1
06961	Nickel	SW-846 6010B	1	183410570801	12/12/2018 07:27	Eric L Eby	1
06936	Selenium	SW-846 6010B	1	183410570801	12/12/2018 07:27	Eric L Eby	1
06966	Silver	SW-846 6010B	1	183410570801	12/12/2018 07:27	Eric L Eby	1
06925	Thallium	SW-846 6010B	1	183410570801	12/12/2018 07:27	Eric L Eby	1
06972	Zinc	SW-846 6010B	1	183410570801	12/12/2018 07:27	Eric L Eby	1
00159	Mercury	SW-846 7471A	1	183410571101	12/10/2018 12:33	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	183410570801	12/10/2018 07:35	Denise L Trimby	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	183410571101	12/10/2018 10:00	Denise L Trimby	1
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	18345820004A	12/11/2018 11:31	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP04-S002 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925826
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 11:40

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Acetone	67-64-1	0.075	0.006	0.019	0.86
10237	Benzene	71-43-2	N.D.	0.0004	0.005	0.86
10237	Bromodichloromethane	75-27-4	N.D.	0.0003	0.005	0.86
10237	Bromoform	75-25-2	N.D.	0.004	0.01	0.86
10237	Bromomethane	74-83-9	N.D.	0.0008	0.005	0.86
10237	2-Butanone	78-93-3	0.006 J	0.001	0.01	0.86
10237	Carbon Disulfide	75-15-0	0.001 J	0.0004	0.005	0.86
10237	Carbon Tetrachloride	56-23-5	N.D.	0.0005	0.005	0.86
10237	Chlorobenzene	108-90-7	N.D.	0.0004	0.005	0.86
10237	Chloroethane	75-00-3	N.D.	0.002	0.005	0.86
10237	Chloroform	67-66-3	N.D.	0.0004	0.005	0.86
10237	Chloromethane	74-87-3	N.D.	0.0005	0.005	0.86
10237	Cyclohexane	110-82-7	N.D.	0.0005	0.005	0.86
10237	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.0003	0.005	0.86
10237	Dibromochloromethane	124-48-1	N.D.	0.003	0.008	0.86
10237	1,2-Dibromoethane	106-93-4	N.D.	0.0003	0.005	0.86
10237	1,2-Dichlorobenzene	95-50-1	N.D.	0.0004	0.005	0.86
10237	1,3-Dichlorobenzene	541-73-1	N.D.	0.0004	0.005	0.86
10237	1,4-Dichlorobenzene	106-46-7	N.D.	0.0004	0.005	0.86
10237	Dichlorodifluoromethane	75-71-8	N.D.	0.0004	0.005	0.86
10237	1,1-Dichloroethane	75-34-3	N.D.	0.0004	0.005	0.86
10237	1,2-Dichloroethane	107-06-2	N.D.	0.0003	0.005	0.86
10237	1,1-Dichloroethene	75-35-4	N.D.	0.0004	0.005	0.86
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.0005	0.005	0.86
10237	trans-1,2-Dichloroethene	156-60-5	N.D.	0.0004	0.005	0.86
10237	1,2-Dichloropropane	78-87-5	N.D.	0.0004	0.005	0.86
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.0004	0.005	0.86
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.0003	0.005	0.86
10237	Ethylbenzene	100-41-4	N.D.	0.0004	0.005	0.86
10237	Freon 113	76-13-1	N.D.	0.0004	0.01	0.86
10237	2-Hexanone	591-78-6	N.D.	0.001	0.01	0.86
10237	Isopropylbenzene	98-82-8	N.D.	0.0005	0.005	0.86
10237	Methyl Acetate	79-20-9	N.D.	0.001	0.005	0.86
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	0.86
10237	4-Methyl-2-pentanone	108-10-1	N.D.	0.001	0.01	0.86
10237	Methylcyclohexane	108-87-2	N.D.	0.0006	0.005	0.86
10237	Methylene Chloride	75-09-2	N.D.	0.001	0.005	0.86
10237	Styrene	100-42-5	N.D.	0.0004	0.005	0.86
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.0003	0.005	0.86
10237	Tetrachloroethene	127-18-4	N.D.	0.0005	0.005	0.86
10237	Toluene	108-88-3	N.D.	0.0003	0.005	0.86
10237	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.0008	0.005	0.86

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP04-S002 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925826
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 11:40

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	1,1,1-Trichloroethane	71-55-6	N.D.	0.0004	0.005	0.86
10237	1,1,2-Trichloroethane	79-00-5	N.D.	0.0003	0.005	0.86
10237	Trichloroethene	79-01-6	N.D.	0.0004	0.005	0.86
10237	Trichlorofluoromethane	75-69-4	N.D.	0.0006	0.005	0.86
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.0006	0.005	0.86
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.0005	0.005	0.86
10237	Vinyl Chloride	75-01-4	N.D.	0.0005	0.005	0.86
10237	Xylene (Total)	1330-20-7	N.D.	0.0009	0.005	0.86
GC/MS Semivolatiles			SW-846 8270C	ug/kg	ug/kg	
10727	Acenaphthene	83-32-9	N.D.	4	19	1
10727	Acenaphthylene	208-96-8	10 J	4	19	1
10727	Acetophenone	98-86-2	N.D.	26	56	1
10727	Anthracene	120-12-7	6 J	4	19	1
10727	Atrazine	1912-24-9	N.D.	37	190	1
10727	Benzaldehyde	100-52-7	N.D.	74	190	1
10727	Benzo(a)anthracene	56-55-3	20	4	19	1
10727	Benzo(a)pyrene	50-32-8	27	7	19	1
10727	Benzo(b)fluoranthene	205-99-2	48	4	19	1
10727	Benzo(g,h,i)perylene	191-24-2	27	7	19	1
10727	Benzo(k)fluoranthene	207-08-9	17 J	4	19	1
10727	1,1'-Biphenyl	92-52-4	N.D.	19	41	1
10727	4-Bromophenyl-phenylether	101-55-3	N.D.	22	56	1
10727	Butylbenzylphthalate	85-68-7	N.D.	74	190	1
10727	Di-n-butylphthalate	84-74-2	N.D.	74	190	1
10727	Caprolactam	105-60-2	N.D.	37	190	1
10727	Carbazole	86-74-8	N.D.	19	41	1
10727	4-Chloro-3-methylphenol	59-50-7	N.D.	19	41	1
10727	4-Chloroaniline	106-47-8	N.D.	37	190	1
10727	bis(2-Chloroethoxy)methane	111-91-1	N.D.	19	41	1
10727	bis(2-Chloroethyl)ether	111-44-4	N.D.	26	56	1
10727	2-Chloronaphthalene	91-58-7	N.D.	7	37	1
10727	2-Chlorophenol	95-57-8	N.D.	19	41	1
10727	4-Chlorophenyl-phenylether	7005-72-3	N.D.	19	41	1
10727	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	19	41	1
Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.						
10727	Chrysene	218-01-9	32	4	19	1
10727	Dibenz(a,h)anthracene	53-70-3	8 J	4	19	1
10727	Dibenzofuran	132-64-9	N.D.	19	41	1
10727	3,3'-Dichlorobenzidine	91-94-1	N.D.	110	370	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP04-S002 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925826
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 11:40

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles		SW-846 8270C	ug/kg	ug/kg	ug/kg	
10727	2,4-Dichlorophenol	120-83-2	N.D.	19	41	1
10727	Diethylphthalate	84-66-2	N.D.	74	190	1
10727	2,4-Dimethylphenol	105-67-9	N.D.	19	41	1
10727	Dimethylphthalate	131-11-3	N.D.	74	190	1
10727	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	190	560	1
10727	2,4-Dinitrophenol	51-28-5	N.D.	410	1,100	1
10727	2,4-Dinitrotoluene	121-14-2	N.D.	74	190	1
10727	2,6-Dinitrotoluene	606-20-2	N.D.	22	56	1
10727	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	74	190	1
10727	Fluoranthene	206-44-0	29	4	19	1
10727	Fluorene	86-73-7	N.D.	4	19	1
10727	Hexachlorobenzene	118-74-1	N.D.	4	19	1
10727	Hexachlorobutadiene	87-68-3	N.D.	22	56	1
10727	Hexachlorocyclopentadiene	77-47-4	N.D.	190	560	1
10727	Hexachloroethane	67-72-1	N.D.	37	190	1
10727	Indeno(1,2,3-cd)pyrene	193-39-5	22	7	19	1
10727	Isophorone	78-59-1	N.D.	19	41	1
10727	2-Methylnaphthalene	91-57-6	N.D.	11	37	1
10727	2-Methylphenol	95-48-7	N.D.	30	74	1
10727	4-Methylphenol	106-44-5	N.D.	22	56	1
3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.						
10727	Naphthalene	91-20-3	N.D.	7	19	1
10727	2-Nitroaniline	88-74-4	N.D.	22	56	1
10727	3-Nitroaniline	99-09-2	N.D.	74	190	1
10727	4-Nitroaniline	100-01-6	N.D.	74	190	1
10727	Nitrobenzene	98-95-3	N.D.	30	74	1
10727	2-Nitrophenol	88-75-5	N.D.	19	41	1
10727	4-Nitrophenol	100-02-7	N.D.	190	560	1
10727	N-Nitroso-di-n-propylamine	621-64-7	N.D.	22	56	1
10727	N-Nitrosodiphenylamine	86-30-6	N.D.	19	41	1
N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.						
10727	Di-n-octylphthalate	117-84-0	N.D.	74	190	1
10727	Pentachlorophenol	87-86-5	N.D.	41	190	1
10727	Phenanthrene	85-01-8	13 J	4	19	1
10727	Phenol	108-95-2	N.D.	26	56	1
10727	Pyrene	129-00-0	31	4	19	1
10727	2,4,5-Trichlorophenol	95-95-4	N.D.	22	56	1
10727	2,4,6-Trichlorophenol	88-06-2	N.D.	22	56	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP04-S002 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925826
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 11:40

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
PCBs			SW-846 8082	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D. D1	4.0	19	1
10736	PCB-1221	11104-28-2	N.D. D1	5.1	19	1
10736	PCB-1232	11141-16-5	N.D. D1	8.9	19	1
10736	PCB-1242	53469-21-9	N.D. D1	3.7	19	1
10736	PCB-1248	12672-29-6	N.D. D1	3.7	19	1
10736	PCB-1254	11097-69-1	N.D. D1	3.7	19	1
10736	PCB-1260	11096-82-5	N.D. D1	5.5	19	1
Metals			SW-846 6010B	mg/kg	mg/kg	
06944	Antimony	7440-36-0	N.D.	1.61	4.74	1
06935	Arsenic	7440-38-2	2.92 J	1.14	4.74	1
06947	Beryllium	7440-41-7	0.508	0.0947	0.474	1
06949	Cadmium	7440-43-9	N.D.	0.0947	0.474	1
06951	Chromium	7440-47-3	15.3	0.199	1.42	1
06953	Copper	7440-50-8	11.5	0.474	1.89	1
06955	Lead	7439-92-1	17.6	0.568	1.42	1
06961	Nickel	7440-02-0	17.8	0.199	0.947	1
06936	Selenium	7782-49-2	2.25 J	1.42	4.74	1
06966	Silver	7440-22-4	N.D.	0.379	0.947	1
06925	Thallium	7440-28-0	N.D.	0.853	2.84	1
06972	Zinc	7440-66-6	53.0 B	0.379	1.89	1
00159	Mercury	7439-97-6	N.D.	0.0340	0.0727	1
Wet Chemistry			SM 2540 G-2011	%	%	
00111	Moisture ¹	n.a.	11.3	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

¹ = This analyte was not on the laboratory's PA DEP Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	A183421AA	12/08/2018 15:26	Stephen C Nolte	0.86

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP04-S002 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925826
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 11:40

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201834052105	12/03/2018 11:40	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201834052105	12/03/2018 11:40	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201834052105	12/03/2018 11:40	Client Supplied	1
10727	TCL 8270 (microwave)	SW-846 8270C	1	18341SLC026	12/10/2018 20:59	Linda M Hartenstine	1
10809	BNA Soil Microwave	SW-846 3546	1	18341SLC026	12/10/2018 02:00	Sherry L Morrow	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	183410024A	12/09/2018 21:18	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	183410024A	12/07/2018 16:15	Elizabeth E Donovan	1
06944	Antimony	SW-846 6010B	1	183410570801	12/12/2018 07:31	Eric L Eby	1
06935	Arsenic	SW-846 6010B	1	183410570801	12/12/2018 07:31	Eric L Eby	1
06947	Beryllium	SW-846 6010B	1	183410570801	12/12/2018 07:31	Eric L Eby	1
06949	Cadmium	SW-846 6010B	1	183410570801	12/12/2018 07:31	Eric L Eby	1
06951	Chromium	SW-846 6010B	1	183410570801	12/12/2018 07:31	Eric L Eby	1
06953	Copper	SW-846 6010B	1	183410570801	12/12/2018 07:31	Eric L Eby	1
06955	Lead	SW-846 6010B	1	183410570801	12/12/2018 07:31	Eric L Eby	1
06961	Nickel	SW-846 6010B	1	183410570801	12/12/2018 07:31	Eric L Eby	1
06936	Selenium	SW-846 6010B	1	183410570801	12/12/2018 07:31	Eric L Eby	1
06966	Silver	SW-846 6010B	1	183410570801	12/12/2018 07:31	Eric L Eby	1
06925	Thallium	SW-846 6010B	1	183410570801	12/12/2018 07:31	Eric L Eby	1
06972	Zinc	SW-846 6010B	1	183410570801	12/12/2018 07:31	Eric L Eby	1
00159	Mercury	SW-846 7471A	1	183410571101	12/10/2018 12:35	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	183410570801	12/10/2018 07:35	Denise L Trimby	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	183410571101	12/10/2018 10:00	Denise L Trimby	1
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	18345820004A	12/11/2018 11:31	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP05-S001 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925827
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 11:50

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
		SW-846 8260B				
10237	Acetone	67-64-1	0.017 J	0.008	0.026	1.1
10237	Benzene	71-43-2	N.D.	0.0005	0.006	1.1
10237	Bromodichloromethane	75-27-4	N.D.	0.0004	0.006	1.1
10237	Bromoform	75-25-2	N.D.	0.005	0.013	1.1
10237	Bromomethane	74-83-9	N.D.	0.001	0.006	1.1
10237	2-Butanone	78-93-3	0.001 J	0.001	0.013	1.1
10237	Carbon Disulfide	75-15-0	0.001 J	0.0005	0.006	1.1
10237	Carbon Tetrachloride	56-23-5	N.D.	0.0006	0.006	1.1
10237	Chlorobenzene	108-90-7	N.D.	0.0005	0.006	1.1
10237	Chloroethane	75-00-3	N.D.	0.003	0.006	1.1
10237	Chloroform	67-66-3	N.D.	0.0005	0.006	1.1
10237	Chloromethane	74-87-3	N.D.	0.0006	0.006	1.1
10237	Cyclohexane	110-82-7	N.D.	0.0006	0.006	1.1
10237	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.0004	0.006	1.1
10237	Dibromochloromethane	124-48-1	N.D.	0.004	0.010	1.1
10237	1,2-Dibromoethane	106-93-4	N.D.	0.0004	0.006	1.1
10237	1,2-Dichlorobenzene	95-50-1	N.D.	0.0005	0.006	1.1
10237	1,3-Dichlorobenzene	541-73-1	N.D.	0.0005	0.006	1.1
10237	1,4-Dichlorobenzene	106-46-7	N.D.	0.0005	0.006	1.1
10237	Dichlorodifluoromethane	75-71-8	N.D.	0.0005	0.006	1.1
10237	1,1-Dichloroethane	75-34-3	N.D.	0.0005	0.006	1.1
10237	1,2-Dichloroethane	107-06-2	N.D.	0.0004	0.006	1.1
10237	1,1-Dichloroethene	75-35-4	N.D.	0.0005	0.006	1.1
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.0006	0.006	1.1
10237	trans-1,2-Dichloroethene	156-60-5	N.D.	0.0005	0.006	1.1
10237	1,2-Dichloropropane	78-87-5	N.D.	0.0005	0.006	1.1
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.0005	0.006	1.1
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.0004	0.006	1.1
10237	Ethylbenzene	100-41-4	N.D.	0.0005	0.006	1.1
10237	Freon 113	76-13-1	N.D.	0.0005	0.013	1.1
10237	2-Hexanone	591-78-6	N.D.	0.001	0.013	1.1
10237	Isopropylbenzene	98-82-8	N.D.	0.0006	0.006	1.1
10237	Methyl Acetate	79-20-9	N.D.	0.001	0.006	1.1
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0006	0.006	1.1
10237	4-Methyl-2-pentanone	108-10-1	N.D.	0.001	0.013	1.1
10237	Methylcyclohexane	108-87-2	N.D.	0.0008	0.006	1.1
10237	Methylene Chloride	75-09-2	N.D.	0.001	0.006	1.1
10237	Styrene	100-42-5	N.D.	0.0005	0.006	1.1
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.0004	0.006	1.1
10237	Tetrachloroethene	127-18-4	N.D.	0.0006	0.006	1.1
10237	Toluene	108-88-3	N.D.	0.0004	0.006	1.1
10237	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.001	0.006	1.1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP05-S001 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925827
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 11:50

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	mg/kg	mg/kg	mg/kg	
10237	1,1,1-Trichloroethane	71-55-6	N.D.	0.0005	0.006	1.1
10237	1,1,2-Trichloroethane	79-00-5	N.D.	0.0004	0.006	1.1
10237	Trichloroethene	79-01-6	N.D.	0.0005	0.006	1.1
10237	Trichlorofluoromethane	75-69-4	N.D.	0.0008	0.006	1.1
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.0008	0.006	1.1
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.0006	0.006	1.1
10237	Vinyl Chloride	75-01-4	N.D.	0.0006	0.006	1.1
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.006	1.1
GC/MS Semivolatiles		SW-846 8270C	ug/kg	ug/kg	ug/kg	
10727	Acenaphthene	83-32-9	9 J	4	19	1
10727	Acenaphthylene	208-96-8	150	4	19	1
10727	Acetophenone	98-86-2	N.D.	27	58	1
10727	Anthracene	120-12-7	130	4	19	1
10727	Atrazine	1912-24-9	N.D.	39	190	1
10727	Benzaldehyde	100-52-7	N.D.	78	190	1
10727	Benzo(a)anthracene	56-55-3	300	4	19	1
10727	Benzo(a)pyrene	50-32-8	350	8	19	1
10727	Benzo(b)fluoranthene	205-99-2	600	4	19	1
10727	Benzo(g,h,i)perylene	191-24-2	350	8	19	1
10727	Benzo(k)fluoranthene	207-08-9	230	4	19	1
10727	1,1'-Biphenyl	92-52-4	N.D.	19	43	1
10727	4-Bromophenyl-phenylether	101-55-3	N.D.	23	58	1
10727	Butylbenzylphthalate	85-68-7	N.D.	78	190	1
10727	Di-n-butylphthalate	84-74-2	N.D.	78	190	1
10727	Caprolactam	105-60-2	N.D.	39	190	1
10727	Carbazole	86-74-8	84	19	43	1
10727	4-Chloro-3-methylphenol	59-50-7	N.D.	19	43	1
10727	4-Chloroaniline	106-47-8	N.D.	39	190	1
10727	bis(2-Chloroethoxy)methane	111-91-1	N.D.	19	43	1
10727	bis(2-Chloroethyl)ether	111-44-4	N.D.	27	58	1
10727	2-Chloronaphthalene	91-58-7	N.D.	8	39	1
10727	2-Chlorophenol	95-57-8	N.D.	19	43	1
10727	4-Chlorophenyl-phenylether	7005-72-3	N.D.	19	43	1
10727	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	19	43	1
Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.						
10727	Chrysene	218-01-9	400	4	20	1
10727	Dibenz(a,h)anthracene	53-70-3	80	4	19	1
10727	Dibenzofuran	132-64-9	37 J	19	43	1
10727	3,3'-Dichlorobenzidine	91-94-1	N.D.	120	390	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP05-S001 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925827
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 11:50

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles		SW-846 8270C	ug/kg	ug/kg	ug/kg	
10727	2,4-Dichlorophenol	120-83-2	N.D.	19	43	1
10727	Diethylphthalate	84-66-2	N.D.	78	190	1
10727	2,4-Dimethylphenol	105-67-9	N.D.	19	43	1
10727	Dimethylphthalate	131-11-3	N.D.	78	190	1
10727	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	190	580	1
10727	2,4-Dinitrophenol	51-28-5	N.D.	430	1,200	1
10727	2,4-Dinitrotoluene	121-14-2	N.D.	78	190	1
10727	2,6-Dinitrotoluene	606-20-2	N.D.	23	58	1
10727	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	78	190	1
10727	Fluoranthene	206-44-0	680	4	19	1
10727	Fluorene	86-73-7	30	4	19	1
10727	Hexachlorobenzene	118-74-1	N.D.	4	19	1
10727	Hexachlorobutadiene	87-68-3	N.D.	23	58	1
10727	Hexachlorocyclopentadiene	77-47-4	N.D.	190	580	1
10727	Hexachloroethane	67-72-1	N.D.	39	190	1
10727	Indeno(1,2,3-cd)pyrene	193-39-5	300	8	19	1
10727	Isophorone	78-59-1	N.D.	19	43	1
10727	2-Methylnaphthalene	91-57-6	36 J	12	39	1
10727	2-Methylphenol	95-48-7	N.D.	31	78	1
10727	4-Methylphenol	106-44-5	N.D.	23	58	1
3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.						
10727	Naphthalene	91-20-3	43	8	20	1
10727	2-Nitroaniline	88-74-4	N.D.	23	58	1
10727	3-Nitroaniline	99-09-2	N.D.	78	190	1
10727	4-Nitroaniline	100-01-6	N.D.	78	190	1
10727	Nitrobenzene	98-95-3	N.D.	31	78	1
10727	2-Nitrophenol	88-75-5	N.D.	19	43	1
10727	4-Nitrophenol	100-02-7	N.D.	190	580	1
10727	N-Nitroso-di-n-propylamine	621-64-7	N.D.	23	58	1
10727	N-Nitrosodiphenylamine	86-30-6	N.D.	19	43	1
N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.						
10727	Di-n-octylphthalate	117-84-0	N.D.	78	190	1
10727	Pentachlorophenol	87-86-5	N.D.	43	190	1
10727	Phenanthrene	85-01-8	640	4	19	1
10727	Phenol	108-95-2	N.D.	27	58	1
10727	Pyrene	129-00-0	630	4	19	1
10727	2,4,5-Trichlorophenol	95-95-4	N.D.	23	58	1
10727	2,4,6-Trichlorophenol	88-06-2	N.D.	23	58	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP05-S001 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925827
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 11:50

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
PCBs			SW-846 8082	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D. D1	4.2	20	1
10736	PCB-1221	11104-28-2	N.D. D1	5.4	20	1
10736	PCB-1232	11141-16-5	N.D. D1	9.4	20	1
10736	PCB-1242	53469-21-9	N.D. D1	3.9	20	1
10736	PCB-1248	12672-29-6	N.D. D1	3.9	20	1
10736	PCB-1254	11097-69-1	N.D. D1	3.9	20	1
10736	PCB-1260	11096-82-5	8.7 JD2	5.7	20	1
Metals			SW-846 6010B	mg/kg	mg/kg	
06944	Antimony	7440-36-0	N.D.	1.88	5.53	1
06935	Arsenic	7440-38-2	3.56 J	1.33	5.53	1
06947	Beryllium	7440-41-7	0.678	0.111	0.553	1
06949	Cadmium	7440-43-9	0.212 J	0.111	0.553	1
06951	Chromium	7440-47-3	17.8	0.232	1.66	1
06953	Copper	7440-50-8	20.7	0.553	2.21	1
06955	Lead	7439-92-1	34.0	0.664	1.66	1
06961	Nickel	7440-02-0	21.9	0.232	1.11	1
06936	Selenium	7782-49-2	2.48 J	1.66	5.53	1
06966	Silver	7440-22-4	N.D.	0.442	1.11	1
06925	Thallium	7440-28-0	N.D.	0.995	3.32	1
06972	Zinc	7440-66-6	131 B	0.442	2.21	1
00159	Mercury	7439-97-6	N.D.	0.0365	0.0782	1
Wet Chemistry			SM 2540 G-2011	%	%	
00111	Moisture ¹	n.a.	14.7	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

¹ = This analyte was not on the laboratory's PA DEP Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	A183421AA	12/08/2018 15:49	Stephen C Nolte	1.1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP05-S001 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925827
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 11:50

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201834052105	12/03/2018 11:50	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201834052105	12/03/2018 11:50	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201834052105	12/03/2018 11:50	Client Supplied	1
10727	TCL 8270 (microwave)	SW-846 8270C	1	18341SLC026	12/10/2018 21:23	Linda M Hartenstine	1
10809	BNA Soil Microwave	SW-846 3546	1	18341SLC026	12/10/2018 02:00	Sherry L Morrow	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	183410024A	12/09/2018 21:28	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	183410024A	12/07/2018 16:15	Elizabeth E Donovan	1
06944	Antimony	SW-846 6010B	1	183410570801	12/12/2018 07:34	Eric L Eby	1
06935	Arsenic	SW-846 6010B	1	183410570801	12/12/2018 07:34	Eric L Eby	1
06947	Beryllium	SW-846 6010B	1	183410570801	12/12/2018 07:34	Eric L Eby	1
06949	Cadmium	SW-846 6010B	1	183410570801	12/12/2018 07:34	Eric L Eby	1
06951	Chromium	SW-846 6010B	1	183410570801	12/12/2018 07:34	Eric L Eby	1
06953	Copper	SW-846 6010B	1	183410570801	12/12/2018 07:34	Eric L Eby	1
06955	Lead	SW-846 6010B	1	183410570801	12/12/2018 07:34	Eric L Eby	1
06961	Nickel	SW-846 6010B	1	183410570801	12/12/2018 07:34	Eric L Eby	1
06936	Selenium	SW-846 6010B	1	183410570801	12/12/2018 07:34	Eric L Eby	1
06966	Silver	SW-846 6010B	1	183410570801	12/12/2018 07:34	Eric L Eby	1
06925	Thallium	SW-846 6010B	1	183410570801	12/12/2018 07:34	Eric L Eby	1
06972	Zinc	SW-846 6010B	1	183410570801	12/12/2018 07:34	Eric L Eby	1
00159	Mercury	SW-846 7471A	1	183410571101	12/10/2018 12:37	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	183410570801	12/10/2018 07:35	Denise L Trimby	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	183410571101	12/10/2018 10:00	Denise L Trimby	1
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	18345820004A	12/11/2018 11:31	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP05-S101 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925828
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 11:51

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	Acetone	67-64-1	0.012 J	0.007	0.023	1
10237	Benzene	71-43-2	N.D.	0.0005	0.006	1
10237	Bromodichloromethane	75-27-4	N.D.	0.0003	0.006	1
10237	Bromoform	75-25-2	N.D.	0.005	0.012	1
10237	Bromomethane	74-83-9	N.D.	0.0009	0.006	1
10237	2-Butanone	78-93-3	N.D.	0.001	0.012	1
10237	Carbon Disulfide	75-15-0	0.002 J	0.0005	0.006	1
10237	Carbon Tetrachloride	56-23-5	N.D.	0.0006	0.006	1
10237	Chlorobenzene	108-90-7	N.D.	0.0005	0.006	1
10237	Chloroethane	75-00-3	N.D.	0.002	0.006	1
10237	Chloroform	67-66-3	N.D.	0.0005	0.006	1
10237	Chloromethane	74-87-3	N.D.	0.0006	0.006	1
10237	Cyclohexane	110-82-7	N.D.	0.0006	0.006	1
10237	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.0003	0.006	1
10237	Dibromochloromethane	124-48-1	N.D.	0.003	0.009	1
10237	1,2-Dibromoethane	106-93-4	N.D.	0.0003	0.006	1
10237	1,2-Dichlorobenzene	95-50-1	N.D.	0.0005	0.006	1
10237	1,3-Dichlorobenzene	541-73-1	N.D.	0.0005	0.006	1
10237	1,4-Dichlorobenzene	106-46-7	N.D.	0.0005	0.006	1
10237	Dichlorodifluoromethane	75-71-8	N.D.	0.0005	0.006	1
10237	1,1-Dichloroethane	75-34-3	N.D.	0.0005	0.006	1
10237	1,2-Dichloroethane	107-06-2	N.D.	0.0003	0.006	1
10237	1,1-Dichloroethene	75-35-4	N.D.	0.0005	0.006	1
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.0006	0.006	1
10237	trans-1,2-Dichloroethene	156-60-5	N.D.	0.0005	0.006	1
10237	1,2-Dichloropropane	78-87-5	N.D.	0.0005	0.006	1
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.0005	0.006	1
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.0003	0.006	1
10237	Ethylbenzene	100-41-4	N.D.	0.0005	0.006	1
10237	Freon 113	76-13-1	N.D.	0.0005	0.012	1
10237	2-Hexanone	591-78-6	N.D.	0.001	0.012	1
10237	Isopropylbenzene	98-82-8	N.D.	0.0006	0.006	1
10237	Methyl Acetate	79-20-9	N.D.	0.001	0.006	1
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0006	0.006	1
10237	4-Methyl-2-pentanone	108-10-1	N.D.	0.001	0.012	1
10237	Methylcyclohexane	108-87-2	N.D.	0.0007	0.006	1
10237	Methylene Chloride	75-09-2	N.D.	0.001	0.006	1
10237	Styrene	100-42-5	N.D.	0.0005	0.006	1
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.0003	0.006	1
10237	Tetrachloroethene	127-18-4	N.D.	0.0006	0.006	1
10237	Toluene	108-88-3	N.D.	0.0003	0.006	1
10237	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.0009	0.006	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP05-S101 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925828
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 11:51

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	1,1,1-Trichloroethane	71-55-6	N.D.	0.0005	0.006	1
10237	1,1,2-Trichloroethane	79-00-5	N.D.	0.0003	0.006	1
10237	Trichloroethene	79-01-6	N.D.	0.0005	0.006	1
10237	Trichlorofluoromethane	75-69-4	N.D.	0.0007	0.006	1
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.0007	0.006	1
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.0006	0.006	1
10237	Vinyl Chloride	75-01-4	N.D.	0.0006	0.006	1
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.006	1
GC/MS Semivolatiles			SW-846 8270C	ug/kg	ug/kg	
10727	Acenaphthene	83-32-9	N.D.	4	19	1
10727	Acenaphthylene	208-96-8	78	4	19	1
10727	Acetophenone	98-86-2	N.D.	27	58	1
10727	Anthracene	120-12-7	47	4	19	1
10727	Atrazine	1912-24-9	N.D.	39	190	1
10727	Benzaldehyde	100-52-7	N.D.	77	190	1
10727	Benzo(a)anthracene	56-55-3	120	4	19	1
10727	Benzo(a)pyrene	50-32-8	140	8	19	1
10727	Benzo(b)fluoranthene	205-99-2	230	4	19	1
10727	Benzo(g,h,i)perylene	191-24-2	140	8	19	1
10727	Benzo(k)fluoranthene	207-08-9	96	4	19	1
10727	1,1'-Biphenyl	92-52-4	N.D.	19	43	1
10727	4-Bromophenyl-phenylether	101-55-3	N.D.	23	58	1
10727	Butylbenzylphthalate	85-68-7	N.D.	77	190	1
10727	Di-n-butylphthalate	84-74-2	N.D.	77	190	1
10727	Caprolactam	105-60-2	N.D.	39	190	1
10727	Carbazole	86-74-8	33 J	19	43	1
10727	4-Chloro-3-methylphenol	59-50-7	N.D.	19	43	1
10727	4-Chloroaniline	106-47-8	N.D.	39	190	1
10727	bis(2-Chloroethoxy)methane	111-91-1	N.D.	19	43	1
10727	bis(2-Chloroethyl)ether	111-44-4	N.D.	27	58	1
10727	2-Chloronaphthalene	91-58-7	N.D.	8	39	1
10727	2-Chlorophenol	95-57-8	N.D.	19	43	1
10727	4-Chlorophenyl-phenylether	7005-72-3	N.D.	19	43	1
10727	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	19	43	1
Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.						
10727	Chrysene	218-01-9	180	4	20	1
10727	Dibenz(a,h)anthracene	53-70-3	35	4	19	1
10727	Dibenzofuran	132-64-9	N.D.	19	43	1
10727	3,3'-Dichlorobenzidine	91-94-1	N.D.	120	390	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP05-S101 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925828
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 11:51

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles		SW-846 8270C	ug/kg	ug/kg	ug/kg	
10727	2,4-Dichlorophenol	120-83-2	N.D.	19	43	1
10727	Diethylphthalate	84-66-2	N.D.	77	190	1
10727	2,4-Dimethylphenol	105-67-9	N.D.	19	43	1
10727	Dimethylphthalate	131-11-3	N.D.	77	190	1
10727	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	190	580	1
10727	2,4-Dinitrophenol	51-28-5	N.D.	430	1,200	1
10727	2,4-Dinitrotoluene	121-14-2	N.D.	77	190	1
10727	2,6-Dinitrotoluene	606-20-2	N.D.	23	58	1
10727	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	77	190	1
10727	Fluoranthene	206-44-0	250	4	19	1
10727	Fluorene	86-73-7	13 J	4	19	1
10727	Hexachlorobenzene	118-74-1	N.D.	4	19	1
10727	Hexachlorobutadiene	87-68-3	N.D.	23	58	1
10727	Hexachlorocyclopentadiene	77-47-4	N.D.	190	580	1
10727	Hexachloroethane	67-72-1	N.D.	39	190	1
10727	Indeno(1,2,3-cd)pyrene	193-39-5	120	8	19	1
10727	Isophorone	78-59-1	N.D.	19	43	1
10727	2-Methylnaphthalene	91-57-6	24 J	12	39	1
10727	2-Methylphenol	95-48-7	N.D.	31	77	1
10727	4-Methylphenol	106-44-5	N.D.	23	58	1
3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.						
10727	Naphthalene	91-20-3	22	8	20	1
10727	2-Nitroaniline	88-74-4	N.D.	23	58	1
10727	3-Nitroaniline	99-09-2	N.D.	77	190	1
10727	4-Nitroaniline	100-01-6	N.D.	77	190	1
10727	Nitrobenzene	98-95-3	N.D.	31	77	1
10727	2-Nitrophenol	88-75-5	N.D.	19	43	1
10727	4-Nitrophenol	100-02-7	N.D.	190	580	1
10727	N-Nitroso-di-n-propylamine	621-64-7	N.D.	23	58	1
10727	N-Nitrosodiphenylamine	86-30-6	N.D.	19	43	1
N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.						
10727	Di-n-octylphthalate	117-84-0	N.D.	77	190	1
10727	Pentachlorophenol	87-86-5	N.D.	43	190	1
10727	Phenanthrene	85-01-8	220	4	19	1
10727	Phenol	108-95-2	N.D.	27	58	1
10727	Pyrene	129-00-0	240	4	19	1
10727	2,4,5-Trichlorophenol	95-95-4	N.D.	23	58	1
10727	2,4,6-Trichlorophenol	88-06-2	N.D.	23	58	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP05-S101 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925828
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 11:51

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
PCBs		SW-846 8082	ug/kg	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D. D1	4.2	20	1
10736	PCB-1221	11104-28-2	N.D. D1	5.3	20	1
10736	PCB-1232	11141-16-5	N.D. D1	9.2	20	1
10736	PCB-1242	53469-21-9	N.D. D1	3.8	20	1
10736	PCB-1248	12672-29-6	N.D. D1	3.8	20	1
10736	PCB-1254	11097-69-1	N.D. D1	3.8	20	1
10736	PCB-1260	11096-82-5	8.9 JD1	5.7	20	1
Metals		SW-846 6010B	mg/kg	mg/kg	mg/kg	
06944	Antimony	7440-36-0	N.D.	1.96	5.78	1
06935	Arsenic	7440-38-2	4.69 J	1.39	5.78	1
06947	Beryllium	7440-41-7	0.595	0.116	0.578	1
06949	Cadmium	7440-43-9	0.122 J	0.116	0.578	1
06951	Chromium	7440-47-3	19.0	0.243	1.73	1
06953	Copper	7440-50-8	21.3	0.578	2.31	1
06955	Lead	7439-92-1	53.6	0.693	1.73	1
06961	Nickel	7440-02-0	22.7	0.243	1.16	1
06936	Selenium	7782-49-2	1.94 J	1.73	5.78	1
06966	Silver	7440-22-4	N.D.	0.462	1.16	1
06925	Thallium	7440-28-0	1.04 J	1.04	3.47	1
06972	Zinc	7440-66-6	97.5 B	0.462	2.31	1
00159	Mercury	SW-846 7471A 7439-97-6	N.D.	0.0352	0.0753	1
Wet Chemistry		SM 2540 G-2011	%	%	%	
00111	Moisture ¹	%Moisture Calc n.a.	14.3	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

¹ = This analyte was not on the laboratory's PA DEP Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	A183421AA	12/08/2018 16:12	Stephen C Nolte	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP05-S101 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925828
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 11:51

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201834052105	12/03/2018 11:51	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201834052105	12/03/2018 11:51	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201834052105	12/03/2018 11:51	Client Supplied	1
10727	TCL 8270 (microwave)	SW-846 8270C	1	18341SLC026	12/10/2018 21:47	Linda M Hartenstine	1
10809	BNA Soil Microwave	SW-846 3546	1	18341SLC026	12/10/2018 02:00	Sherry L Morrow	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	183410024A	12/09/2018 21:38	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	183410024A	12/07/2018 16:15	Elizabeth E Donovan	1
06944	Antimony	SW-846 6010B	1	183410570801	12/12/2018 07:38	Eric L Eby	1
06935	Arsenic	SW-846 6010B	1	183410570801	12/12/2018 07:38	Eric L Eby	1
06947	Beryllium	SW-846 6010B	1	183410570801	12/12/2018 07:38	Eric L Eby	1
06949	Cadmium	SW-846 6010B	1	183410570801	12/12/2018 07:38	Eric L Eby	1
06951	Chromium	SW-846 6010B	1	183410570801	12/12/2018 07:38	Eric L Eby	1
06953	Copper	SW-846 6010B	1	183410570801	12/12/2018 07:38	Eric L Eby	1
06955	Lead	SW-846 6010B	1	183410570801	12/12/2018 07:38	Eric L Eby	1
06961	Nickel	SW-846 6010B	1	183410570801	12/12/2018 07:38	Eric L Eby	1
06936	Selenium	SW-846 6010B	1	183410570801	12/12/2018 07:38	Eric L Eby	1
06966	Silver	SW-846 6010B	1	183410570801	12/12/2018 07:38	Eric L Eby	1
06925	Thallium	SW-846 6010B	1	183410570801	12/12/2018 07:38	Eric L Eby	1
06972	Zinc	SW-846 6010B	1	183410570801	12/12/2018 07:38	Eric L Eby	1
00159	Mercury	SW-846 7471A	1	183410571101	12/10/2018 12:39	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	183410570801	12/10/2018 07:35	Denise L Trimby	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	183410571101	12/10/2018 10:00	Denise L Trimby	1
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	18345820004A	12/11/2018 11:31	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP05-S002 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925829
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 12:00

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Acetone	67-64-1	N.D.	0.29	0.96	44.33
10237	Benzene	71-43-2	N.D.	0.019	0.24	44.33
10237	Bromodichloromethane	75-27-4	N.D.	0.014	0.24	44.33
10237	Bromoform	75-25-2	N.D.	0.19	0.48	44.33
10237	Bromomethane	74-83-9	N.D.	0.038	0.24	44.33
10237	2-Butanone	78-93-3	N.D.	0.048	0.48	44.33
10237	Carbon Disulfide	75-15-0	N.D.	0.019	0.24	44.33
10237	Carbon Tetrachloride	56-23-5	N.D.	0.024	0.24	44.33
10237	Chlorobenzene	108-90-7	N.D.	0.019	0.24	44.33
10237	Chloroethane	75-00-3	N.D.	0.096	0.24	44.33
10237	Chloroform	67-66-3	N.D.	0.019	0.24	44.33
10237	Chloromethane	74-87-3	N.D.	0.024	0.24	44.33
10237	Cyclohexane	110-82-7	N.D.	0.024	0.24	44.33
10237	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.014	0.24	44.33
10237	Dibromochloromethane	124-48-1	N.D.	0.14	0.38	44.33
10237	1,2-Dibromoethane	106-93-4	N.D.	0.014	0.24	44.33
10237	1,2-Dichlorobenzene	95-50-1	N.D.	0.019	0.24	44.33
10237	1,3-Dichlorobenzene	541-73-1	N.D.	0.019	0.24	44.33
10237	1,4-Dichlorobenzene	106-46-7	N.D.	0.019	0.24	44.33
10237	Dichlorodifluoromethane	75-71-8	N.D.	0.019	0.24	44.33
10237	1,1-Dichloroethane	75-34-3	N.D.	0.019	0.24	44.33
10237	1,2-Dichloroethane	107-06-2	N.D.	0.014	0.24	44.33
10237	1,1-Dichloroethene	75-35-4	N.D.	0.019	0.24	44.33
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.024	0.24	44.33
10237	trans-1,2-Dichloroethene	156-60-5	N.D.	0.019	0.24	44.33
10237	1,2-Dichloropropane	78-87-5	N.D.	0.019	0.24	44.33
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.019	0.24	44.33
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.014	0.24	44.33
10237	Ethylbenzene	100-41-4	N.D.	0.019	0.24	44.33
10237	Freon 113	76-13-1	N.D.	0.019	0.48	44.33
10237	2-Hexanone	591-78-6	N.D.	0.048	0.48	44.33
10237	Isopropylbenzene	98-82-8	N.D.	0.024	0.24	44.33
10237	Methyl Acetate	79-20-9	N.D.	0.048	0.24	44.33
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.024	0.24	44.33
10237	4-Methyl-2-pentanone	108-10-1	N.D.	0.048	0.48	44.33
10237	Methylcyclohexane	108-87-2	N.D.	0.029	0.24	44.33
10237	Methylene Chloride	75-09-2	N.D.	0.048	0.24	44.33
10237	Styrene	100-42-5	N.D.	0.019	0.24	44.33
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.014	0.24	44.33
10237	Tetrachloroethene	127-18-4	N.D.	0.024	0.24	44.33
10237	Toluene	108-88-3	0.020 J	0.014	0.24	44.33
10237	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.038	0.24	44.33

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP05-S002 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925829
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 12:00

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	1,1,1-Trichloroethane	71-55-6	N.D.	0.019	0.24	44.33
10237	1,1,2-Trichloroethane	79-00-5	N.D.	0.014	0.24	44.33
10237	Trichloroethene	79-01-6	N.D.	0.019	0.24	44.33
10237	Trichlorofluoromethane	75-69-4	N.D.	0.029	0.24	44.33
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.029	0.24	44.33
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.024	0.24	44.33
10237	Vinyl Chloride	75-01-4	N.D.	0.024	0.24	44.33
10237	Xylene (Total)	1330-20-7	N.D.	0.043	0.24	44.33

Reporting limits were raised due to interference from the sample matrix.

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles			ug/kg	ug/kg	ug/kg	
SW-846 8270C						
10727	Acenaphthene	83-32-9	N.D.	4	18	1
10727	Acenaphthylene	208-96-8	24	4	18	1
10727	Acetophenone	98-86-2	N.D.	25	53	1
10727	Anthracene	120-12-7	16 J	4	18	1
10727	Atrazine	1912-24-9	N.D.	36	180	1
10727	Benzaldehyde	100-52-7	N.D.	71	180	1
10727	Benzo(a)anthracene	56-55-3	N.D.	4	18	1
10727	Benzo(a)pyrene	50-32-8	N.D.	7	18	1
10727	Benzo(b)fluoranthene	205-99-2	N.D.	4	18	1
10727	Benzo(g,h,i)perylene	191-24-2	N.D.	7	18	1
10727	Benzo(k)fluoranthene	207-08-9	N.D.	4	18	1
10727	1,1'-Biphenyl	92-52-4	32 J	18	39	1
10727	4-Bromophenyl-phenylether	101-55-3	N.D.	21	53	1
10727	Butylbenzylphthalate	85-68-7	N.D.	71	180	1
10727	Di-n-butylphthalate	84-74-2	N.D.	71	180	1
10727	Caprolactam	105-60-2	N.D.	36	180	1
10727	Carbazole	86-74-8	N.D.	18	39	1
10727	4-Chloro-3-methylphenol	59-50-7	N.D.	18	39	1
10727	4-Chloroaniline	106-47-8	N.D.	36	180	1
10727	bis(2-Chloroethoxy)methane	111-91-1	N.D.	18	39	1
10727	bis(2-Chloroethyl)ether	111-44-4	N.D.	25	53	1
10727	2-Chloronaphthalene	91-58-7	N.D.	7	36	1
10727	2-Chlorophenol	95-57-8	N.D.	18	39	1
10727	4-Chlorophenyl-phenylether	7005-72-3	N.D.	18	39	1
10727	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	18	39	1
Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.						
10727	Chrysene	218-01-9	N.D.	4	18	1
10727	Dibenz(a,h)anthracene	53-70-3	N.D.	4	18	1
10727	Dibenzofuran	132-64-9	22 J	18	39	1
10727	3,3'-Dichlorobenzidine	91-94-1	N.D.	110	360	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP05-S002 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925829
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 12:00

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles		SW-846 8270C	ug/kg	ug/kg	ug/kg	
10727	2,4-Dichlorophenol	120-83-2	N.D.	18	39	1
10727	Diethylphthalate	84-66-2	N.D.	71	180	1
10727	2,4-Dimethylphenol	105-67-9	N.D.	18	39	1
10727	Dimethylphthalate	131-11-3	N.D.	71	180	1
10727	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	180	530	1
10727	2,4-Dinitrophenol	51-28-5	N.D.	390	1,100	1
10727	2,4-Dinitrotoluene	121-14-2	N.D.	71	180	1
10727	2,6-Dinitrotoluene	606-20-2	N.D.	21	53	1
10727	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	71	180	1
10727	Fluoranthene	206-44-0	4 J	4	18	1
10727	Fluorene	86-73-7	N.D.	4	18	1
10727	Hexachlorobenzene	118-74-1	N.D.	4	18	1
10727	Hexachlorobutadiene	87-68-3	N.D.	21	53	1
10727	Hexachlorocyclopentadiene	77-47-4	N.D.	180	530	1
10727	Hexachloroethane	67-72-1	N.D.	36	180	1
10727	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	7	18	1
10727	Isophorone	78-59-1	N.D.	18	39	1
10727	2-Methylnaphthalene	91-57-6	26 J	11	36	1
10727	2-Methylphenol	95-48-7	N.D.	28	71	1
10727	4-Methylphenol	106-44-5	N.D.	21	53	1
3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.						
10727	Naphthalene	91-20-3	10 J	7	18	1
10727	2-Nitroaniline	88-74-4	23 J	21	53	1
10727	3-Nitroaniline	99-09-2	N.D.	71	180	1
10727	4-Nitroaniline	100-01-6	N.D.	71	180	1
10727	Nitrobenzene	98-95-3	N.D.	28	71	1
10727	2-Nitrophenol	88-75-5	N.D.	18	39	1
10727	4-Nitrophenol	100-02-7	N.D.	180	530	1
10727	N-Nitroso-di-n-propylamine	621-64-7	N.D.	21	53	1
10727	N-Nitrosodiphenylamine	86-30-6	N.D.	18	39	1
N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.						
10727	Di-n-octylphthalate	117-84-0	N.D.	71	180	1
10727	Pentachlorophenol	87-86-5	N.D.	39	180	1
10727	Phenanthrene	85-01-8	72	4	18	1
10727	Phenol	108-95-2	N.D.	25	53	1
10727	Pyrene	129-00-0	11 J	4	18	1
10727	2,4,5-Trichlorophenol	95-95-4	N.D.	21	53	1
10727	2,4,6-Trichlorophenol	88-06-2	22 J	21	53	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP05-S002 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925829
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 12:00

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
PCBs			SW-846 8082	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D. D1	3.8	18	1
10736	PCB-1221	11104-28-2	N.D. D1	4.9	18	1
10736	PCB-1232	11141-16-5	N.D. D1	8.6	18	1
10736	PCB-1242	53469-21-9	N.D. D1	3.5	18	1
10736	PCB-1248	12672-29-6	N.D. D1	3.5	18	1
10736	PCB-1254	11097-69-1	N.D. D1	3.5	18	1
10736	PCB-1260	11096-82-5	N.D. D1	5.2	18	1
Metals			SW-846 6010B	mg/kg	mg/kg	
06944	Antimony	7440-36-0	N.D.	1.76	5.18	1
06935	Arsenic	7440-38-2	6.47	1.24	5.18	1
06947	Beryllium	7440-41-7	0.811	0.104	0.518	1
06949	Cadmium	7440-43-9	N.D.	0.104	0.518	1
06951	Chromium	7440-47-3	20.1	0.218	1.55	1
06953	Copper	7440-50-8	24.3	0.518	2.07	1
06955	Lead	7439-92-1	12.1	0.622	1.55	1
06961	Nickel	7440-02-0	33.4	0.218	1.04	1
06936	Selenium	7782-49-2	3.74 J	1.55	5.18	1
06966	Silver	7440-22-4	0.525 J	0.414	1.04	1
06925	Thallium	7440-28-0	1.41 J	0.933	3.11	1
06972	Zinc	7440-66-6	86.3 B	0.414	2.07	1
00159	Mercury	7439-97-6	N.D.	0.0330	0.0707	1
Wet Chemistry			SM 2540 G-2011	%	%	
00111	Moisture ¹	n.a.	7.2	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

¹ = This analyte was not on the laboratory's PA DEP Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	R183421AA	12/08/2018 17:37	Stephen C Nolte	44.33

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP05-S002 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925829
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 12:00

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201834052105	12/03/2018 12:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201834052105	12/03/2018 12:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201834052105	12/03/2018 12:00	Client Supplied	1
10727	TCL 8270 (microwave)	SW-846 8270C	1	18341SLC026	12/10/2018 16:13	Linda M Hartenstine	1
10809	BNA Soil Microwave	SW-846 3546	1	18341SLC026	12/10/2018 02:00	Sherry L Morrow	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	183410024A	12/09/2018 21:48	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	183410024A	12/07/2018 16:15	Elizabeth E Donovan	1
06944	Antimony	SW-846 6010B	1	183410570801	12/12/2018 08:02	Eric L Eby	1
06935	Arsenic	SW-846 6010B	1	183410570801	12/12/2018 08:02	Eric L Eby	1
06947	Beryllium	SW-846 6010B	1	183410570801	12/12/2018 08:02	Eric L Eby	1
06949	Cadmium	SW-846 6010B	1	183410570801	12/12/2018 08:02	Eric L Eby	1
06951	Chromium	SW-846 6010B	1	183410570801	12/12/2018 08:02	Eric L Eby	1
06953	Copper	SW-846 6010B	1	183410570801	12/12/2018 08:02	Eric L Eby	1
06955	Lead	SW-846 6010B	1	183410570801	12/12/2018 08:02	Eric L Eby	1
06961	Nickel	SW-846 6010B	1	183410570801	12/12/2018 08:02	Eric L Eby	1
06936	Selenium	SW-846 6010B	1	183410570801	12/12/2018 08:02	Eric L Eby	1
06966	Silver	SW-846 6010B	1	183410570801	12/12/2018 08:02	Eric L Eby	1
06925	Thallium	SW-846 6010B	1	183410570801	12/12/2018 08:02	Eric L Eby	1
06972	Zinc	SW-846 6010B	1	183410570801	12/12/2018 08:02	Eric L Eby	1
00159	Mercury	SW-846 7471A	1	183410571101	12/10/2018 12:41	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	183410570801	12/10/2018 07:35	Denise L Trimby	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	183410571101	12/10/2018 10:00	Denise L Trimby	1
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	18345820004A	12/11/2018 11:31	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP06-S001 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925830
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 12:05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
		SW-846 8260B				
10237	Acetone	67-64-1	0.046	0.009	0.031	1.11
10237	Benzene	71-43-2	N.D.	0.0006	0.008	1.11
10237	Bromodichloromethane	75-27-4	N.D.	0.0005	0.008	1.11
10237	Bromoform	75-25-2	N.D.	0.006	0.015	1.11
10237	Bromomethane	74-83-9	N.D.	0.001	0.008	1.11
10237	2-Butanone	78-93-3	N.D.	0.002	0.015	1.11
10237	Carbon Disulfide	75-15-0	N.D.	0.0006	0.008	1.11
10237	Carbon Tetrachloride	56-23-5	N.D.	0.0008	0.008	1.11
10237	Chlorobenzene	108-90-7	N.D.	0.0006	0.008	1.11
10237	Chloroethane	75-00-3	N.D.	0.003	0.008	1.11
10237	Chloroform	67-66-3	N.D.	0.0006	0.008	1.11
10237	Chloromethane	74-87-3	N.D.	0.0008	0.008	1.11
10237	Cyclohexane	110-82-7	N.D.	0.0008	0.008	1.11
10237	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.0005	0.008	1.11
10237	Dibromochloromethane	124-48-1	N.D.	0.005	0.012	1.11
10237	1,2-Dibromoethane	106-93-4	N.D.	0.0005	0.008	1.11
10237	1,2-Dichlorobenzene	95-50-1	N.D.	0.0006	0.008	1.11
10237	1,3-Dichlorobenzene	541-73-1	N.D.	0.0006	0.008	1.11
10237	1,4-Dichlorobenzene	106-46-7	N.D.	0.0006	0.008	1.11
10237	Dichlorodifluoromethane	75-71-8	N.D.	0.0006	0.008	1.11
10237	1,1-Dichloroethane	75-34-3	N.D.	0.0006	0.008	1.11
10237	1,2-Dichloroethane	107-06-2	N.D.	0.0005	0.008	1.11
10237	1,1-Dichloroethene	75-35-4	N.D.	0.0006	0.008	1.11
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.0008	0.008	1.11
10237	trans-1,2-Dichloroethene	156-60-5	N.D.	0.0006	0.008	1.11
10237	1,2-Dichloropropane	78-87-5	N.D.	0.0006	0.008	1.11
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.0006	0.008	1.11
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.0005	0.008	1.11
10237	Ethylbenzene	100-41-4	N.D.	0.0006	0.008	1.11
10237	Freon 113	76-13-1	N.D.	0.0006	0.015	1.11
10237	2-Hexanone	591-78-6	N.D.	0.002	0.015	1.11
10237	Isopropylbenzene	98-82-8	N.D.	0.0008	0.008	1.11
10237	Methyl Acetate	79-20-9	N.D.	0.002	0.008	1.11
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0008	0.008	1.11
10237	4-Methyl-2-pentanone	108-10-1	N.D.	0.002	0.015	1.11
10237	Methylcyclohexane	108-87-2	N.D.	0.0009	0.008	1.11
10237	Methylene Chloride	75-09-2	N.D.	0.002	0.008	1.11
10237	Styrene	100-42-5	N.D.	0.0006	0.008	1.11
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.0005	0.008	1.11
10237	Tetrachloroethene	127-18-4	N.D.	0.0008	0.008	1.11
10237	Toluene	108-88-3	N.D.	0.0005	0.008	1.11
10237	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.001	0.008	1.11

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP06-S001 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925830
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 12:05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	mg/kg	mg/kg	mg/kg	
10237	1,1,1-Trichloroethane	71-55-6	N.D.	0.0006	0.008	1.11
10237	1,1,2-Trichloroethane	79-00-5	N.D.	0.0005	0.008	1.11
10237	Trichloroethene	79-01-6	N.D.	0.0006	0.008	1.11
10237	Trichlorofluoromethane	75-69-4	N.D.	0.0009	0.008	1.11
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.0009	0.008	1.11
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.0008	0.008	1.11
10237	Vinyl Chloride	75-01-4	N.D.	0.0008	0.008	1.11
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.008	1.11
GC/MS Semivolatiles		SW-846 8270C	ug/kg	ug/kg	ug/kg	
10727	Acenaphthene	83-32-9	49 J	23	110	5
10727	Acenaphthylene	208-96-8	2,000	23	110	5
10727	Acetophenone	98-86-2	N.D.	160	340	5
10727	Anthracene	120-12-7	770	23	110	5
10727	Atrazine	1912-24-9	N.D.	230	1,100	5
10727	Benzaldehyde	100-52-7	N.D.	460	1,100	5
10727	Benzo(a)anthracene	56-55-3	4,600	23	110	5
10727	Benzo(a)pyrene	50-32-8	4,300	46	110	5
10727	Benzo(b)fluoranthene	205-99-2	6,200	23	110	5
10727	Benzo(g,h,i)perylene	191-24-2	2,800	46	110	5
10727	Benzo(k)fluoranthene	207-08-9	2,400	23	110	5
10727	1,1'-Biphenyl	92-52-4	N.D.	110	250	5
10727	4-Bromophenyl-phenylether	101-55-3	N.D.	140	340	5
10727	Butylbenzylphthalate	85-68-7	N.D.	460	1,100	5
10727	Di-n-butylphthalate	84-74-2	N.D.	460	1,100	5
10727	Caprolactam	105-60-2	N.D.	230	1,100	5
10727	Carbazole	86-74-8	170 J	110	250	5
10727	4-Chloro-3-methylphenol	59-50-7	N.D.	110	250	5
10727	4-Chloroaniline	106-47-8	N.D.	230	1,100	5
10727	bis(2-Chloroethoxy)methane	111-91-1	N.D.	110	250	5
10727	bis(2-Chloroethyl)ether	111-44-4	N.D.	160	340	5
10727	2-Chloronaphthalene	91-58-7	N.D.	46	230	5
10727	2-Chlorophenol	95-57-8	N.D.	110	250	5
10727	4-Chlorophenyl-phenylether	7005-72-3	N.D.	110	250	5
10727	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	110	250	5
Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.						
10727	Chrysene	218-01-9	4,500	23	120	5
10727	Dibenz(a,h)anthracene	53-70-3	790	23	110	5
10727	Dibenzofuran	132-64-9	N.D.	110	250	5
10727	3,3'-Dichlorobenzidine	91-94-1	N.D.	680	2,300	5

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP06-S001 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925830
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 12:05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles SW-846 8270C			ug/kg	ug/kg	ug/kg	
10727	2,4-Dichlorophenol	120-83-2	N.D.	110	250	5
10727	Diethylphthalate	84-66-2	N.D.	460	1,100	5
10727	2,4-Dimethylphenol	105-67-9	N.D.	110	250	5
10727	Dimethylphthalate	131-11-3	N.D.	460	1,100	5
10727	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	1,100	3,400	5
10727	2,4-Dinitrophenol	51-28-5	N.D.	2,500	6,800	5
10727	2,4-Dinitrotoluene	121-14-2	N.D.	460	1,100	5
10727	2,6-Dinitrotoluene	606-20-2	N.D.	140	340	5
10727	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	460	1,100	5
10727	Fluoranthene	206-44-0	5,600	23	110	5
10727	Fluorene	86-73-7	150	23	110	5
10727	Hexachlorobenzene	118-74-1	N.D.	23	110	5
10727	Hexachlorobutadiene	87-68-3	N.D.	140	340	5
10727	Hexachlorocyclopentadiene	77-47-4	N.D.	1,100	3,400	5
10727	Hexachloroethane	67-72-1	N.D.	230	1,100	5
10727	Indeno(1,2,3-cd)pyrene	193-39-5	2,700	46	110	5
10727	Isophorone	78-59-1	N.D.	110	250	5
10727	2-Methylnaphthalene	91-57-6	N.D.	68	230	5
10727	2-Methylphenol	95-48-7	N.D.	180	460	5
10727	4-Methylphenol	106-44-5	N.D.	140	340	5
3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.						
10727	Naphthalene	91-20-3	130	46	120	5
10727	2-Nitroaniline	88-74-4	N.D.	140	340	5
10727	3-Nitroaniline	99-09-2	N.D.	460	1,100	5
10727	4-Nitroaniline	100-01-6	N.D.	460	1,100	5
10727	Nitrobenzene	98-95-3	N.D.	180	460	5
10727	2-Nitrophenol	88-75-5	N.D.	110	250	5
10727	4-Nitrophenol	100-02-7	N.D.	1,100	3,400	5
10727	N-Nitroso-di-n-propylamine	621-64-7	N.D.	140	340	5
10727	N-Nitrosodiphenylamine	86-30-6	N.D.	110	250	5
N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.						
10727	Di-n-octylphthalate	117-84-0	N.D.	460	1,100	5
10727	Pentachlorophenol	87-86-5	N.D.	250	1,100	5
10727	Phenanthrene	85-01-8	1,300	23	110	5
10727	Phenol	108-95-2	N.D.	160	340	5
10727	Pyrene	129-00-0	6,000	23	110	5
10727	2,4,5-Trichlorophenol	95-95-4	N.D.	140	340	5
10727	2,4,6-Trichlorophenol	88-06-2	N.D.	140	340	5

Reporting limits were raised due to interference from the sample matrix.

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP06-S001 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925830
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 12:05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
PCBs			SW-846 8082	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D. D1	4.9	23	1
10736	PCB-1221	11104-28-2	N.D. D1	6.3	23	1
10736	PCB-1232	11141-16-5	N.D. D1	11	23	1
10736	PCB-1242	53469-21-9	N.D. D1	4.5	23	1
10736	PCB-1248	12672-29-6	N.D. D1	4.5	23	1
10736	PCB-1254	11097-69-1	N.D. D1	4.5	23	1
10736	PCB-1260	11096-82-5	N.D. D1	6.7	23	1
Metals			SW-846 6010B	mg/kg	mg/kg	
06944	Antimony	7440-36-0	N.D.	1.63	4.79	1
06935	Arsenic	7440-38-2	8.70	1.15	4.79	1
06947	Beryllium	7440-41-7	0.532	0.0958	0.479	1
06949	Cadmium	7440-43-9	0.320 J	0.0958	0.479	1
06951	Chromium	7440-47-3	11.9	0.201	1.44	1
06953	Copper	7440-50-8	23.7	0.479	1.92	1
06955	Lead	7439-92-1	53.9	0.575	1.44	1
06961	Nickel	7440-02-0	16.3	0.201	0.958	1
06936	Selenium	7782-49-2	2.46 J	1.44	4.79	1
06966	Silver	7440-22-4	N.D.	0.383	0.958	1
06925	Thallium	7440-28-0	N.D.	0.862	2.87	1
06972	Zinc	7440-66-6	96.5 B	0.383	1.92	1
00159	Mercury	7439-97-6	N.D.	0.0420	0.0898	1
Wet Chemistry			SM 2540 G-2011	%	%	
00111	Moisture ¹	n.a.	27.0	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

¹ = This analyte was not on the laboratory's PA DEP Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	A183421AA	12/08/2018 16:35	Stephen C Nolte	1.11

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP06-S001 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925830
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 12:05

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201834052105	12/03/2018 12:05	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201834052105	12/03/2018 12:05	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201834052105	12/03/2018 12:05	Client Supplied	1
10727	TCL 8270 (microwave)	SW-846 8270C	1	18341SLC026	12/10/2018 22:10	Linda M Hartenstine	5
10809	BNA Soil Microwave	SW-846 3546	1	18341SLC026	12/10/2018 02:00	Sherry L Morrow	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	183410024A	12/09/2018 21:58	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	183410024A	12/07/2018 16:15	Elizabeth E Donovan	1
06944	Antimony	SW-846 6010B	1	183410570801	12/12/2018 07:45	Eric L Eby	1
06935	Arsenic	SW-846 6010B	1	183410570801	12/12/2018 07:45	Eric L Eby	1
06947	Beryllium	SW-846 6010B	1	183410570801	12/12/2018 07:45	Eric L Eby	1
06949	Cadmium	SW-846 6010B	1	183410570801	12/12/2018 07:45	Eric L Eby	1
06951	Chromium	SW-846 6010B	1	183410570801	12/12/2018 07:45	Eric L Eby	1
06953	Copper	SW-846 6010B	1	183410570801	12/12/2018 07:45	Eric L Eby	1
06955	Lead	SW-846 6010B	1	183410570801	12/12/2018 07:45	Eric L Eby	1
06961	Nickel	SW-846 6010B	1	183410570801	12/12/2018 07:45	Eric L Eby	1
06936	Selenium	SW-846 6010B	1	183410570801	12/12/2018 07:45	Eric L Eby	1
06966	Silver	SW-846 6010B	1	183410570801	12/12/2018 07:45	Eric L Eby	1
06925	Thallium	SW-846 6010B	1	183410570801	12/12/2018 07:45	Eric L Eby	1
06972	Zinc	SW-846 6010B	1	183410570801	12/12/2018 07:45	Eric L Eby	1
00159	Mercury	SW-846 7471A	1	183410571101	12/10/2018 12:43	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	183410570801	12/10/2018 07:35	Denise L Trimby	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	183410571101	12/10/2018 10:00	Denise L Trimby	1
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	18345820004A	12/11/2018 11:31	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP06-S002 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925831
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 12:10

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			mg/kg	mg/kg	mg/kg	
SW-846 8260B						
10237	Acetone	67-64-1	0.009 J	0.005	0.017	0.73
10237	Benzene	71-43-2	N.D.	0.0003	0.004	0.73
10237	Bromodichloromethane	75-27-4	N.D.	0.0003	0.004	0.73
10237	Bromoform	75-25-2	N.D.	0.003	0.008	0.73
10237	Bromomethane	74-83-9	N.D.	0.0007	0.004	0.73
10237	2-Butanone	78-93-3	N.D.	0.0008	0.008	0.73
10237	Carbon Disulfide	75-15-0	N.D.	0.0003	0.004	0.73
10237	Carbon Tetrachloride	56-23-5	N.D.	0.0004	0.004	0.73
10237	Chlorobenzene	108-90-7	N.D.	0.0003	0.004	0.73
10237	Chloroethane	75-00-3	N.D.	0.002	0.004	0.73
10237	Chloroform	67-66-3	N.D.	0.0003	0.004	0.73
10237	Chloromethane	74-87-3	N.D.	0.0004	0.004	0.73
10237	Cyclohexane	110-82-7	N.D.	0.0004	0.004	0.73
10237	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.0003	0.004	0.73
10237	Dibromochloromethane	124-48-1	N.D.	0.003	0.007	0.73
10237	1,2-Dibromoethane	106-93-4	N.D.	0.0003	0.004	0.73
10237	1,2-Dichlorobenzene	95-50-1	N.D.	0.0003	0.004	0.73
10237	1,3-Dichlorobenzene	541-73-1	N.D.	0.0003	0.004	0.73
10237	1,4-Dichlorobenzene	106-46-7	N.D.	0.0003	0.004	0.73
10237	Dichlorodifluoromethane	75-71-8	N.D.	0.0003	0.004	0.73
10237	1,1-Dichloroethane	75-34-3	N.D.	0.0003	0.004	0.73
10237	1,2-Dichloroethane	107-06-2	N.D.	0.0003	0.004	0.73
10237	1,1-Dichloroethene	75-35-4	N.D.	0.0003	0.004	0.73
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.0004	0.004	0.73
10237	trans-1,2-Dichloroethene	156-60-5	N.D.	0.0003	0.004	0.73
10237	1,2-Dichloropropane	78-87-5	N.D.	0.0003	0.004	0.73
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.0003	0.004	0.73
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.0003	0.004	0.73
10237	Ethylbenzene	100-41-4	N.D.	0.0003	0.004	0.73
10237	Freon 113	76-13-1	N.D.	0.0003	0.008	0.73
10237	2-Hexanone	591-78-6	N.D.	0.0008	0.008	0.73
10237	Isopropylbenzene	98-82-8	N.D.	0.0004	0.004	0.73
10237	Methyl Acetate	79-20-9	N.D.	0.0008	0.004	0.73
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0004	0.004	0.73
10237	4-Methyl-2-pentanone	108-10-1	N.D.	0.0008	0.008	0.73
10237	Methylcyclohexane	108-87-2	N.D.	0.0005	0.004	0.73
10237	Methylene Chloride	75-09-2	N.D.	0.0008	0.004	0.73
10237	Styrene	100-42-5	N.D.	0.0003	0.004	0.73
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.0003	0.004	0.73
10237	Tetrachloroethene	127-18-4	N.D.	0.0004	0.004	0.73
10237	Toluene	108-88-3	N.D.	0.0003	0.004	0.73
10237	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.0007	0.004	0.73

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP06-S002 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925831
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 12:10

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260B	mg/kg	mg/kg	
10237	1,1,1-Trichloroethane	71-55-6	N.D.	0.0003	0.004	0.73
10237	1,1,2-Trichloroethane	79-00-5	N.D.	0.0003	0.004	0.73
10237	Trichloroethene	79-01-6	N.D.	0.0003	0.004	0.73
10237	Trichlorofluoromethane	75-69-4	N.D.	0.0005	0.004	0.73
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.0005	0.004	0.73
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.0004	0.004	0.73
10237	Vinyl Chloride	75-01-4	N.D.	0.0004	0.004	0.73
10237	Xylene (Total)	1330-20-7	N.D.	0.0008	0.004	0.73
GC/MS Semivolatiles			SW-846 8270C	ug/kg	ug/kg	
10727	Acenaphthene	83-32-9	N.D.	4	19	1
10727	Acenaphthylene	208-96-8	N.D.	4	19	1
10727	Acetophenone	98-86-2	N.D.	27	57	1
10727	Anthracene	120-12-7	N.D.	4	19	1
10727	Atrazine	1912-24-9	N.D.	38	190	1
10727	Benzaldehyde	100-52-7	N.D.	76	190	1
10727	Benzo(a)anthracene	56-55-3	N.D.	4	19	1
10727	Benzo(a)pyrene	50-32-8	N.D.	8	19	1
10727	Benzo(b)fluoranthene	205-99-2	N.D.	4	19	1
10727	Benzo(g,h,i)perylene	191-24-2	N.D.	8	19	1
10727	Benzo(k)fluoranthene	207-08-9	N.D.	4	19	1
10727	1,1'-Biphenyl	92-52-4	N.D.	19	42	1
10727	4-Bromophenyl-phenylether	101-55-3	N.D.	23	57	1
10727	Butylbenzylphthalate	85-68-7	N.D.	76	190	1
10727	Di-n-butylphthalate	84-74-2	N.D.	76	190	1
10727	Caprolactam	105-60-2	N.D.	38	190	1
10727	Carbazole	86-74-8	N.D.	19	42	1
10727	4-Chloro-3-methylphenol	59-50-7	N.D.	19	42	1
10727	4-Chloroaniline	106-47-8	N.D.	38	190	1
10727	bis(2-Chloroethoxy)methane	111-91-1	N.D.	19	42	1
10727	bis(2-Chloroethyl)ether	111-44-4	N.D.	27	57	1
10727	2-Chloronaphthalene	91-58-7	N.D.	8	38	1
10727	2-Chlorophenol	95-57-8	N.D.	19	42	1
10727	4-Chlorophenyl-phenylether	7005-72-3	N.D.	19	42	1
10727	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	19	42	1
Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.						
10727	Chrysene	218-01-9	N.D.	4	19	1
10727	Dibenz(a,h)anthracene	53-70-3	N.D.	4	19	1
10727	Dibenzofuran	132-64-9	N.D.	19	42	1
10727	3,3'-Dichlorobenzidine	91-94-1	N.D.	110	380	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP06-S002 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925831
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 12:10

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles		SW-846 8270C	ug/kg	ug/kg	ug/kg	
10727	2,4-Dichlorophenol	120-83-2	N.D.	19	42	1
10727	Diethylphthalate	84-66-2	N.D.	76	190	1
10727	2,4-Dimethylphenol	105-67-9	N.D.	19	42	1
10727	Dimethylphthalate	131-11-3	N.D.	76	190	1
10727	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	190	570	1
10727	2,4-Dinitrophenol	51-28-5	N.D.	420	1,100	1
10727	2,4-Dinitrotoluene	121-14-2	N.D.	76	190	1
10727	2,6-Dinitrotoluene	606-20-2	N.D.	23	57	1
10727	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	76	190	1
10727	Fluoranthene	206-44-0	N.D.	4	19	1
10727	Fluorene	86-73-7	N.D.	4	19	1
10727	Hexachlorobenzene	118-74-1	N.D.	4	19	1
10727	Hexachlorobutadiene	87-68-3	N.D.	23	57	1
10727	Hexachlorocyclopentadiene	77-47-4	N.D.	190	570	1
10727	Hexachloroethane	67-72-1	N.D.	38	190	1
10727	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	8	19	1
10727	Isophorone	78-59-1	N.D.	19	42	1
10727	2-Methylnaphthalene	91-57-6	N.D.	11	38	1
10727	2-Methylphenol	95-48-7	N.D.	30	76	1
10727	4-Methylphenol	106-44-5	N.D.	23	57	1
3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.						
10727	Naphthalene	91-20-3	N.D.	8	19	1
10727	2-Nitroaniline	88-74-4	N.D.	23	57	1
10727	3-Nitroaniline	99-09-2	N.D.	76	190	1
10727	4-Nitroaniline	100-01-6	N.D.	76	190	1
10727	Nitrobenzene	98-95-3	N.D.	30	76	1
10727	2-Nitrophenol	88-75-5	N.D.	19	42	1
10727	4-Nitrophenol	100-02-7	N.D.	190	570	1
10727	N-Nitroso-di-n-propylamine	621-64-7	N.D.	23	57	1
10727	N-Nitrosodiphenylamine	86-30-6	N.D.	19	42	1
N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.						
10727	Di-n-octylphthalate	117-84-0	N.D.	76	190	1
10727	Pentachlorophenol	87-86-5	N.D.	42	190	1
10727	Phenanthrene	85-01-8	N.D.	4	19	1
10727	Phenol	108-95-2	N.D.	27	57	1
10727	Pyrene	129-00-0	N.D.	4	19	1
10727	2,4,5-Trichlorophenol	95-95-4	N.D.	23	57	1
10727	2,4,6-Trichlorophenol	88-06-2	N.D.	23	57	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP06-S002 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925831
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 12:10

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
PCBs			SW-846 8082	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D. D1	4.1	19	1
10736	PCB-1221	11104-28-2	N.D. D1	5.2	19	1
10736	PCB-1232	11141-16-5	N.D. D1	9.1	19	1
10736	PCB-1242	53469-21-9	N.D. D1	3.8	19	1
10736	PCB-1248	12672-29-6	N.D. D1	3.8	19	1
10736	PCB-1254	11097-69-1	N.D. D1	3.8	19	1
10736	PCB-1260	11096-82-5	N.D. D1	5.6	19	1
Metals			SW-846 6010B	mg/kg	mg/kg	
06944	Antimony	7440-36-0	N.D.	1.34	3.95	1
06935	Arsenic	7440-38-2	12.1	0.949	3.95	1
06947	Beryllium	7440-41-7	0.640	0.0791	0.395	1
06949	Cadmium	7440-43-9	N.D.	0.0791	0.395	1
06951	Chromium	7440-47-3	16.3	0.166	1.19	1
06953	Copper	7440-50-8	16.3	0.395	1.58	1
06955	Lead	7439-92-1	13.4	0.475	1.19	1
06961	Nickel	7440-02-0	24.8	0.166	0.791	1
06936	Selenium	7782-49-2	3.41 J	1.19	3.95	1
06966	Silver	7440-22-4	N.D.	0.316	0.791	1
06925	Thallium	7440-28-0	0.751 J	0.712	2.37	1
06972	Zinc	7440-66-6	59.9 B	0.316	1.58	1
00159	Mercury	7439-97-6	N.D.	0.0337	0.0722	1
Wet Chemistry			SM 2540 G-2011	%	%	
00111	Moisture ¹	n.a.	13.4	0.50	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

¹ = This analyte was not on the laboratory's PA DEP Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	A183421AA	12/08/2018 16:57	Stephen C Nolte	0.73

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP06-S002 Composite Soil
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: SW 9925831
ELLE Group #: 2015485
Matrix: Soil

Project Name: I-80 Perfection Shoe Company

Submittal Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 12:10

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201834052105	12/03/2018 12:10	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201834052105	12/03/2018 12:10	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201834052105	12/03/2018 12:10	Client Supplied	1
10727	TCL 8270 (microwave)	SW-846 8270C	1	18341SLC026	12/10/2018 16:37	Linda M Hartenstine	1
10809	BNA Soil Microwave	SW-846 3546	1	18341SLC026	12/10/2018 02:00	Sherry L Morrow	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	183410024A	12/09/2018 22:08	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	183410024A	12/07/2018 16:15	Elizabeth E Donovan	1
06944	Antimony	SW-846 6010B	1	183410570801	12/12/2018 07:49	Eric L Eby	1
06935	Arsenic	SW-846 6010B	1	183410570801	12/12/2018 07:49	Eric L Eby	1
06947	Beryllium	SW-846 6010B	1	183410570801	12/12/2018 07:49	Eric L Eby	1
06949	Cadmium	SW-846 6010B	1	183410570801	12/12/2018 07:49	Eric L Eby	1
06951	Chromium	SW-846 6010B	1	183410570801	12/12/2018 07:49	Eric L Eby	1
06953	Copper	SW-846 6010B	1	183410570801	12/12/2018 07:49	Eric L Eby	1
06955	Lead	SW-846 6010B	1	183410570801	12/12/2018 07:49	Eric L Eby	1
06961	Nickel	SW-846 6010B	1	183410570801	12/12/2018 07:49	Eric L Eby	1
06936	Selenium	SW-846 6010B	1	183410570801	12/12/2018 07:49	Eric L Eby	1
06966	Silver	SW-846 6010B	1	183410570801	12/12/2018 07:49	Eric L Eby	1
06925	Thallium	SW-846 6010B	1	183410570801	12/12/2018 07:49	Eric L Eby	1
06972	Zinc	SW-846 6010B	1	183410570801	12/12/2018 07:49	Eric L Eby	1
00159	Mercury	SW-846 7471A	1	183410571101	12/10/2018 12:45	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	183410570801	12/10/2018 07:35	Denise L Trimby	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	183410571101	12/10/2018 10:00	Denise L Trimby	1
00111	Moisture	SM 2540 G-2011 %Moisture Calc	1	18345820004A	12/11/2018 11:31	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP06-S201 Grab Water
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: WW 9925832
ELLE Group #: 2015485
Matrix: Water

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 14:00

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10335	Acetone	67-64-1	N.D.	0.8	20	1
10335	Benzene	71-43-2	N.D.	0.2	1	1
10335	Bromodichloromethane	75-27-4	N.D.	0.2	1	1
10335	Bromoform	75-25-2	N.D.	2	5	1
10335	Bromomethane	74-83-9	N.D.	0.5	1	1
10335	2-Butanone	78-93-3	N.D.	1	10	1
10335	Carbon Disulfide	75-15-0	N.D.	0.3	5	1
10335	Carbon Tetrachloride	56-23-5	N.D.	0.2	1	1
10335	Chlorobenzene	108-90-7	N.D.	0.2	1	1
10335	Chloroethane	75-00-3	N.D.	0.3	1	1
10335	Chloroform	67-66-3	N.D.	0.2	1	1
10335	Chloromethane	74-87-3	N.D.	0.3	1	1
10335	Cyclohexane	110-82-7	N.D.	2	5	1
10335	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	1	5	1
10335	Dibromochloromethane	124-48-1	N.D.	0.4	1	1
10335	1,2-Dibromoethane	106-93-4	N.D.	0.3	1	1
10335	1,2-Dichlorobenzene	95-50-1	N.D.	0.2	5	1
10335	1,3-Dichlorobenzene	541-73-1	N.D.	0.2	5	1
10335	1,4-Dichlorobenzene	106-46-7	N.D.	0.2	5	1
10335	Dichlorodifluoromethane	75-71-8	N.D.	0.3	1	1
10335	1,1-Dichloroethane	75-34-3	N.D.	0.2	1	1
10335	1,2-Dichloroethane	107-06-2	N.D.	2	5	1
10335	1,1-Dichloroethene	75-35-4	N.D.	0.2	1	1
10335	cis-1,2-Dichloroethene	156-59-2	N.D.	0.2	1	1
10335	trans-1,2-Dichloroethene	156-60-5	N.D.	0.2	1	1
10335	1,2-Dichloropropane	78-87-5	N.D.	0.2	1	1
10335	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.2	1	1
10335	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.2	1	1
10335	Ethylbenzene	100-41-4	N.D.	0.2	1	1
10335	Freon 113	76-13-1	N.D.	2	10	1
10335	2-Hexanone	591-78-6	N.D.	3	10	1
10335	Isopropylbenzene	98-82-8	N.D.	0.3	5	1
10335	Methyl Acetate	79-20-9	N.D.	0.6	5	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.2	1	1
10335	4-Methyl-2-pentanone	108-10-1	N.D.	0.5	10	1
10335	Methylcyclohexane	108-87-2	N.D.	0.2	5	1
10335	Methylene Chloride	75-09-2	N.D.	0.2	1	1
10335	Styrene	100-42-5	N.D.	0.2	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	N.D. Q1	0.2	1	1
10335	Tetrachloroethene	127-18-4	N.D.	0.2	1	1
10335	Toluene	108-88-3	N.D.	0.2	1	1
10335	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.4	5	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP06-S201 Grab Water
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: WW 9925832
ELLE Group #: 2015485
Matrix: Water

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 14:00

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10335	1,1,1-Trichloroethane	71-55-6	N.D.	0.2	1	1
10335	1,1,2-Trichloroethane	79-00-5	N.D.	0.2	1	1
10335	Trichloroethene	79-01-6	N.D.	0.2	1	1
10335	Trichlorofluoromethane	75-69-4	N.D.	0.4	1	1
10335	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.3	5	1
10335	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.3	5	1
10335	Vinyl Chloride	75-01-4	N.D.	0.4	1	1
10335	Xylene (Total)	1330-20-7	N.D.	0.5	5	1
GC/MS Semivolatiles		SW-846 8270C	ug/l	ug/l	ug/l	
14240	Acenaphthene	83-32-9	N.D.	0.1	0.5	1
14240	Acenaphthylene	208-96-8	N.D.	0.1	0.5	1
14240	Acetophenone	98-86-2	N.D.	4	10	1
14240	Anthracene	120-12-7	N.D.	0.1	0.5	1
14240	Atrazine	1912-24-9	N.D.	2	5	1
14240	Benzaldehyde	100-52-7	N.D.	3	10	1
14240	Benzo(a)anthracene	56-55-3	N.D.	0.1	0.5	1
14240	Benzo(a)pyrene	50-32-8	N.D.	0.1	0.5	1
14240	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	0.5	1
14240	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	0.5	1
14240	Benzo(k)fluoranthene	207-08-9	N.D.	0.1	0.5	1
14240	1,1'-Biphenyl	92-52-4	N.D.	3	10	1
14240	4-Bromophenyl-phenylether	101-55-3	N.D.	0.5	2	1
14240	Butylbenzylphthalate	85-68-7	N.D.	2	5	1
14240	Di-n-butylphthalate	84-74-2	N.D.	2	5	1
14240	Caprolactam	105-60-2	N.D. Q1	5	11	1
14240	Carbazole	86-74-8	N.D.	0.5	2	1
14240	4-Chloro-3-methylphenol	59-50-7	N.D.	0.5	2	1
14240	4-Chloroaniline	106-47-8	N.D.	4	10	1
14240	bis(2-Chloroethoxy)methane	111-91-1	N.D.	0.5	2	1
14240	bis(2-Chloroethyl)ether	111-44-4	N.D.	0.5	2	1
14240	2-Chloronaphthalene	91-58-7	N.D.	0.4	1	1
14240	2-Chlorophenol	95-57-8	N.D.	0.5	2	1
14240	4-Chlorophenyl-phenylether	7005-72-3	N.D.	0.5	2	1
14240	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	0.5	2	1
Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.						
14240	Chrysene	218-01-9	N.D.	0.1	0.5	1
14240	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	0.5	1
14240	Dibenzofuran	132-64-9	N.D.	0.5	2	1
14240	3,3'-Dichlorobenzidine	91-94-1	N.D.	3	10	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP06-S201 Grab Water
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: WW 9925832
ELLE Group #: 2015485
Matrix: Water

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 14:00

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles		SW-846 8270C	ug/l	ug/l	ug/l	
14240	2,4-Dichlorophenol	120-83-2	N.D.	0.5	2	1
14240	Diethylphthalate	84-66-2	N.D. Q0	2	5	1
14240	2,4-Dimethylphenol	105-67-9	N.D.	3	10	1
14240	Dimethylphthalate	131-11-3	N.D.	2	5	1
14240	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	8	22	1
14240	2,4-Dinitrophenol	51-28-5	N.D.	15	31	1
14240	2,4-Dinitrotoluene	121-14-2	N.D.	1	5	1
14240	2,6-Dinitrotoluene	606-20-2	N.D.	0.5	2	1
14240	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	5	11	1
14240	Fluoranthene	206-44-0	N.D.	0.1	0.5	1
14240	Fluorene	86-73-7	N.D.	0.1	0.5	1
14240	Hexachlorobenzene	118-74-1	N.D.	0.1	0.5	1
14240	Hexachlorobutadiene	87-68-3	N.D.	0.5	2	1
14240	Hexachlorocyclopentadiene	77-47-4	N.D.	5	11	1
14240	Hexachloroethane	67-72-1	N.D.	1	5	1
14240	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	0.5	1
14240	Isophorone	78-59-1	N.D.	0.5	2	1
14240	2-Methylnaphthalene	91-57-6	N.D.	0.1	0.5	1
14240	2-Methylphenol	95-48-7	N.D.	0.5	2	1
14240	4-Methylphenol	106-44-5	N.D.	0.5	2	1
3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.						
14240	Naphthalene	91-20-3	N.D.	0.1	0.5	1
14240	2-Nitroaniline	88-74-4	N.D.	2	5	1
14240	3-Nitroaniline	99-09-2	N.D.	3	7	1
14240	4-Nitroaniline	100-01-6	N.D.	0.9	3	1
14240	Nitrobenzene	98-95-3	N.D.	0.5	2	1
14240	2-Nitrophenol	88-75-5	N.D.	3	10	1
14240	4-Nitrophenol	100-02-7	N.D.	10	31	1
14240	N-Nitroso-di-n-propylamine	621-64-7	N.D.	0.7	3	1
14240	N-Nitrosodiphenylamine	86-30-6	N.D.	0.7	3	1
N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.						
14240	Di-n-octylphthalate	117-84-0	N.D.	5	11	1
14240	Pentachlorophenol	87-86-5	N.D.	1	5	1
14240	Phenanthrene	85-01-8	N.D.	0.1	0.5	1
14240	Phenol	108-95-2	N.D.	0.5	2	1
14240	Pyrene	129-00-0	N.D.	0.1	0.5	1
14240	2,4,5-Trichlorophenol	95-95-4	N.D.	0.5	2	1
14240	2,4,6-Trichlorophenol	88-06-2	N.D.	0.5	2	1

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP06-S201 Grab Water
I-80 Perfection Shoe Co.

Project Name: I-80 Perfection Shoe Company

Brightfields, Inc.
ELLE Sample #: WW 9925832
ELLE Group #: 2015485
Matrix: Water

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 14:00

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
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the TNI/DoD Standards. The following analytes are accepted based on this allowance: Diethylphthalate

The recovery for Caprolactam in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. Since the recovery is high and the target analyte(s) was not detected in the sample, the data is reported.

The holding time was not met. The client was notified and the data reported.

PCBs		SW-846 8082	ug/l	ug/l	ug/l	
10227	PCB-1016	12674-11-2	N.D. D1 Q0	0.11	0.54	1
10227	PCB-1221	11104-28-2	N.D. D1	0.11	0.54	1
10227	PCB-1232	11141-16-5	N.D. D1	0.21	0.54	1
10227	PCB-1242	53469-21-9	N.D. D1	0.11	0.54	1
10227	PCB-1248	12672-29-6	N.D. D1	0.11	0.54	1
10227	PCB-1254	11097-69-1	N.D. D1	0.11	0.54	1
10227	PCB-1260	11096-82-5	N.D. D1 Q0	0.16	0.54	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. Sufficient sample was not available to repeat the analysis.

Metals		SW-846 6010B	mg/l	mg/l	mg/l	
07044	Antimony	7440-36-0	N.D.	0.0100	0.0500	1
07035	Arsenic	7440-38-2	N.D.	0.0160	0.0500	1
07047	Beryllium	7440-41-7	N.D.	0.0010	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.0010	0.0050	1
07051	Chromium	7440-47-3	N.D.	0.0053	0.0150	1
07053	Copper	7440-50-8	N.D.	0.0062	0.0200	1
07055	Lead	7439-92-1	N.D.	0.0071	0.0150	1
07061	Nickel	7440-02-0	N.D.	0.0031	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0210	0.0500	1
07066	Silver	7440-22-4	N.D.	0.0050	0.0100	1
07022	Thallium	7440-28-0	N.D.	0.0140	0.0300	1
07072	Zinc	7440-66-6	N.D.	0.0030	0.0200	1

		SW-846 7470A	mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	N.D.	0.000050	0.00020	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP06-S201 Grab Water
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: WW 9925832
ELLE Group #: 2015485
Matrix: Water

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 14:00

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs- 5ml Water by 8260B	SW-846 8260B	1	Y183412AA	12/07/2018 20:52	Kevin D Kelly	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y183412AA	12/07/2018 20:51	Kevin D Kelly	1
14240	TCL SW846 8270C MINI	SW-846 8270C	1	18346WAZ026	12/20/2018 15:55	Kira N Beck	1
00813	BNA Water Extraction	SW-846 3510C	2	18346WAZ026	12/13/2018 08:00	David S Schrum	1
10227	PCBs in Water	SW-846 8082	1	183410047A	12/10/2018 18:33	Kirby B Turner	1
11117	PCB Waters Extraction	SW-846 3510C	1	183410047A	12/09/2018 14:20	Christine E Gleim	1
07044	Antimony	SW-846 6010B	1	183401404407	12/13/2018 21:45	Elaine F Stoltzfus	1
07035	Arsenic	SW-846 6010B	1	183401404407	12/13/2018 21:45	Elaine F Stoltzfus	1
07047	Beryllium	SW-846 6010B	1	183401404407	12/13/2018 21:45	Elaine F Stoltzfus	1
07049	Cadmium	SW-846 6010B	1	183401404407	12/13/2018 21:45	Elaine F Stoltzfus	1
07051	Chromium	SW-846 6010B	1	183401404407	12/13/2018 21:45	Elaine F Stoltzfus	1
07053	Copper	SW-846 6010B	1	183401404407	12/13/2018 21:45	Elaine F Stoltzfus	1
07055	Lead	SW-846 6010B	1	183401404407	12/13/2018 21:45	Elaine F Stoltzfus	1
07061	Nickel	SW-846 6010B	1	183401404407	12/13/2018 21:45	Elaine F Stoltzfus	1
07036	Selenium	SW-846 6010B	1	183401404407	12/13/2018 21:45	Elaine F Stoltzfus	1
07066	Silver	SW-846 6010B	1	183401404407	12/13/2018 21:45	Elaine F Stoltzfus	1
07022	Thallium	SW-846 6010B	1	183401404407	12/13/2018 21:45	Elaine F Stoltzfus	1
07072	Zinc	SW-846 6010B	1	183401404407	12/13/2018 21:45	Elaine F Stoltzfus	1
00259	Mercury	SW-846 7470A	1	183410571310	12/08/2018 10:12	Damary Valentin	1
14044	ICP-WW, 3005A (tot rec) - U345	SW-846 3005A	1	183401404407	12/07/2018 03:14	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	183410571310	12/07/2018 21:30	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP06-S301 Water
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: WW 9925833
ELLE Group #: 2015485
Matrix: Water

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 13:56

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10335	Acetone	67-64-1	N.D.	0.8	20	1
10335	Benzene	71-43-2	N.D.	0.2	1	1
10335	Bromodichloromethane	75-27-4	N.D.	0.2	1	1
10335	Bromoform	75-25-2	N.D.	2	5	1
10335	Bromomethane	74-83-9	N.D.	0.5	1	1
10335	2-Butanone	78-93-3	N.D.	1	10	1
10335	Carbon Disulfide	75-15-0	N.D.	0.3	5	1
10335	Carbon Tetrachloride	56-23-5	N.D.	0.2	1	1
10335	Chlorobenzene	108-90-7	N.D.	0.2	1	1
10335	Chloroethane	75-00-3	N.D.	0.3	1	1
10335	Chloroform	67-66-3	N.D.	0.2	1	1
10335	Chloromethane	74-87-3	N.D.	0.3	1	1
10335	Cyclohexane	110-82-7	N.D.	2	5	1
10335	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	1	5	1
10335	Dibromochloromethane	124-48-1	N.D.	0.4	1	1
10335	1,2-Dibromoethane	106-93-4	N.D.	0.3	1	1
10335	1,2-Dichlorobenzene	95-50-1	N.D.	0.2	5	1
10335	1,3-Dichlorobenzene	541-73-1	N.D.	0.2	5	1
10335	1,4-Dichlorobenzene	106-46-7	N.D.	0.2	5	1
10335	Dichlorodifluoromethane	75-71-8	N.D.	0.3	1	1
10335	1,1-Dichloroethane	75-34-3	N.D.	0.2	1	1
10335	1,2-Dichloroethane	107-06-2	N.D.	2	5	1
10335	1,1-Dichloroethene	75-35-4	N.D.	0.2	1	1
10335	cis-1,2-Dichloroethene	156-59-2	N.D.	0.2	1	1
10335	trans-1,2-Dichloroethene	156-60-5	N.D.	0.2	1	1
10335	1,2-Dichloropropane	78-87-5	N.D.	0.2	1	1
10335	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.2	1	1
10335	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.2	1	1
10335	Ethylbenzene	100-41-4	N.D.	0.2	1	1
10335	Freon 113	76-13-1	N.D.	2	10	1
10335	2-Hexanone	591-78-6	N.D.	3	10	1
10335	Isopropylbenzene	98-82-8	N.D.	0.3	5	1
10335	Methyl Acetate	79-20-9	N.D.	0.6	5	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.2	1	1
10335	4-Methyl-2-pentanone	108-10-1	N.D.	0.5	10	1
10335	Methylcyclohexane	108-87-2	N.D.	0.2	5	1
10335	Methylene Chloride	75-09-2	N.D.	0.2	1	1
10335	Styrene	100-42-5	N.D.	0.2	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	N.D. Q1	0.2	1	1
10335	Tetrachloroethene	127-18-4	N.D.	0.2	1	1
10335	Toluene	108-88-3	N.D.	0.2	1	1
10335	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.4	5	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP06-S301 Water
I-80 Perfection Shoe Co.

Project Name: I-80 Perfection Shoe Company

Brightfields, Inc.
ELLE Sample #: WW 9925833
ELLE Group #: 2015485
Matrix: Water

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 13:56

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10335	1,1,1-Trichloroethane	71-55-6	N.D.	0.2	1	1
10335	1,1,2-Trichloroethane	79-00-5	N.D.	0.2	1	1
10335	Trichloroethene	79-01-6	N.D.	0.2	1	1
10335	Trichlorofluoromethane	75-69-4	N.D.	0.4	1	1
10335	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.3	5	1
10335	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.3	5	1
10335	Vinyl Chloride	75-01-4	N.D.	0.4	1	1
10335	Xylene (Total)	1330-20-7	N.D.	0.5	5	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs- 5ml Water by 8260B	SW-846 8260B	1	Y183412AA	12/07/2018 21:14	Kevin D Kelly	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y183412AA	12/07/2018 21:13	Kevin D Kelly	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:06

Group Number: 2015485

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	MDL**	LOQ
	mg/kg	mg/kg	mg/kg
Batch number: A183421AA	Sample number(s): 9925826-9925828,9925830-9925831		
Acetone	N.D.	0.006	0.020
Benzene	N.D.	0.0004	0.005
Bromodichloromethane	N.D.	0.0003	0.005
Bromoform	N.D.	0.004	0.010
Bromomethane	N.D.	0.0008	0.005
2-Butanone	N.D.	0.001	0.010
Carbon Disulfide	N.D.	0.0004	0.005
Carbon Tetrachloride	N.D.	0.0005	0.005
Chlorobenzene	N.D.	0.0004	0.005
Chloroethane	N.D.	0.002	0.005
Chloroform	N.D.	0.0004	0.005
Chloromethane	N.D.	0.0005	0.005
Cyclohexane	N.D.	0.0005	0.005
1,2-Dibromo-3-chloropropane	N.D.	0.0003	0.005
Dibromochloromethane	N.D.	0.003	0.008
1,2-Dibromoethane	N.D.	0.0003	0.005
1,2-Dichlorobenzene	N.D.	0.0004	0.005
1,3-Dichlorobenzene	N.D.	0.0004	0.005
1,4-Dichlorobenzene	N.D.	0.0004	0.005
Dichlorodifluoromethane	N.D.	0.0004	0.005
1,1-Dichloroethane	N.D.	0.0004	0.005
1,2-Dichloroethane	N.D.	0.0003	0.005
1,1-Dichloroethene	N.D.	0.0004	0.005
cis-1,2-Dichloroethene	N.D.	0.0005	0.005
trans-1,2-Dichloroethene	N.D.	0.0004	0.005
1,2-Dichloropropane	N.D.	0.0004	0.005
cis-1,3-Dichloropropene	N.D.	0.0004	0.005
trans-1,3-Dichloropropene	N.D.	0.0003	0.005
Ethylbenzene	N.D.	0.0004	0.005
Freon 113	N.D.	0.0004	0.010
2-Hexanone	N.D.	0.001	0.010
Isopropylbenzene	N.D.	0.0005	0.005
Methyl Acetate	N.D.	0.001	0.005
Methyl Tertiary Butyl Ether	N.D.	0.0005	0.005
4-Methyl-2-pentanone	N.D.	0.001	0.010
Methylcyclohexane	N.D.	0.0006	0.005
Methylene Chloride	N.D.	0.001	0.005
Styrene	N.D.	0.0004	0.005
1,1,1,2-Tetrachloroethane	N.D.	0.0003	0.005

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:06

Group Number: 2015485

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	mg/kg	mg/kg	mg/kg
Tetrachloroethene	N.D.	0.0005	0.005
Toluene	N.D.	0.0003	0.005
1,2,4-Trichlorobenzene	N.D.	0.0008	0.005
1,1,1-Trichloroethane	N.D.	0.0004	0.005
1,1,2-Trichloroethane	N.D.	0.0003	0.005
Trichloroethene	N.D.	0.0004	0.005
Trichlorofluoromethane	N.D.	0.0006	0.005
1,2,4-Trimethylbenzene	N.D.	0.0006	0.005
1,3,5-Trimethylbenzene	N.D.	0.0005	0.005
Vinyl Chloride	N.D.	0.0005	0.005
Xylene (Total)	N.D.	0.0009	0.005
Batch number: R183421AA	Sample number(s): 9925829		
Acetone	N.D.	0.30	1.0
Benzene	N.D.	0.020	0.25
Bromodichloromethane	N.D.	0.015	0.25
Bromoform	N.D.	0.20	0.50
Bromomethane	N.D.	0.040	0.25
2-Butanone	N.D.	0.050	0.50
Carbon Disulfide	N.D.	0.020	0.25
Carbon Tetrachloride	N.D.	0.025	0.25
Chlorobenzene	N.D.	0.020	0.25
Chloroethane	N.D.	0.10	0.25
Chloroform	N.D.	0.020	0.25
Chloromethane	N.D.	0.025	0.25
Cyclohexane	N.D.	0.025	0.25
1,2-Dibromo-3-chloropropane	N.D.	0.015	0.25
Dibromochloromethane	N.D.	0.15	0.40
1,2-Dibromoethane	N.D.	0.015	0.25
1,2-Dichlorobenzene	N.D.	0.020	0.25
1,3-Dichlorobenzene	N.D.	0.020	0.25
1,4-Dichlorobenzene	N.D.	0.020	0.25
Dichlorodifluoromethane	N.D.	0.020	0.25
1,1-Dichloroethane	N.D.	0.020	0.25
1,2-Dichloroethane	N.D.	0.015	0.25
1,1-Dichloroethene	N.D.	0.020	0.25
cis-1,2-Dichloroethene	N.D.	0.025	0.25
trans-1,2-Dichloroethene	N.D.	0.020	0.25
1,2-Dichloropropane	N.D.	0.020	0.25
cis-1,3-Dichloropropene	N.D.	0.020	0.25
trans-1,3-Dichloropropene	N.D.	0.015	0.25
Ethylbenzene	N.D.	0.020	0.25
Freon 113	N.D.	0.020	0.50
2-Hexanone	N.D.	0.050	0.50
Isopropylbenzene	N.D.	0.025	0.25

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:06

Group Number: 2015485

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	mg/kg	mg/kg	mg/kg
Methyl Acetate	N.D.	0.050	0.25
Methyl Tertiary Butyl Ether	N.D.	0.025	0.25
4-Methyl-2-pentanone	N.D.	0.050	0.50
Methylcyclohexane	N.D.	0.030	0.25
Methylene Chloride	N.D.	0.050	0.25
Styrene	N.D.	0.020	0.25
1,1,2,2-Tetrachloroethane	N.D.	0.015	0.25
Tetrachloroethene	N.D.	0.025	0.25
Toluene	N.D.	0.015	0.25
1,2,4-Trichlorobenzene	N.D.	0.040	0.25
1,1,1-Trichloroethane	N.D.	0.020	0.25
1,1,2-Trichloroethane	N.D.	0.015	0.25
Trichloroethene	N.D.	0.020	0.25
Trichlorofluoromethane	N.D.	0.030	0.25
1,2,4-Trimethylbenzene	N.D.	0.030	0.25
1,3,5-Trimethylbenzene	N.D.	0.025	0.25
Vinyl Chloride	N.D.	0.025	0.25
Xylene (Total)	N.D.	0.045	0.25
Batch number: X183421AA	Sample number(s): 9925816-9925822		
Acetone	N.D.	0.006	0.020
Benzene	N.D.	0.0004	0.005
Bromodichloromethane	N.D.	0.0003	0.005
Bromoform	N.D.	0.004	0.010
Bromomethane	N.D.	0.0008	0.005
2-Butanone	N.D.	0.001	0.010
Carbon Disulfide	N.D.	0.0004	0.005
Carbon Tetrachloride	N.D.	0.0005	0.005
Chlorobenzene	N.D.	0.0004	0.005
Chloroethane	N.D.	0.002	0.005
Chloroform	N.D.	0.0004	0.005
Chloromethane	N.D.	0.0005	0.005
Cyclohexane	N.D.	0.0005	0.005
1,2-Dibromo-3-chloropropane	N.D.	0.0003	0.005
Dibromochloromethane	N.D.	0.003	0.008
1,2-Dibromoethane	N.D.	0.0003	0.005
1,2-Dichlorobenzene	N.D.	0.0004	0.005
1,3-Dichlorobenzene	N.D.	0.0004	0.005
1,4-Dichlorobenzene	N.D.	0.0004	0.005
Dichlorodifluoromethane	N.D.	0.0004	0.005
1,1-Dichloroethane	N.D.	0.0004	0.005
1,2-Dichloroethane	N.D.	0.0003	0.005
1,1-Dichloroethene	N.D.	0.0004	0.005
cis-1,2-Dichloroethene	N.D.	0.0005	0.005
trans-1,2-Dichloroethene	N.D.	0.0004	0.005

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(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:06

Group Number: 2015485

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	mg/kg	mg/kg	mg/kg
1,2-Dichloropropane	N.D.	0.0004	0.005
cis-1,3-Dichloropropene	N.D.	0.0004	0.005
trans-1,3-Dichloropropene	N.D.	0.0003	0.005
Ethylbenzene	N.D.	0.0004	0.005
Freon 113	N.D.	0.0004	0.010
2-Hexanone	N.D.	0.001	0.010
Isopropylbenzene	N.D.	0.0005	0.005
Methyl Acetate	N.D.	0.001	0.005
Methyl Tertiary Butyl Ether	N.D.	0.0005	0.005
4-Methyl-2-pentanone	N.D.	0.001	0.010
Methylcyclohexane	N.D.	0.0006	0.005
Methylene Chloride	N.D.	0.001	0.005
Styrene	N.D.	0.0004	0.005
1,1,2,2-Tetrachloroethane	N.D.	0.0003	0.005
Tetrachloroethene	N.D.	0.0005	0.005
Toluene	N.D.	0.0003	0.005
1,2,4-Trichlorobenzene	N.D.	0.0008	0.005
1,1,1-Trichloroethane	N.D.	0.0004	0.005
1,1,2-Trichloroethane	N.D.	0.0003	0.005
Trichloroethene	N.D.	0.0004	0.005
Trichlorofluoromethane	N.D.	0.0006	0.005
1,2,4-Trimethylbenzene	N.D.	0.0006	0.005
1,3,5-Trimethylbenzene	N.D.	0.0005	0.005
Vinyl Chloride	N.D.	0.0005	0.005
Xylene (Total)	N.D.	0.0009	0.005
Batch number: X183441AA	Sample number(s): 9925824-9925825		
Acetone	N.D.	0.006	0.020
Benzene	N.D.	0.0004	0.005
Bromodichloromethane	N.D.	0.0003	0.005
Bromoform	N.D.	0.004	0.010
Bromomethane	N.D.	0.0008	0.005
2-Butanone	N.D.	0.001	0.010
Carbon Disulfide	N.D.	0.0004	0.005
Carbon Tetrachloride	N.D.	0.0005	0.005
Chlorobenzene	N.D.	0.0004	0.005
Chloroethane	N.D.	0.002	0.005
Chloroform	N.D.	0.0004	0.005
Chloromethane	N.D.	0.0005	0.005
Cyclohexane	N.D.	0.0005	0.005
1,2-Dibromo-3-chloropropane	N.D.	0.0003	0.005
Dibromochloromethane	N.D.	0.003	0.008
1,2-Dibromoethane	N.D.	0.0003	0.005
1,2-Dichlorobenzene	N.D.	0.0004	0.005
1,3-Dichlorobenzene	N.D.	0.0004	0.005

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:06

Group Number: 2015485

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	mg/kg	mg/kg	mg/kg
1,4-Dichlorobenzene	N.D.	0.0004	0.005
Dichlorodifluoromethane	N.D.	0.0004	0.005
1,1-Dichloroethane	N.D.	0.0004	0.005
1,2-Dichloroethane	N.D.	0.0003	0.005
1,1-Dichloroethene	N.D.	0.0004	0.005
cis-1,2-Dichloroethene	N.D.	0.0005	0.005
trans-1,2-Dichloroethene	N.D.	0.0004	0.005
1,2-Dichloropropane	N.D.	0.0004	0.005
cis-1,3-Dichloropropene	N.D.	0.0004	0.005
trans-1,3-Dichloropropene	N.D.	0.0003	0.005
Ethylbenzene	N.D.	0.0004	0.005
Freon 113	N.D.	0.0004	0.010
2-Hexanone	N.D.	0.001	0.010
Isopropylbenzene	N.D.	0.0005	0.005
Methyl Acetate	N.D.	0.001	0.005
Methyl Tertiary Butyl Ether	N.D.	0.0005	0.005
4-Methyl-2-pentanone	N.D.	0.001	0.010
Methylcyclohexane	N.D.	0.0006	0.005
Methylene Chloride	N.D.	0.001	0.005
Styrene	N.D.	0.0004	0.005
1,1,2,2-Tetrachloroethane	N.D.	0.0003	0.005
Tetrachloroethene	N.D.	0.0005	0.005
Toluene	N.D.	0.0003	0.005
1,2,4-Trichlorobenzene	N.D.	0.0008	0.005
1,1,1-Trichloroethane	N.D.	0.0004	0.005
1,1,2-Trichloroethane	N.D.	0.0003	0.005
Trichloroethene	N.D.	0.0004	0.005
Trichlorofluoromethane	N.D.	0.0006	0.005
1,2,4-Trimethylbenzene	N.D.	0.0006	0.005
1,3,5-Trimethylbenzene	N.D.	0.0005	0.005
Vinyl Chloride	N.D.	0.0005	0.005
Xylene (Total)	N.D.	0.0009	0.005
	ug/l	ug/l	ug/l
Batch number: Y183412AA	Sample number(s): 9925832-9925833		
Acetone	N.D.	0.8	20
Benzene	N.D.	0.2	1
Bromodichloromethane	N.D.	0.2	1
Bromoform	N.D.	2	5
Bromomethane	N.D.	0.5	1
2-Butanone	N.D.	1	10
Carbon Disulfide	N.D.	0.3	5
Carbon Tetrachloride	N.D.	0.2	1
Chlorobenzene	N.D.	0.2	1
Chloroethane	N.D.	0.3	1

*- Outside of specification

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:06

Group Number: 2015485

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	ug/l	ug/l	ug/l
Chloroform	N.D.	0.2	1
Chloromethane	N.D.	0.3	1
Cyclohexane	N.D.	2	5
1,2-Dibromo-3-chloropropane	N.D.	1	5
Dibromochloromethane	N.D.	0.4	1
1,2-Dibromoethane	N.D.	0.3	1
1,2-Dichlorobenzene	N.D.	0.2	5
1,3-Dichlorobenzene	N.D.	0.2	5
1,4-Dichlorobenzene	N.D.	0.2	5
Dichlorodifluoromethane	N.D.	0.3	1
1,1-Dichloroethane	N.D.	0.2	1
1,2-Dichloroethane	N.D.	2	5
1,1-Dichloroethene	N.D.	0.2	1
cis-1,2-Dichloroethene	N.D.	0.2	1
trans-1,2-Dichloroethene	N.D.	0.2	1
1,2-Dichloropropane	N.D.	0.2	1
cis-1,3-Dichloropropene	N.D.	0.2	1
trans-1,3-Dichloropropene	N.D.	0.2	1
Ethylbenzene	N.D.	0.2	1
Freon 113	N.D.	2	10
2-Hexanone	N.D.	3	10
Isopropylbenzene	N.D.	0.3	5
Methyl Acetate	N.D.	0.6	5
Methyl Tertiary Butyl Ether	N.D.	0.2	1
4-Methyl-2-pentanone	N.D.	0.5	10
Methylcyclohexane	N.D.	0.2	5
Methylene Chloride	N.D.	0.2	1
Styrene	N.D.	0.2	5
1,1,2,2-Tetrachloroethane	N.D.	0.2	1
Tetrachloroethene	N.D.	0.2	1
Toluene	N.D.	0.2	1
1,2,4-Trichlorobenzene	N.D.	0.4	5
1,1,1-Trichloroethane	N.D.	0.2	1
1,1,2-Trichloroethane	N.D.	0.2	1
Trichloroethene	N.D.	0.2	1
Trichlorofluoromethane	N.D.	0.4	1
1,2,4-Trimethylbenzene	N.D.	0.3	5
1,3,5-Trimethylbenzene	N.D.	0.3	5
Vinyl Chloride	N.D.	0.4	1
Xylene (Total)	N.D.	0.5	5
	ug/kg	ug/kg	ug/kg
Batch number: 18340SLF026	Sample number(s): 9925824		
Acenaphthene	N.D.	3	17
Acenaphthylene	N.D.	3	17

*- Outside of specification

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:06

Group Number: 2015485

Method Blank (continued)

Analysis Name	Result	MDL** ug/kg	LOQ ug/kg
Acetophenone	N.D.	23	50
Anthracene	N.D.	3	17
Atrazine	N.D.	33	170
Benzaldehyde	N.D.	67	170
Benzo(a)anthracene	N.D.	3	17
Benzo(a)pyrene	N.D.	7	17
Benzo(b)fluoranthene	N.D.	3	17
Benzo(g,h,i)perylene	N.D.	7	17
Benzo(k)fluoranthene	N.D.	3	17
1,1'-Biphenyl	N.D.	17	37
4-Bromophenyl-phenylether	N.D.	20	50
Butylbenzylphthalate	N.D.	67	170
Di-n-butylphthalate	N.D.	67	170
Caprolactam	N.D.	33	170
Carbazole	N.D.	17	37
4-Chloro-3-methylphenol	N.D.	17	37
4-Chloroaniline	N.D.	33	170
bis(2-Chloroethoxy)methane	N.D.	17	37
bis(2-Chloroethyl)ether	N.D.	23	50
2-Chloronaphthalene	N.D.	7	33
2-Chlorophenol	N.D.	17	37
4-Chlorophenyl-phenylether	N.D.	17	37
2,2'-oxybis(1-Chloropropane)	N.D.	17	37
Chrysene	N.D.	3	17
Dibenz(a,h)anthracene	N.D.	3	17
Dibenzofuran	N.D.	17	37
3,3'-Dichlorobenzidine	N.D.	100	330
2,4-Dichlorophenol	N.D.	17	37
Diethylphthalate	N.D.	67	170
2,4-Dimethylphenol	N.D.	17	37
Dimethylphthalate	N.D.	67	170
4,6-Dinitro-2-methylphenol	N.D.	170	500
2,4-Dinitrophenol	N.D.	370	1,000
2,4-Dinitrotoluene	N.D.	67	170
2,6-Dinitrotoluene	N.D.	20	50
bis(2-Ethylhexyl)phthalate	N.D.	67	170
Fluoranthene	N.D.	3	17
Fluorene	N.D.	3	17
Hexachlorobenzene	N.D.	3	17
Hexachlorobutadiene	N.D.	20	50
Hexachlorocyclopentadiene	N.D.	170	500
Hexachloroethane	N.D.	33	170
Indeno(1,2,3-cd)pyrene	N.D.	7	17
Isophorone	N.D.	17	37
2-Methylnaphthalene	N.D.	10	33

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:06

Group Number: 2015485

Method Blank (continued)

Analysis Name	Result	MDL** ug/kg	LOQ ug/kg
2-Methylphenol	N.D.	27	67
4-Methylphenol	N.D.	20	50
Naphthalene	N.D.	7	17
2-Nitroaniline	N.D.	20	50
3-Nitroaniline	N.D.	67	170
4-Nitroaniline	N.D.	67	170
Nitrobenzene	N.D.	27	67
2-Nitrophenol	N.D.	17	37
4-Nitrophenol	N.D.	170	500
N-Nitroso-di-n-propylamine	N.D.	20	50
N-Nitrosodiphenylamine	N.D.	17	37
Di-n-octylphthalate	N.D.	67	170
Pentachlorophenol	N.D.	37	170
Phenanthrene	N.D.	3	17
Phenol	N.D.	23	50
Pyrene	N.D.	3	17
2,4,5-Trichlorophenol	N.D.	20	50
2,4,6-Trichlorophenol	N.D.	20	50
Batch number: 18341SLC026	Sample number(s): 9925825-9925831		
Acenaphthene	N.D.	3	17
Acenaphthylene	N.D.	3	17
Acetophenone	N.D.	23	50
Anthracene	N.D.	3	17
Atrazine	N.D.	33	170
Benzaldehyde	N.D.	67	170
Benzo(a)anthracene	N.D.	3	17
Benzo(a)pyrene	N.D.	7	17
Benzo(b)fluoranthene	N.D.	3	17
Benzo(g,h,i)perylene	N.D.	7	17
Benzo(k)fluoranthene	N.D.	3	17
1,1'-Biphenyl	N.D.	17	37
4-Bromophenyl-phenylether	N.D.	20	50
Butylbenzylphthalate	N.D.	67	170
Di-n-butylphthalate	N.D.	67	170
Caprolactam	N.D.	33	170
Carbazole	N.D.	17	37
4-Chloro-3-methylphenol	N.D.	17	37
4-Chloroaniline	N.D.	33	170
bis(2-Chloroethoxy)methane	N.D.	17	37
bis(2-Chloroethyl)ether	N.D.	23	50
2-Chloronaphthalene	N.D.	7	33
2-Chlorophenol	N.D.	17	37
4-Chlorophenyl-phenylether	N.D.	17	37
2,2'-oxybis(1-Chloropropane)	N.D.	17	37

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:06

Group Number: 2015485

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	ug/kg	ug/kg	ug/kg
Chrysene	N.D.	3	17
Dibenz(a,h)anthracene	N.D.	3	17
Dibenzofuran	N.D.	17	37
3,3'-Dichlorobenzidine	N.D.	100	330
2,4-Dichlorophenol	N.D.	17	37
Diethylphthalate	N.D.	67	170
2,4-Dimethylphenol	N.D.	17	37
Dimethylphthalate	N.D.	67	170
4,6-Dinitro-2-methylphenol	N.D.	170	500
2,4-Dinitrophenol	N.D.	370	1,000
2,4-Dinitrotoluene	N.D.	67	170
2,6-Dinitrotoluene	N.D.	20	50
bis(2-Ethylhexyl)phthalate	N.D.	67	170
Fluoranthene	N.D.	3	17
Fluorene	N.D.	3	17
Hexachlorobenzene	N.D.	3	17
Hexachlorobutadiene	N.D.	20	50
Hexachlorocyclopentadiene	N.D.	170	500
Hexachloroethane	N.D.	33	170
Indeno(1,2,3-cd)pyrene	N.D.	7	17
Isophorone	N.D.	17	37
2-Methylnaphthalene	N.D.	10	33
2-Methylphenol	N.D.	27	67
4-Methylphenol	N.D.	20	50
Naphthalene	N.D.	7	17
2-Nitroaniline	N.D.	20	50
3-Nitroaniline	N.D.	67	170
4-Nitroaniline	N.D.	67	170
Nitrobenzene	N.D.	27	67
2-Nitrophenol	N.D.	17	37
4-Nitrophenol	N.D.	170	500
N-Nitroso-di-n-propylamine	N.D.	20	50
N-Nitrosodiphenylamine	N.D.	17	37
Di-n-octylphthalate	N.D.	67	170
Pentachlorophenol	N.D.	37	170
Phenanthrene	N.D.	3	17
Phenol	N.D.	23	50
Pyrene	N.D.	3	17
2,4,5-Trichlorophenol	N.D.	20	50
2,4,6-Trichlorophenol	N.D.	20	50
Batch number: 18346SLC026	Sample number(s): 9925816-9925822		
Acenaphthene	N.D.	3	17
Acenaphthylene	N.D.	3	17
Acetophenone	N.D.	23	50

*- Outside of specification

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:06

Group Number: 2015485

Method Blank (continued)

Analysis Name	Result	MDL** ug/kg	LOQ ug/kg
Anthracene	N.D.	3	17
Atrazine	N.D.	33	170
Benzaldehyde	N.D.	67	170
Benzo(a)anthracene	N.D.	3	17
Benzo(a)pyrene	N.D.	7	17
Benzo(b)fluoranthene	N.D.	3	17
Benzo(g,h,i)perylene	N.D.	7	17
Benzo(k)fluoranthene	N.D.	3	17
1,1'-Biphenyl	N.D.	17	37
4-Bromophenyl-phenylether	N.D.	20	50
Butylbenzylphthalate	N.D.	67	170
Di-n-butylphthalate	N.D.	67	170
Caprolactam	N.D.	33	170
Carbazole	N.D.	17	37
4-Chloro-3-methylphenol	N.D.	17	37
4-Chloroaniline	N.D.	33	170
bis(2-Chloroethoxy)methane	N.D.	17	37
bis(2-Chloroethyl)ether	N.D.	23	50
2-Chloronaphthalene	N.D.	7	33
2-Chlorophenol	N.D.	17	37
4-Chlorophenyl-phenylether	N.D.	17	37
2,2'-oxybis(1-Chloropropane)	N.D.	17	37
Chrysene	N.D.	3	17
Dibenz(a,h)anthracene	N.D.	3	17
Dibenzofuran	N.D.	17	37
3,3'-Dichlorobenzidine	N.D.	100	330
2,4-Dichlorophenol	N.D.	17	37
Diethylphthalate	N.D.	67	170
2,4-Dimethylphenol	N.D.	17	37
Dimethylphthalate	N.D.	67	170
4,6-Dinitro-2-methylphenol	N.D.	170	500
2,4-Dinitrophenol	N.D.	370	1,000
2,4-Dinitrotoluene	N.D.	67	170
2,6-Dinitrotoluene	N.D.	20	50
bis(2-Ethylhexyl)phthalate	N.D.	67	170
Fluoranthene	N.D.	3	17
Fluorene	N.D.	3	17
Hexachlorobenzene	N.D.	3	17
Hexachlorobutadiene	N.D.	20	50
Hexachlorocyclopentadiene	N.D.	170	500
Hexachloroethane	N.D.	33	170
Indeno(1,2,3-cd)pyrene	N.D.	7	17
Isophorone	N.D.	17	37
2-Methylnaphthalene	N.D.	10	33
2-Methylphenol	N.D.	27	67

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:06

Group Number: 2015485

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	ug/kg	ug/kg	ug/kg
4-Methylphenol	N.D.	20	50
Naphthalene	N.D.	7	17
2-Nitroaniline	N.D.	20	50
3-Nitroaniline	N.D.	67	170
4-Nitroaniline	N.D.	67	170
Nitrobenzene	N.D.	27	67
2-Nitrophenol	N.D.	17	37
4-Nitrophenol	N.D.	170	500
N-Nitroso-di-n-propylamine	N.D.	20	50
N-Nitrosodiphenylamine	N.D.	17	37
Di-n-octylphthalate	N.D.	67	170
Pentachlorophenol	N.D.	37	170
Phenanthrene	N.D.	3	17
Phenol	N.D.	23	50
Pyrene	N.D.	3	17
2,4,5-Trichlorophenol	N.D.	20	50
2,4,6-Trichlorophenol	N.D.	20	50
	ug/l	ug/l	ug/l
Batch number: 18346WAZ026	Sample number(s): 9925832		
Acenaphthene	N.D.	0.1	0.5
Acenaphthylene	N.D.	0.1	0.5
Acetophenone	N.D.	4	10
Anthracene	N.D.	0.1	0.5
Atrazine	N.D.	2	5
Benzaldehyde	N.D.	3	10
Benzo(a)anthracene	N.D.	0.1	0.5
Benzo(a)pyrene	N.D.	0.1	0.5
Benzo(b)fluoranthene	N.D.	0.1	0.5
Benzo(g,h,i)perylene	N.D.	0.1	0.5
Benzo(k)fluoranthene	N.D.	0.1	0.5
1,1'-Biphenyl	N.D.	3	10
4-Bromophenyl-phenylether	N.D.	0.5	2
Butylbenzylphthalate	N.D.	2	5
Di-n-butylphthalate	N.D.	2	5
Caprolactam	N.D.	5	11
Carbazole	N.D.	0.5	2
4-Chloro-3-methylphenol	N.D.	0.5	2
4-Chloroaniline	N.D.	4	10
bis(2-Chloroethoxy)methane	N.D.	0.5	2
bis(2-Chloroethyl)ether	N.D.	0.5	2
2-Chloronaphthalene	N.D.	0.4	1
2-Chlorophenol	N.D.	0.5	2
4-Chlorophenyl-phenylether	N.D.	0.5	2
2,2'-oxybis(1-Chloropropane)	N.D.	0.5	2

*- Outside of specification

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:06

Group Number: 2015485

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	ug/l	ug/l	ug/l
Chrysene	N.D.	0.1	0.5
Dibenz(a,h)anthracene	N.D.	0.1	0.5
Dibenzofuran	N.D.	0.5	2
3,3'-Dichlorobenzidine	N.D.	3	10
2,4-Dichlorophenol	N.D.	0.5	2
Diethylphthalate	N.D.	2	5
2,4-Dimethylphenol	N.D.	3	10
Dimethylphthalate	N.D.	2	5
4,6-Dinitro-2-methylphenol	N.D.	8	21
2,4-Dinitrophenol	N.D.	14	30
2,4-Dinitrotoluene	N.D.	1	5
2,6-Dinitrotoluene	N.D.	0.5	2
bis(2-Ethylhexyl)phthalate	N.D.	5	11
Fluoranthene	N.D.	0.1	0.5
Fluorene	N.D.	0.1	0.5
Hexachlorobenzene	N.D.	0.1	0.5
Hexachlorobutadiene	N.D.	0.5	2
Hexachlorocyclopentadiene	N.D.	5	11
Hexachloroethane	N.D.	1	5
Indeno(1,2,3-cd)pyrene	N.D.	0.1	0.5
Isophorone	N.D.	0.5	2
2-Methylnaphthalene	N.D.	0.1	0.5
2-Methylphenol	N.D.	0.5	2
4-Methylphenol	N.D.	0.5	2
Naphthalene	N.D.	0.1	0.5
2-Nitroaniline	N.D.	2	5
3-Nitroaniline	N.D.	3	7
4-Nitroaniline	N.D.	0.9	3
Nitrobenzene	N.D.	0.5	2
2-Nitrophenol	N.D.	3	10
4-Nitrophenol	N.D.	10	30
N-Nitroso-di-n-propylamine	N.D.	0.7	3
N-Nitrosodiphenylamine	N.D.	0.7	3
Di-n-octylphthalate	N.D.	5	11
Pentachlorophenol	N.D.	1	5
Phenanthrene	N.D.	0.1	0.5
Phenol	N.D.	0.5	2
Pyrene	N.D.	0.1	0.5
2,4,5-Trichlorophenol	N.D.	0.5	2
2,4,6-Trichlorophenol	N.D.	0.5	2
	ug/kg	ug/kg	ug/kg
Batch number: 183410024A	Sample number(s): 9925816-9925822,9925824-9925831		
PCB-1016	N.D.	3.6	17
PCB-1221	N.D.	4.6	17

*- Outside of specification

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(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:06

Group Number: 2015485

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	ug/kg	ug/kg	ug/kg
PCB-1232	N.D.	8.0	17
PCB-1242	N.D.	3.3	17
PCB-1248	N.D.	3.3	17
PCB-1254	N.D.	3.3	17
PCB-1260	N.D.	4.9	17
	ug/l	ug/l	ug/l
Batch number: 183410047A	Sample number(s): 9925832		
PCB-1016	N.D.	0.10	0.50
PCB-1221	N.D.	0.10	0.50
PCB-1232	N.D.	0.20	0.50
PCB-1242	N.D.	0.10	0.50
PCB-1248	N.D.	0.10	0.50
PCB-1254	N.D.	0.10	0.50
PCB-1260	N.D.	0.15	0.50
	mg/kg	mg/kg	mg/kg
Batch number: 183410570801	Sample number(s): 9925816-9925831		
Antimony	N.D.	1.70	5.00
Arsenic	N.D.	1.20	5.00
Beryllium	N.D.	0.100	0.500
Cadmium	N.D.	0.100	0.500
Chromium	N.D.	0.210	1.50
Copper	N.D.	0.500	2.00
Lead	N.D.	0.600	1.50
Nickel	N.D.	0.210	1.00
Selenium	N.D.	1.50	5.00
Silver	N.D.	0.400	1.00
Thallium	N.D.	0.900	3.00
Zinc	0.743 J	0.400	2.00
Batch number: 183410571101	Sample number(s): 9925816-9925831		
Mercury	N.D.	0.0312	0.0667
	mg/l	mg/l	mg/l
Batch number: 183401404407	Sample number(s): 9925832		
Antimony	N.D.	0.0100	0.0500
Arsenic	N.D.	0.0160	0.0500
Beryllium	N.D.	0.0010	0.0050
Cadmium	N.D.	0.0010	0.0050
Chromium	N.D.	0.0053	0.0150
Copper	N.D.	0.0062	0.0200
Lead	N.D.	0.0071	0.0150
Nickel	N.D.	0.0031	0.0100
Selenium	N.D.	0.0210	0.0500
Silver	N.D.	0.0050	0.0100

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:06

Group Number: 2015485

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	mg/l	mg/l	mg/l
Thallium	N.D.	0.0140	0.0300
Zinc	N.D.	0.0030	0.0200
Batch number: 183410571310	Sample number(s): 9925832		
Mercury	N.D.	0.000050	0.00020

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: A183421AA	Sample number(s): 9925826-9925828,9925830-9925831								
Acetone	0.150	0.155	0.150	0.142	103	95	41-150	8	30
Benzene	0.0200	0.0178	0.0200	0.0178	89	89	80-120	0	30
Bromodichloromethane	0.0200	0.0181	0.0200	0.0177	90	89	70-120	2	30
Bromoform	0.0200	0.0191	0.0200	0.0187	96	94	51-127	2	30
Bromomethane	0.0200	0.0146	0.0200	0.0132	73	66	45-140	10	30
2-Butanone	0.150	0.119	0.150	0.122	80	81	57-128	2	30
Carbon Disulfide	0.0200	0.0170	0.0200	0.0171	85	85	64-133	0	30
Carbon Tetrachloride	0.0200	0.0171	0.0200	0.0174	86	87	64-134	1	30
Chlorobenzene	0.0200	0.0186	0.0200	0.0187	93	94	80-120	1	30
Chloroethane	0.0200	0.0146	0.0200	0.0137	73	69	43-135	6	30
Chloroform	0.0200	0.0183	0.0200	0.0182	91	91	80-120	1	30
Chloromethane	0.0200	0.0173	0.0200	0.0170	87	85	56-120	2	30
Cyclohexane	0.0200	0.0153	0.0200	0.0152	77	76	58-126	1	30
1,2-Dibromo-3-chloropropane	0.0200	0.0206	0.0200	0.0188	103	94	48-134	9	30
Dibromochloromethane	0.0200	0.0190	0.0200	0.0187	95	94	69-125	1	30
1,2-Dibromoethane	0.0200	0.0193	0.0200	0.0191	97	96	76-120	1	30
1,2-Dichlorobenzene	0.0200	0.0184	0.0200	0.0184	92	92	76-120	0	30
1,3-Dichlorobenzene	0.0200	0.0175	0.0200	0.0176	88	88	75-120	1	30
1,4-Dichlorobenzene	0.0200	0.0182	0.0200	0.0185	91	92	80-120	2	30
Dichlorodifluoromethane	0.0200	0.0123	0.0200	0.0125	61	63	21-127	2	30
1,1-Dichloroethane	0.0200	0.0175	0.0200	0.0173	88	87	79-120	1	30
1,2-Dichloroethane	0.0200	0.0191	0.0200	0.0185	96	93	71-128	3	30
1,1-Dichloroethene	0.0200	0.0189	0.0200	0.0191	94	95	73-129	1	30
cis-1,2-Dichloroethene	0.0200	0.0188	0.0200	0.0190	94	95	80-123	1	30
trans-1,2-Dichloroethene	0.0200	0.0189	0.0200	0.0185	94	92	80-125	2	30
1,2-Dichloropropane	0.0200	0.0180	0.0200	0.0177	90	88	80-120	2	30
cis-1,3-Dichloropropene	0.0200	0.0171	0.0200	0.0168	85	84	66-120	2	30
trans-1,3-Dichloropropene	0.0200	0.0177	0.0200	0.0179	89	89	68-122	1	30
Ethylbenzene	0.0200	0.0174	0.0200	0.0177	87	88	78-120	2	30
Freon 113	0.0200	0.0173	0.0200	0.0173	86	87	64-135	0	30

*- Outside of specification

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(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:06

Group Number: 2015485

LCS/LCSD (continued)

Analysis Name	LCS Spike Added mg/kg	LCS Conc mg/kg	LCSD Spike Added mg/kg	LCSD Conc mg/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
2-Hexanone	0.100	0.102	0.100	0.0946	102	95	54-140	8	30
Isopropylbenzene	0.0200	0.0175	0.0200	0.0180	88	90	77-120	2	30
Methyl Acetate	0.0200	0.0203	0.0200	0.0176	102	88	67-128	15	30
Methyl Tertiary Butyl Ether	0.0200	0.0154	0.0200	0.0149	77	75	72-120	3	30
4-Methyl-2-pentanone	0.100	0.102	0.100	0.0940	102	94	67-128	8	30
Methylcyclohexane	0.0200	0.0160	0.0200	0.0158	80	79	61-124	2	30
Methylene Chloride	0.0200	0.0185	0.0200	0.0182	92	91	76-122	1	30
Styrene	0.0200	0.0173	0.0200	0.0175	87	87	76-120	1	30
1,1,2,2-Tetrachloroethane	0.0200	0.0191	0.0200	0.0177	96	89	69-125	7	30
Tetrachloroethene	0.0200	0.0207	0.0200	0.0218	104	109	73-120	5	30
Toluene	0.0200	0.0180	0.0200	0.0180	90	90	80-120	0	30
1,2,4-Trichlorobenzene	0.0200	0.0174	0.0200	0.0175	87	87	56-130	0	30
1,1,1-Trichloroethane	0.0200	0.0157	0.0200	0.0159	78	80	69-123	2	30
1,1,2-Trichloroethane	0.0200	0.0200	0.0200	0.0196	100	98	80-120	2	30
Trichloroethene	0.0200	0.0175	0.0200	0.0176	87	88	80-120	1	30
Trichlorofluoromethane	0.0200	0.0141	0.0200	0.0141	70	70	55-134	0	30
1,2,4-Trimethylbenzene	0.0200	0.0171	0.0200	0.0174	85	87	73-120	2	30
1,3,5-Trimethylbenzene	0.0200	0.0170	0.0200	0.0172	85	86	73-120	1	30
Vinyl Chloride	0.0200	0.0185	0.0200	0.0176	93	88	52-120	5	30
Xylene (Total)	0.0600	0.0541	0.0600	0.0550	90	92	75-120	2	30
Batch number: R183421AA	Sample number(s): 9925829								
Acetone	7.50	8.45	7.50	7.72	113	103	41-150	9	30
Benzene	1.00	1.07	1.00	1.04	107	104	80-120	3	30
Bromodichloromethane	1.00	1.14	1.00	1.06	114	106	70-120	7	30
Bromoform	1.00	0.989	1.00	0.956	99	96	51-127	3	30
Bromomethane	1.00	0.775	1.00	0.727	78	73	45-140	6	30
2-Butanone	7.50	8.07	7.50	7.34	108	98	57-128	10	30
Carbon Disulfide	1.00	1.05	1.00	1.02	105	102	64-133	3	30
Carbon Tetrachloride	1.00	1.13	1.00	1.05	113	105	64-134	8	30
Chlorobenzene	1.00	1.02	1.00	0.971	102	97	80-120	5	30
Chloroethane	1.00	0.685	1.00	0.619	69	62	43-135	10	30
Chloroform	1.00	1.13	1.00	1.08	113	108	80-120	5	30
Chloromethane	1.00	0.878	1.00	0.820	88	82	56-120	7	30
Cyclohexane	1.00	1.10	1.00	0.986	110	99	58-126	11	30
1,2-Dibromo-3-chloropropane	1.00	0.939	1.00	0.916	94	92	48-134	2	30
Dibromochloromethane	1.00	1.05	1.00	1.01	105	101	69-125	4	30
1,2-Dibromoethane	1.00	1.02	1.00	0.976	102	98	76-120	5	30
1,2-Dichlorobenzene	1.00	0.979	1.00	0.945	98	95	76-120	3	30
1,3-Dichlorobenzene	1.00	0.974	1.00	0.960	97	96	75-120	1	30
1,4-Dichlorobenzene	1.00	0.997	1.00	0.977	100	98	80-120	2	30
Dichlorodifluoromethane	1.00	0.514	1.00	0.452	51	45	21-127	13	30
1,1-Dichloroethane	1.00	1.13	1.00	1.09	113	109	79-120	4	30
1,2-Dichloroethane	1.00	1.20	1.00	1.18	120	118	71-128	2	30

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:06

Group Number: 2015485

LCS/LCSD (continued)

Analysis Name	LCS Spike Added mg/kg	LCS Conc mg/kg	LCSD Spike Added mg/kg	LCSD Conc mg/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
1,1-Dichloroethene	1.00	1.08	1.00	1.03	108	103	73-129	6	30
cis-1,2-Dichloroethene	1.00	1.15	1.00	1.06	115	106	80-123	8	30
trans-1,2-Dichloroethene	1.00	1.10	1.00	1.05	110	105	80-125	4	30
1,2-Dichloropropane	1.00	1.11	1.00	1.06	111	106	80-120	4	30
cis-1,3-Dichloropropene	1.00	1.14	1.00	1.06	114	106	66-120	7	30
trans-1,3-Dichloropropene	1.00	1.05	1.00	1.01	105	101	68-122	4	30
Ethylbenzene	1.00	0.993	1.00	0.961	99	96	78-120	3	30
Freon 113	1.00	1.09	1.00	0.974	109	97	64-135	11	30
2-Hexanone	5.00	5.69	5.00	5.43	114	109	54-140	5	30
Isopropylbenzene	1.00	0.998	1.00	0.954	100	95	77-120	5	30
Methyl Acetate	1.00	1.14	1.00	1.12	114	112	67-128	2	30
Methyl Tertiary Butyl Ether	1.00	1.02	1.00	0.987	102	99	72-120	3	30
4-Methyl-2-pentanone	5.00	6.04	5.00	5.55	121	111	67-128	8	30
Methylcyclohexane	1.00	0.976	1.00	0.872	98	87	61-124	11	30
Methylene Chloride	1.00	1.08	1.00	1.07	108	107	76-122	1	30
Styrene	1.00	1.05	1.00	0.989	105	99	76-120	6	30
1,1,2,2-Tetrachloroethane	1.00	0.956	1.00	0.966	96	97	69-125	1	30
Tetrachloroethene	1.00	1.01	1.00	0.937	101	94	73-120	8	30
Toluene	1.00	1.05	1.00	0.981	105	98	80-120	7	30
1,2,4-Trichlorobenzene	1.00	0.837	1.00	0.909	84	91	56-130	8	30
1,1,1-Trichloroethane	1.00	1.14	1.00	1.08	114	108	69-123	5	30
1,1,2-Trichloroethane	1.00	1.07	1.00	1.04	107	104	80-120	4	30
Trichloroethene	1.00	1.06	1.00	1.01	106	101	80-120	5	30
Trichlorofluoromethane	1.00	0.775	1.00	0.732	77	73	55-134	6	30
1,2,4-Trimethylbenzene	1.00	0.965	1.00	0.932	96	93	73-120	3	30
1,3,5-Trimethylbenzene	1.00	0.952	1.00	0.953	95	95	73-120	0	30
Vinyl Chloride	1.00	0.875	1.00	0.827	87	83	52-120	6	30
Xylene (Total)	3.00	3.10	3.00	2.96	103	99	75-120	5	30
Batch number: X183421AA	Sample number(s): 9925816-9925822								
Acetone	0.150	0.139	0.150	0.132	93	88	41-150	5	30
Benzene	0.0200	0.0209	0.0200	0.0206	104	103	80-120	1	30
Bromodichloromethane	0.0200	0.0202	0.0200	0.0199	101	100	70-120	1	30
Bromoform	0.0200	0.0177	0.0200	0.0178	88	89	51-127	1	30
Bromomethane	0.0200	0.0163	0.0200	0.0161	82	80	45-140	1	30
2-Butanone	0.150	0.143	0.150	0.136	95	91	57-128	5	30
Carbon Disulfide	0.0200	0.0212	0.0200	0.0207	106	103	64-133	3	30
Carbon Tetrachloride	0.0200	0.0209	0.0200	0.0203	104	102	64-134	2	30
Chlorobenzene	0.0200	0.0205	0.0200	0.0203	102	102	80-120	1	30
Chloroethane	0.0200	0.0177	0.0200	0.0177	88	89	43-135	0	30
Chloroform	0.0200	0.0212	0.0200	0.0209	106	105	80-120	1	30
Chloromethane	0.0200	0.0167	0.0200	0.0162	84	81	56-120	3	30
Cyclohexane	0.0200	0.0196	0.0200	0.0193	98	96	58-126	2	30
1,2-Dibromo-3-chloropropane	0.0200	0.0175	0.0200	0.0174	88	87	48-134	1	30

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:06

Group Number: 2015485

LCS/LCSD (continued)

Analysis Name	LCS Spike Added mg/kg	LCS Conc mg/kg	LCSD Spike Added mg/kg	LCSD Conc mg/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Dibromochloromethane	0.0200	0.0196	0.0200	0.0194	98	97	69-125	1	30
1,2-Dibromoethane	0.0200	0.0197	0.0200	0.0198	98	99	76-120	1	30
1,2-Dichlorobenzene	0.0200	0.0197	0.0200	0.0198	98	99	76-120	1	30
1,3-Dichlorobenzene	0.0200	0.0196	0.0200	0.0197	98	99	75-120	1	30
1,4-Dichlorobenzene	0.0200	0.0199	0.0200	0.0199	99	100	80-120	0	30
Dichlorodifluoromethane	0.0200	0.0134	0.0200	0.0130	67	65	21-127	3	30
1,1-Dichloroethane	0.0200	0.0209	0.0200	0.0207	104	104	79-120	1	30
1,2-Dichloroethane	0.0200	0.0216	0.0200	0.0215	108	108	71-128	1	30
1,1-Dichloroethene	0.0200	0.0233	0.0200	0.0228	116	114	73-129	2	30
cis-1,2-Dichloroethene	0.0200	0.0215	0.0200	0.0218	107	109	80-123	1	30
trans-1,2-Dichloroethene	0.0200	0.0221	0.0200	0.0217	111	108	80-125	2	30
1,2-Dichloropropane	0.0200	0.0205	0.0200	0.0202	102	101	80-120	1	30
cis-1,3-Dichloropropene	0.0200	0.0193	0.0200	0.0195	97	98	66-120	1	30
trans-1,3-Dichloropropene	0.0200	0.0191	0.0200	0.0190	95	95	68-122	0	30
Ethylbenzene	0.0200	0.0207	0.0200	0.0204	104	102	78-120	2	30
Freon 113	0.0200	0.0219	0.0200	0.0210	110	105	64-135	4	30
2-Hexanone	0.100	0.0863	0.100	0.0839	86	84	54-140	3	30
Isopropylbenzene	0.0200	0.0215	0.0200	0.0213	108	107	77-120	1	30
Methyl Acetate	0.0200	0.0188	0.0200	0.0190	94	95	67-128	1	30
Methyl Tertiary Butyl Ether	0.0200	0.0198	0.0200	0.0194	99	97	72-120	2	30
4-Methyl-2-pentanone	0.100	0.0899	0.100	0.0871	90	87	67-128	3	30
Methylcyclohexane	0.0200	0.0176	0.0200	0.0171	88	85	61-124	3	30
Methylene Chloride	0.0200	0.0211	0.0200	0.0212	106	106	76-122	0	30
Styrene	0.0200	0.0192	0.0200	0.0192	96	96	76-120	0	30
1,1,2,2-Tetrachloroethane	0.0200	0.0188	0.0200	0.0188	94	94	69-125	0	30
Tetrachloroethene	0.0200	0.0209	0.0200	0.0207	104	104	73-120	1	30
Toluene	0.0200	0.0207	0.0200	0.0205	104	103	80-120	1	30
1,2,4-Trichlorobenzene	0.0200	0.0209	0.0200	0.0196	104	98	56-130	6	30
1,1,1-Trichloroethane	0.0200	0.0215	0.0200	0.0212	107	106	69-123	1	30
1,1,2-Trichloroethane	0.0200	0.0203	0.0200	0.0203	101	101	80-120	0	30
Trichloroethene	0.0200	0.0208	0.0200	0.0204	104	102	80-120	2	30
Trichlorofluoromethane	0.0200	0.0173	0.0200	0.0166	87	83	55-134	4	30
1,2,4-Trimethylbenzene	0.0200	0.0206	0.0200	0.0206	103	103	73-120	0	30
1,3,5-Trimethylbenzene	0.0200	0.0210	0.0200	0.0208	105	104	73-120	1	30
Vinyl Chloride	0.0200	0.0172	0.0200	0.0167	86	84	52-120	3	30
Xylene (Total)	0.0600	0.0616	0.0600	0.0612	103	102	75-120	1	30
Batch number: X183441AA	Sample number(s): 9925824-9925825								
Acetone	0.150	0.134	0.150	0.136	89	91	41-150	2	30
Benzene	0.0200	0.0199	0.0200	0.0194	99	97	80-120	2	30
Bromodichloromethane	0.0200	0.0195	0.0200	0.0195	97	98	70-120	0	30
Bromoform	0.0200	0.0174	0.0200	0.0174	87	87	51-127	0	30
Bromomethane	0.0200	0.0166	0.0200	0.0161	83	80	45-140	3	30
2-Butanone	0.150	0.136	0.150	0.137	91	91	57-128	0	30

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:06

Group Number: 2015485

LCS/LCSD (continued)

Analysis Name	LCS Spike Added mg/kg	LCS Conc mg/kg	LCSD Spike Added mg/kg	LCSD Conc mg/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Carbon Disulfide	0.0200	0.0204	0.0200	0.0198	102	99	64-133	3	30
Carbon Tetrachloride	0.0200	0.0197	0.0200	0.0191	98	96	64-134	3	30
Chlorobenzene	0.0200	0.0203	0.0200	0.0197	102	98	80-120	3	30
Chloroethane	0.0200	0.0176	0.0200	0.0170	88	85	43-135	4	30
Chloroform	0.0200	0.0203	0.0200	0.0201	101	100	80-120	1	30
Chloromethane	0.0200	0.0163	0.0200	0.0157	82	78	56-120	4	30
Cyclohexane	0.0200	0.0183	0.0200	0.0180	91	90	58-126	1	30
1,2-Dibromo-3-chloropropane	0.0200	0.0174	0.0200	0.0177	87	89	48-134	2	30
Dibromochloromethane	0.0200	0.0195	0.0200	0.0195	97	98	69-125	0	30
1,2-Dibromoethane	0.0200	0.0192	0.0200	0.0191	96	95	76-120	1	30
1,2-Dichlorobenzene	0.0200	0.0195	0.0200	0.0195	97	97	76-120	0	30
1,3-Dichlorobenzene	0.0200	0.0193	0.0200	0.0192	97	96	75-120	1	30
1,4-Dichlorobenzene	0.0200	0.0197	0.0200	0.0194	98	97	80-120	1	30
Dichlorodifluoromethane	0.0200	0.0123	0.0200	0.0118	61	59	21-127	4	30
1,1-Dichloroethane	0.0200	0.0197	0.0200	0.0194	99	97	79-120	1	30
1,2-Dichloroethane	0.0200	0.0207	0.0200	0.0208	103	104	71-128	1	30
1,1-Dichloroethene	0.0200	0.0217	0.0200	0.0215	109	107	73-129	1	30
cis-1,2-Dichloroethene	0.0200	0.0205	0.0200	0.0205	103	102	80-123	0	30
trans-1,2-Dichloroethene	0.0200	0.0209	0.0200	0.0203	104	102	80-125	3	30
1,2-Dichloropropane	0.0200	0.0198	0.0200	0.0194	99	97	80-120	2	30
cis-1,3-Dichloropropene	0.0200	0.0178	0.0200	0.0180	89	90	66-120	1	30
trans-1,3-Dichloropropene	0.0200	0.0183	0.0200	0.0183	92	91	68-122	0	30
Ethylbenzene	0.0200	0.0201	0.0200	0.0196	100	98	78-120	3	30
Freon 113	0.0200	0.0205	0.0200	0.0200	102	100	64-135	2	30
2-Hexanone	0.100	0.0845	0.100	0.0843	84	84	54-140	0	30
Isopropylbenzene	0.0200	0.0207	0.0200	0.0201	104	100	77-120	3	30
Methyl Acetate	0.0200	0.0191	0.0200	0.0183	96	91	67-128	5	30
Methyl Tertiary Butyl Ether	0.0200	0.0184	0.0200	0.0193	92	97	72-120	5	30
4-Methyl-2-pentanone	0.100	0.0859	0.100	0.0861	86	86	67-128	0	30
Methylcyclohexane	0.0200	0.0170	0.0200	0.0166	85	83	61-124	2	30
Methylene Chloride	0.0200	0.0205	0.0200	0.0204	103	102	76-122	0	30
Styrene	0.0200	0.0190	0.0200	0.0186	95	93	76-120	2	30
1,1,2,2-Tetrachloroethane	0.0200	0.0187	0.0200	0.0188	93	94	69-125	1	30
Tetrachloroethene	0.0200	0.0203	0.0200	0.0196	102	98	73-120	3	30
Toluene	0.0200	0.0206	0.0200	0.0197	103	99	80-120	4	30
1,2,4-Trichlorobenzene	0.0200	0.0189	0.0200	0.0186	94	93	56-130	1	30
1,1,1-Trichloroethane	0.0200	0.0202	0.0200	0.0201	101	101	69-123	0	30
1,1,2-Trichloroethane	0.0200	0.0203	0.0200	0.0203	102	101	80-120	0	30
Trichloroethene	0.0200	0.0195	0.0200	0.0193	97	96	80-120	1	30
Trichlorofluoromethane	0.0200	0.0167	0.0200	0.0157	84	78	55-134	7	30
1,2,4-Trimethylbenzene	0.0200	0.0201	0.0200	0.0198	101	99	73-120	2	30
1,3,5-Trimethylbenzene	0.0200	0.0203	0.0200	0.0200	102	100	73-120	2	30
Vinyl Chloride	0.0200	0.0171	0.0200	0.0164	86	82	52-120	4	30
Xylene (Total)	0.0600	0.0602	0.0600	0.0585	100	97	75-120	3	30

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:06

Group Number: 2015485

LCS/LCSD (continued)

Analysis Name	LCS Spike Added mg/kg	LCS Conc mg/kg	LCSD Spike Added mg/kg	LCSD Conc mg/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	ug/l	ug/l	ug/l	ug/l					
Batch number: Y183412AA	Sample number(s): 9925832-9925833								
Acetone	150	168.15			112		54-157		
Benzene	20	22.49			112		80-120		
Bromodichloromethane	20	20.26			101		71-120		
Bromoform	20	15.33			77		51-120		
Bromomethane	20	14.76			74		53-128		
2-Butanone	150	167.13			111		59-135		
Carbon Disulfide	20	19.92			100		65-128		
Carbon Tetrachloride	20	20.29			101		64-134		
Chlorobenzene	20	21.39			107		80-120		
Chloroethane	20	17.53			88		55-123		
Chloroform	20	21.85			109		80-120		
Chloromethane	20	19.11			96		56-121		
Cyclohexane	20	19.05			95		68-126		
1,2-Dibromo-3-chloropropane	20	21.15			106		47-131		
Dibromochloromethane	20	18.78			94		71-120		
1,2-Dibromoethane	20	20.47			102		77-120		
1,2-Dichlorobenzene	20	21.7			109		80-120		
1,3-Dichlorobenzene	20	21.26			106		80-120		
1,4-Dichlorobenzene	20	21.97			110		80-120		
Dichlorodifluoromethane	20	13.11			66		41-127		
1,1-Dichloroethane	20	23.06			115		80-120		
1,2-Dichloroethane	20	24.01			120		73-124		
1,1-Dichloroethene	20	21.31			107		80-131		
cis-1,2-Dichloroethene	20	21.94			110		80-120		
trans-1,2-Dichloroethene	20	21.93			110		80-120		
1,2-Dichloropropane	20	23.98			120		80-120		
cis-1,3-Dichloropropene	20	19.92			100		75-120		
trans-1,3-Dichloropropene	20	19.57			98		67-120		
Ethylbenzene	20	21.46			107		80-120		
Freon 113	20	19.37			97		73-139		
2-Hexanone	100	113.59			114		56-135		
Isopropylbenzene	20	20.05			100		80-120		
Methyl Acetate	20	24.27			121		54-136		
Methyl Tertiary Butyl Ether	20	18.72			94		69-122		
4-Methyl-2-pentanone	100	111.13			111		62-133		
Methylcyclohexane	20	15.95			80		67-121		
Methylene Chloride	20	23.17			116		80-120		
Styrene	20	19.43			97		80-120		
1,1,2,2-Tetrachloroethane	20	24.35			122*		72-120		
Tetrachloroethene	20	18.35			92		80-120		
Toluene	20	21.68			108		80-120		

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:06

Group Number: 2015485

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
1,2,4-Trichlorobenzene	20	18.88			94		63-120		
1,1,1-Trichloroethane	20	20.6			103		67-126		
1,1,2-Trichloroethane	20	22.36			112		80-120		
Trichloroethene	20	20.89			104		80-120		
Trichlorofluoromethane	20	16.61			83		55-135		
1,2,4-Trimethylbenzene	20	22.08			110		75-120		
1,3,5-Trimethylbenzene	20	21.97			110		75-120		
Vinyl Chloride	20	18.21			91		56-120		
Xylene (Total)	60	61.85			103		80-120		
	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 18340SLF026	Sample number(s): 9925824								
Acenaphthene	1666.67	1634.94			98		85-114		
Acenaphthylene	1666.67	1770.45			106		80-120		
Acetophenone	1666.67	1550			93		77-110		
Anthracene	1666.67	1622.04			97		82-113		
Atrazine	1666.67	1679.01			101		68-123		
Benzaldehyde	1666.67	1156.04			69		31-119		
Benzo(a)anthracene	1666.67	1548.32			93		76-111		
Benzo(a)pyrene	1666.67	1627.56			98		82-114		
Benzo(b)fluoranthene	1666.67	1623.86			97		78-115		
Benzo(g,h,i)perylene	1666.67	1477.66			89		76-111		
Benzo(k)fluoranthene	1666.67	1615.21			97		78-119		
1,1'-Biphenyl	1666.67	1650.67			99		84-112		
4-Bromophenyl-phenylether	1666.67	1630.23			98		81-116		
Butylbenzylphthalate	1666.67	1607.1			96		81-113		
Di-n-butylphthalate	1666.67	1617.12			97		85-115		
Caprolactam	1666.67	1596.12			96		75-118		
Carbazole	1666.67	1660.78			100		84-117		
4-Chloro-3-methylphenol	1666.67	1638.99			98		78-127		
4-Chloroaniline	1666.67	157			9*		10-125		
bis(2-Chloroethoxy)methane	1666.67	1591.72			96		72-117		
bis(2-Chloroethyl)ether	1666.67	1465.19			88		74-109		
2-Chloronaphthalene	1666.67	1306.78			78		62-138		
2-Chlorophenol	1666.67	1622.01			97		85-116		
4-Chlorophenyl-phenylether	1666.67	1590.37			95		79-112		
2,2'-oxybis(1-Chloropropane)	1666.67	1387.52			83		68-112		
Chrysene	1666.67	1516.44			91		75-109		
Dibenz(a,h)anthracene	1666.67	1581.6			95		79-117		
Dibenzofuran	1666.67	1604.48			96		84-110		
3,3'-Dichlorobenzidine	1666.67	906.81			54		26-124		
2,4-Dichlorophenol	1666.67	1691.74			102		80-120		
Diethylphthalate	1666.67	1564.93			94		81-113		
2,4-Dimethylphenol	1666.67	1375.1			83		66-106		

*- Outside of specification

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(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:06

Group Number: 2015485

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Dimethylphthalate	1666.67	1584.63			95		82-110		
4,6-Dinitro-2-methylphenol	1666.67	1602.75			96		73-127		
2,4-Dinitrophenol	3333.33	3334.55			100		41-136		
2,4-Dinitrotoluene	1666.67	1597.31			96		82-116		
2,6-Dinitrotoluene	1666.67	1676.1			101		86-116		
bis(2-Ethylhexyl)phthalate	1666.67	1625.43			98		78-118		
Fluoranthene	1666.67	1557.6			93		76-115		
Fluorene	1666.67	1634.71			98		80-112		
Hexachlorobenzene	1666.67	1620.95			97		77-114		
Hexachlorobutadiene	1666.67	1625.54			98		75-115		
Hexachlorocyclopentadiene	3333.33	4343.9			130		37-161		
Hexachloroethane	1666.67	1447.37			87		76-106		
Indeno(1,2,3-cd)pyrene	1666.67	1512.13			91		78-113		
Isophorone	1666.67	1558.54			94		76-115		
2-Methylnaphthalene	1666.67	1611.98			97		80-111		
2-Methylphenol	1666.67	1557.97			93		80-122		
4-Methylphenol	1666.67	1546.73			93		75-121		
Naphthalene	1666.67	1557.04			93		81-111		
2-Nitroaniline	1666.67	1662.06			100		81-126		
3-Nitroaniline	1666.67	1326.93			80		60-128		
4-Nitroaniline	1666.67	1060.18			64		54-103		
Nitrobenzene	1666.67	1560.9			94		75-114		
2-Nitrophenol	1666.67	1665.36			100		85-118		
4-Nitrophenol	1666.67	1414.62			85		54-124		
N-Nitroso-di-n-propylamine	1666.67	1484.98			89		70-114		
N-Nitrosodiphenylamine	1666.67	1710.97			103		80-120		
Di-n-octylphthalate	1666.67	1758.45			106		84-128		
Pentachlorophenol	1666.67	1964.57			118		47-134		
Phenanthrene	1666.67	1625.49			98		81-109		
Phenol	1666.67	1562.15			94		74-119		
Pyrene	1666.67	1602.57			96		80-107		
2,4,5-Trichlorophenol	1666.67	1764.45			106		80-120		
2,4,6-Trichlorophenol	1666.67	1743.02			105		80-120		
Batch number: 18341SLC026	Sample number(s): 9925825-9925831								
Acenaphthene	1666.67	1510.53			91		85-114		
Acenaphthylene	1666.67	1666.76			100		80-120		
Acetophenone	1666.67	1471.02			88		77-110		
Anthracene	1666.67	1504.11			90		82-113		
Atrazine	1666.67	1611.37			97		68-123		
Benzaldehyde	1666.67	996.6			60		31-119		
Benzo(a)anthracene	1666.67	1436.34			86		76-111		
Benzo(a)pyrene	1666.67	1550.92			93		82-114		
Benzo(b)fluoranthene	1666.67	1583.19			95		78-115		

*- Outside of specification

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(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:06

Group Number: 2015485

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Benzo(g,h,i)perylene	1666.67	1421.45			85		76-111		
Benzo(k)fluoranthene	1666.67	1523.49			91		78-119		
1,1'-Biphenyl	1666.67	1540.14			92		84-112		
4-Bromophenyl-phenylether	1666.67	1525.07			92		81-116		
Butylbenzylphthalate	1666.67	1499.68			90		81-113		
Di-n-butylphthalate	1666.67	1483.98			89		85-115		
Caprolactam	1666.67	1558.04			93		75-118		
Carbazole	1666.67	1520.59			91		84-117		
4-Chloro-3-methylphenol	1666.67	1527.23			92		78-127		
4-Chloroaniline	1666.67	929.21			56		10-125		
bis(2-Chloroethoxy)methane	1666.67	1447.87			87		72-117		
bis(2-Chloroethyl)ether	1666.67	1368.33			82		74-109		
2-Chloronaphthalene	1666.67	1672.4			100		62-138		
2-Chlorophenol	1666.67	1554.5			93		85-116		
4-Chlorophenyl-phenylether	1666.67	1495.83			90		79-112		
2,2'-oxybis(1-Chloropropane)	1666.67	1298.11			78		68-112		
Chrysene	1666.67	1416.32			85		75-109		
Dibenz(a,h)anthracene	1666.67	1499.4			90		79-117		
Dibenzofuran	1666.67	1515.61			91		84-110		
3,3'-Dichlorobenzidine	1666.67	1139.06			68		26-124		
2,4-Dichlorophenol	1666.67	1569.84			94		80-120		
Diethylphthalate	1666.67	1473.62			88		81-113		
2,4-Dimethylphenol	1666.67	1261.99			76		66-106		
Dimethylphthalate	1666.67	1479.68			89		82-110		
4,6-Dinitro-2-methylphenol	1666.67	1503.39			90		73-127		
2,4-Dinitrophenol	3333.33	3046.15			91		41-136		
2,4-Dinitrotoluene	1666.67	1482.92			89		82-116		
2,6-Dinitrotoluene	1666.67	1556.61			93		86-116		
bis(2-Ethylhexyl)phthalate	1666.67	1501.25			90		78-118		
Fluoranthene	1666.67	1440.05			86		76-115		
Fluorene	1666.67	1527.84			92		80-112		
Hexachlorobenzene	1666.67	1536.03			92		77-114		
Hexachlorobutadiene	1666.67	1436.14			86		75-115		
Hexachlorocyclopentadiene	3333.33	3936.3			118		37-161		
Hexachloroethane	1666.67	1304.24			78		76-106		
Indeno(1,2,3-cd)pyrene	1666.67	1456.99			87		78-113		
Isophorone	1666.67	1438.39			86		76-115		
2-Methylnaphthalene	1666.67	1487.98			89		80-111		
2-Methylphenol	1666.67	1474.58			88		80-122		
4-Methylphenol	1666.67	1540.71			92		75-121		
Naphthalene	1666.67	1419.92			85		81-111		
2-Nitroaniline	1666.67	1565.9			94		81-126		
3-Nitroaniline	1666.67	1487.99			89		60-128		
4-Nitroaniline	1666.67	1069.09			64		54-103		

*- Outside of specification

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(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:06

Group Number: 2015485

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Nitrobenzene	1666.67	1409.02			85		75-114		
2-Nitrophenol	1666.67	1515.06			91		85-118		
4-Nitrophenol	1666.67	1296.9			78		54-124		
N-Nitroso-di-n-propylamine	1666.67	1418.18			85		70-114		
N-Nitrosodiphenylamine	1666.67	1595.9			96		80-120		
Di-n-octylphthalate	1666.67	1646.54			99		84-128		
Pentachlorophenol	1666.67	1748.27			105		47-134		
Phenanthrene	1666.67	1510.69			91		81-109		
Phenol	1666.67	1521.84			91		74-119		
Pyrene	1666.67	1496.93			90		80-107		
2,4,5-Trichlorophenol	1666.67	1612.21			97		80-120		
2,4,6-Trichlorophenol	1666.67	1648.78			99		80-120		
Batch number: 18346SLC026	Sample number(s): 9925816-9925822								
Acenaphthene	1666.67	1539.19			92		85-114		
Acenaphthylene	1666.67	1692.81			102		80-120		
Acetophenone	1666.67	1431.79			86		77-110		
Anthracene	1666.67	1524.33			91		82-113		
Atrazine	1666.67	1626.95			98		68-123		
Benzaldehyde	1666.67	1059.06			64		31-119		
Benzo(a)anthracene	1666.67	1474.56			88		76-111		
Benzo(a)pyrene	1666.67	1549.78			93		82-114		
Benzo(b)fluoranthene	1666.67	1556.02			93		78-115		
Benzo(g,h,i)perylene	1666.67	1381.7			83		76-111		
Benzo(k)fluoranthene	1666.67	1544.4			93		78-119		
1,1'-Biphenyl	1666.67	1546.52			93		84-112		
4-Bromophenyl-phenylether	1666.67	1454.7			87		81-116		
Butylbenzylphthalate	1666.67	1494.17			90		81-113		
Di-n-butylphthalate	1666.67	1535.42			92		85-115		
Caprolactam	1666.67	1551.32			93		75-118		
Carbazole	1666.67	1562.48			94		84-117		
4-Chloro-3-methylphenol	1666.67	1503.65			90		78-127		
4-Chloroaniline	1666.67	447			27		10-125		
bis(2-Chloroethoxy)methane	1666.67	1433.28			86		72-117		
bis(2-Chloroethyl)ether	1666.67	1340.51			80		74-109		
2-Chloronaphthalene	1666.67	1323.04			79		62-138		
2-Chlorophenol	1666.67	1491.06			89		85-116		
4-Chlorophenyl-phenylether	1666.67	1511.2			91		79-112		
2,2'-oxybis(1-Chloropropane)	1666.67	1277.04			77		68-112		
Chrysene	1666.67	1428.48			86		75-109		
Dibenz(a,h)anthracene	1666.67	1474.2			88		79-117		
Dibenzofuran	1666.67	1550.98			93		84-110		
3,3'-Dichlorobenzidine	1666.67	956.43			57		26-124		
2,4-Dichlorophenol	1666.67	1548.58			93		80-120		

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:06

Group Number: 2015485

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Diethylphthalate	1666.67	1510.83			91		81-113		
2,4-Dimethylphenol	1666.67	1238.56			74		66-106		
Dimethylphthalate	1666.67	1514.99			91		82-110		
4,6-Dinitro-2-methylphenol	1666.67	1476.89			89		73-127		
2,4-Dinitrophenol	3333.33	3002.54			90		41-136		
2,4-Dinitrotoluene	1666.67	1546.79			93		82-116		
2,6-Dinitrotoluene	1666.67	1617.6			97		86-116		
bis(2-Ethylhexyl)phthalate	1666.67	1507.92			90		78-118		
Fluoranthene	1666.67	1482.67			89		76-115		
Fluorene	1666.67	1571.83			94		80-112		
Hexachlorobenzene	1666.67	1500.64			90		77-114		
Hexachlorobutadiene	1666.67	1464.48			88		75-115		
Hexachlorocyclopentadiene	3333.33	3944.9			118		37-161		
Hexachloroethane	1666.67	1288.03			77		76-106		
Indeno(1,2,3-cd)pyrene	1666.67	1406.73			84		78-113		
Isophorone	1666.67	1418.41			85		76-115		
2-Methylnaphthalene	1666.67	1492.49			90		80-111		
2-Methylphenol	1666.67	1413.35			85		80-122		
4-Methylphenol	1666.67	1461.23			88		75-121		
Naphthalene	1666.67	1409.65			85		81-111		
2-Nitroaniline	1666.67	1595.75			96		81-126		
3-Nitroaniline	1666.67	1453.09			87		60-128		
4-Nitroaniline	1666.67	1156.4			69		54-103		
Nitrobenzene	1666.67	1383.64			83		75-114		
2-Nitrophenol	1666.67	1505.07			90		85-118		
4-Nitrophenol	1666.67	1231.56			74		54-124		
N-Nitroso-di-n-propylamine	1666.67	1351.18			81		70-114		
N-Nitrosodiphenylamine	1666.67	1579.43			95		80-120		
Di-n-octylphthalate	1666.67	1659.94			100		84-128		
Pentachlorophenol	1666.67	1521.24			91		47-134		
Phenanthrene	1666.67	1505.87			90		81-109		
Phenol	1666.67	1436.21			86		74-119		
Pyrene	1666.67	1504.16			90		80-107		
2,4,5-Trichlorophenol	1666.67	1618.81			97		80-120		
2,4,6-Trichlorophenol	1666.67	1619.33			97		80-120		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 18346WAZ026	Sample number(s): 9925832								
Acenaphthene	50	40.23			80		62-119		
Acenaphthylene	50	43.09			86		66-125		
Acetophenone	50	41.66			83		62-114		
Anthracene	50	41.71			83		70-118		
Atrazine	50	48.51			97		71-133		
Benzaldehyde	50	33.02			66		56-117		

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:06

Group Number: 2015485

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Benzo(a)anthracene	50	45.89			92		70-123		
Benzo(a)pyrene	50	44.89			90		71-122		
Benzo(b)fluoranthene	50	44.12			88		70-120		
Benzo(g,h,i)perylene	50	45.97			92		64-119		
Benzo(k)fluoranthene	50	43.93			88		73-122		
1,1'-Biphenyl	50	41.18			82		54-116		
4-Bromophenyl-phenylether	50	42.6			85		64-119		
Butylbenzylphthalate	50	34.72			69		57-119		
Di-n-butylphthalate	50	40.08			80		71-113		
Caprolactam	50	24.93			50*		13-37		
Carbazole	50	43.07			86		71-128		
4-Chloro-3-methylphenol	50	36.72			73		65-122		
4-Chloroaniline	50	26.77			54		42-110		
bis(2-Chloroethoxy)methane	50	41.44			83		64-119		
bis(2-Chloroethyl)ether	50	38.19			76		60-110		
2-Chloronaphthalene	50	37.49			75		51-114		
2-Chlorophenol	50	38.09			76		58-108		
4-Chlorophenyl-phenylether	50	38.9			78		58-115		
2,2'-oxybis(1-Chloropropane)	50	35.37			71		48-118		
Chrysene	50	45.43			91		71-123		
Dibenz(a,h)anthracene	50	47.58			95		67-123		
Dibenzofuran	50	40.81			82		63-117		
3,3'-Dichlorobenzidine	50	34.59			69		36-116		
2,4-Dichlorophenol	50	41.33			83		65-117		
Diethylphthalate	50	30.24			60*		61-111		
2,4-Dimethylphenol	50	32.89			66		52-106		
Dimethylphthalate	50	18.57			37		37-116		
4,6-Dinitro-2-methylphenol	50	44.21			88		63-129		
2,4-Dinitrophenol	100	93.1			93		26-141		
2,4-Dinitrotoluene	50	38.87			78		69-117		
2,6-Dinitrotoluene	50	41.48			83		69-122		
bis(2-Ethylhexyl)phthalate	50	45.33			91		68-120		
Fluoranthene	50	44.42			89		70-124		
Fluorene	50	42.36			85		62-116		
Hexachlorobenzene	50	42.42			85		65-121		
Hexachlorobutadiene	50	36.73			73		21-114		
Hexachlorocyclopentadiene	100	55.6			56		10-117		
Hexachloroethane	50	31.1			62		24-100		
Indeno(1,2,3-cd)pyrene	50	46.16			92		61-121		
Isophorone	50	42.82			86		65-123		
2-Methylnaphthalene	50	40.1			80		51-112		
2-Methylphenol	50	37.5			75		59-109		
4-Methylphenol	50	35.91			72		56-108		
Naphthalene	50	37.59			75		54-107		

*- Outside of specification

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:06

Group Number: 2015485

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
2-Nitroaniline	50	42.98			86		66-126		
3-Nitroaniline	50	34.22			68		51-120		
4-Nitroaniline	50	33.55			67		53-111		
Nitrobenzene	50	38.86			78		59-117		
2-Nitrophenol	50	42.04			84		63-121		
4-Nitrophenol	50	27.15			54		28-88		
N-Nitroso-di-n-propylamine	50	40.96			82		61-118		
N-Nitrosodiphenylamine	50	43.17			86		68-122		
Di-n-octylphthalate	50	44.63			89		67-120		
Pentachlorophenol	50	49.54			99		64-130		
Phenanthrene	50	41.55			83		68-118		
Phenol	50	22.28			45		23-82		
Pyrene	50	44.55			89		68-118		
2,4,5-Trichlorophenol	50	41.31			83		73-124		
2,4,6-Trichlorophenol	50	44.73			89		69-122		
	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 183410024A	Sample number(s): 9925816-9925822,9925824-9925831								
PCB-1016	166.88	172.08			103		76-121		
PCB-1260	166.67	164.79			99		79-130		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 183410047A	Sample number(s): 9925832								
PCB-1016	5.01	2.92			58*		60-117		
PCB-1260	5.00	2.78			56*		57-134		
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 183410570801	Sample number(s): 9925816-9925831								
Antimony	50	53.36			107		90-116		
Arsenic	15	14.81			99		80-120		
Beryllium	5.00	4.99			100		85-110		
Cadmium	5.00	5.17			103		90-115		
Chromium	20	20.12			101		90-110		
Copper	25	25.22			101		80-120		
Lead	15	14.43			96		90-115		
Nickel	50	51.87			104		90-115		
Selenium	15	14.17			94		80-120		
Silver	5.00	4.72			94		80-120		
Thallium	15	15.85			106		85-115		
Zinc	50	50.72			101		90-115		
Batch number: 183410571101	Sample number(s): 9925816-9925831								
Mercury	0.100	0.0884			88		80-115		

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:06

Group Number: 2015485

LCS/LCSD (continued)

Analysis Name	LCS Spike Added mg/l	LCS Conc mg/l	LCSD Spike Added mg/l	LCSD Conc mg/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 183401404407	Sample number(s): 9925832								
Antimony	0.500	0.530			106		90-117		
Arsenic	0.150	0.152			101		80-120		
Beryllium	0.0500	0.0518			104		86-110		
Cadmium	0.0500	0.0534			107		90-111		
Chromium	0.200	0.210			105		87-110		
Copper	0.250	0.270			108		90-115		
Lead	0.150	0.158			105		87-113		
Nickel	0.500	0.551			110		90-114		
Selenium	0.150	0.164			109		80-120		
Silver	0.0500	0.0536			107		80-120		
Thallium	0.150	0.177			118		80-120		
Zinc	0.500	0.532			106		89-111		
Batch number: 183410571310	Sample number(s): 9925832								
Mercury	0.00100	0.000851			85		80-114		
	%	%	%	%					
Batch number: 18345820004A	Sample number(s): 9925816-9925831								
Moisture	89.5	89.36			100		99-101		
Moisture	89.5	89.36			100		99-101		
Moisture Duplicate	89.5	89.36			100		99-101		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: X183421AA	Sample number(s): 9925816-9925822 UNSPK: 9925820									
Acetone	0.175	0.133	0.359	0.119	0.315	139	117	41-150	13	30
Benzene	N.D.	0.0177	0.0219	0.0159	0.0193	124*	122*	80-120	13	30
Bromodichloromethane	N.D.	0.0177	0.0205	0.0159	0.0183	116	115	70-120	11	30
Bromoform	N.D.	0.0177	0.0182	0.0159	0.0156	103	98	51-127	15	30
Bromomethane	N.D.	0.0177	0.0175	0.0159	0.0157	99	99	45-140	11	30
2-Butanone	0.0124	0.133	0.195	0.119	0.171	138*	133*	57-128	13	30
Carbon Disulfide	N.D.	0.0177	0.0232	0.0159	0.0211	131	133	64-133	9	30
Carbon Tetrachloride	N.D.	0.0177	0.0230	0.0159	0.0203	130	128	64-134	12	30
Chlorobenzene	N.D.	0.0177	0.0213	0.0159	0.0182	121*	114	80-120	16	30
Chloroethane	N.D.	0.0177	0.0192	0.0159	0.0170	109	107	43-135	12	30
Chloroform	N.D.	0.0177	0.0221	0.0159	0.0196	125*	124*	80-120	12	30

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:06

Group Number: 2015485

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Chloromethane	N.D.	0.0177	0.0189	0.0159	0.0164	107	103	56-120	14	30
Cyclohexane	N.D.	0.0177	0.0235	0.0159	0.0209	133*	132*	58-126	11	30
1,2-Dibromo-3-chloropropane	N.D.	0.0177	0.0242	0.0159	0.0217	137*	137*	48-134	11	30
Dibromochloromethane	N.D.	0.0177	0.0228	0.0159	0.0198	129*	125	69-125	14	30
1,2-Dibromoethane	N.D.	0.0177	0.0231	0.0159	0.0202	131*	127*	76-120	14	30
1,2-Dichlorobenzene	N.D.	0.0177	0.0207	0.0159	0.0164	117	103	76-120	23	30
1,3-Dichlorobenzene	N.D.	0.0177	0.0216	0.0159	0.0172	122*	108	75-120	23	30
1,4-Dichlorobenzene	N.D.	0.0177	0.0214	0.0159	0.0168	121*	106	80-120	24	30
Dichlorodifluoromethane	N.D.	0.0177	0.0167	0.0159	0.0148	95	93	21-127	12	30
1,1-Dichloroethane	N.D.	0.0177	0.0220	0.0159	0.0199	124*	125*	79-120	10	30
1,2-Dichloroethane	N.D.	0.0177	0.0224	0.0159	0.0195	127	123	71-128	14	30
1,1-Dichloroethene	N.D.	0.0177	0.0263	0.0159	0.0234	149*	147*	73-129	11	30
cis-1,2-Dichloroethene	N.D.	0.0177	0.0228	0.0159	0.0204	129*	129*	80-123	11	30
trans-1,2-Dichloroethene	N.D.	0.0177	0.0235	0.0159	0.0206	133*	130*	80-125	13	30
1,2-Dichloropropane	N.D.	0.0177	0.0212	0.0159	0.0187	120	118	80-120	13	30
cis-1,3-Dichloropropene	N.D.	0.0177	0.0190	0.0159	0.0168	107	106	66-120	12	30
trans-1,3-Dichloropropene	N.D.	0.0177	0.0213	0.0159	0.0187	121	118	68-122	13	30
Ethylbenzene	N.D.	0.0177	0.0226	0.0159	0.0195	128*	123*	78-120	15	30
Freon 113	N.D.	0.0177	0.0267	0.0159	0.0239	151*	151*	64-135	11	30
2-Hexanone	N.D.	0.0883	0.124	0.0794	0.108	140	137	54-140	13	30
Isopropylbenzene	N.D.	0.0177	0.0228	0.0159	0.0195	129*	123*	77-120	15	30
Methyl Acetate	N.D.	0.0177	0.0279	0.0159	0.0249	158*	157*	67-128	12	30
Methyl Tertiary Butyl Ether	N.D.	0.0177	0.0211	0.0159	0.0191	119	120	72-120	10	30
4-Methyl-2-pentanone	N.D.	0.0883	0.112	0.0794	0.0960	127	121	67-128	16	30
Methylcyclohexane	N.D.	0.0177	0.0186	0.0159	0.0166	106	105	61-124	12	30
Methylene Chloride	N.D.	0.0177	0.0222	0.0159	0.0198	126*	125*	76-122	11	30
Styrene	N.D.	0.0177	0.0174	0.0159	0.0144	98	90	76-120	19	30
1,1,2,2-Tetrachloroethane	N.D.	0.0177	0.0296	0.0159	0.0258	168*	163*	69-125	14	30
Tetrachloroethene	N.D.	0.0177	0.0237	0.0159	0.0211	134*	133*	73-120	11	30
Toluene	N.D.	0.0177	0.0241	0.0159	0.0212	136*	133*	80-120	13	30
1,2,4-Trichlorobenzene	N.D.	0.0177	0.0119	0.0159	0.00829	68	52*	56-130	36*	30
1,1,1-Trichloroethane	N.D.	0.0177	0.0232	0.0159	0.0208	131*	131*	69-123	11	30
1,1,2-Trichloroethane	N.D.	0.0177	0.0237	0.0159	0.0212	134*	134*	80-120	11	30
Trichloroethene	N.D.	0.0177	0.0217	0.0159	0.0189	123*	119	80-120	14	30
Trichlorofluoromethane	N.D.	0.0177	0.0212	0.0159	0.0182	120	115	55-134	15	30
1,2,4-Trimethylbenzene	N.D.	0.0177	0.0282	0.0159	0.0239	159*	150*	73-120	16	30
1,3,5-Trimethylbenzene	N.D.	0.0177	0.0292	0.0159	0.0253	165*	160*	73-120	14	30
Vinyl Chloride	N.D.	0.0177	0.0205	0.0159	0.0180	116	114	52-120	13	30
Xylene (Total)	N.D.	0.0530	0.0646	0.0476	0.0558	122*	117	75-120	15	30
	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 18341SLC026	Sample number(s): 9925825-9925831 UNSPK: 9925825									
Acenaphthene	N.D.	1661.13	1593.72	1661.13	1583.43	96	95	85-114	1	30

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:06

Group Number: 2015485

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Acenaphthylene	10.33	1661.13	1731.67	1661.13	1721.56	104	103	80-120	1	30
Acetophenone	N.D.	1661.13	1528.39	1661.13	1491.17	92	90	77-110	2	30
Anthracene	5.21	1661.13	1579.67	1661.13	1558.12	95	93	82-113	1	30
Atrazine	N.D.	1661.13	1702.69	1661.13	1697	103	102	68-123	0	30
Benzaldehyde	N.D.	1661.13	1211.55	1661.13	1171.1	73	71	31-119	3	30
Benzo(a)anthracene	19.52	1661.13	1452.05	1661.13	1488.73	86	88	76-111	2	30
Benzo(a)pyrene	22.96	1661.13	1574.92	1661.13	1614.66	93	96	82-114	2	30
Benzo(b)fluoranthene	35.49	1661.13	1484.89	1661.13	1545.53	87	91	78-115	4	30
Benzo(g,h,i)perylene	19.7	1661.13	1548.5	1661.13	1547.68	92	92	76-111	0	30
Benzo(k)fluoranthene	16.09	1661.13	1612.44	1661.13	1601.14	96	95	78-119	1	30
1,1'-Biphenyl	N.D.	1661.13	1632.26	1661.13	1581.79	98	95	84-112	3	30
4-Bromophenyl-phenylether	N.D.	1661.13	1613.1	1661.13	1570.67	97	95	81-116	3	30
Butylbenzylphthalate	N.D.	1661.13	1563.79	1661.13	1559.19	94	94	81-113	0	30
Di-n-butylphthalate	N.D.	1661.13	1591.39	1661.13	1682.74	96	101	85-115	6	30
Caprolactam	N.D.	1661.13	1538.74	1661.13	1575.22	93	95	75-118	2	30
Carbazole	N.D.	1661.13	1523.06	1661.13	1546.87	92	93	84-117	2	30
4-Chloro-3-methylphenol	N.D.	1661.13	1524.69	1661.13	1590.21	92	96	78-127	4	30
4-Chloroaniline	N.D.	1661.13	644.58	1661.13	399.61	39	24	10-125	47*	30
bis(2-Chloroethoxy)methane	N.D.	1661.13	1477.2	1661.13	1449.19	89	87	72-117	2	30
bis(2-Chloroethyl)ether	N.D.	1661.13	1427.89	1661.13	1402.5	86	84	74-109	2	30
2-Chloronaphthalene	N.D.	1661.13	2857.15	1661.13	1659.72	172*	100	62-138	53*	30
2-Chlorophenol	N.D.	1661.13	1610.81	1661.13	1567.07	97	94	85-116	3	30
4-Chlorophenyl-phenylether	N.D.	1661.13	1536.87	1661.13	1547.04	93	93	79-112	1	30
2,2'-oxybis(1-Chloropropane)	N.D.	1661.13	1362.57	1661.13	1329.43	82	80	68-112	2	30
Chrysene	21.95	1661.13	1446.06	1661.13	1414.41	86	84	75-109	2	30
Dibenz(a,h)anthracene	5.46	1661.13	1608.98	1661.13	1626.25	97	98	79-117	1	30
Dibenzofuran	N.D.	1661.13	1556.99	1661.13	1548.78	94	93	84-110	1	30
3,3'-Dichlorobenzidine	N.D.	1661.13	1280.64	1661.13	1191.82	77	72	26-124	7	30
2,4-Dichlorophenol	N.D.	1661.13	1574.73	1661.13	1587.68	95	96	80-120	1	30
Diethylphthalate	N.D.	1661.13	1495.49	1661.13	1519.31	90	91	81-113	2	30
2,4-Dimethylphenol	N.D.	1661.13	1253.77	1661.13	1229.36	75	74	66-106	2	30
Dimethylphthalate	N.D.	1661.13	1521.33	1661.13	1513.94	92	91	82-110	0	30
4,6-Dinitro-2-methylphenol	N.D.	1661.13	1477.81	1661.13	1460.15	89	88	73-127	1	30
2,4-Dinitrophenol	N.D.	3322.26	2802.61	3322.26	2873.87	84	87	41-136	3	30
2,4-Dinitrotoluene	N.D.	1661.13	1499.35	1661.13	1509.21	90	91	82-116	1	30
2,6-Dinitrotoluene	N.D.	1661.13	1604.01	1661.13	1601.65	97	96	86-116	0	30
bis(2-Ethylhexyl)phthalate	N.D.	1661.13	1586.06	1661.13	1595.62	95	96	78-118	1	30
Fluoranthene	27.59	1661.13	1430.85	1661.13	1452.41	84	86	76-115	1	30
Fluorene	N.D.	1661.13	1578.07	1661.13	1583.24	95	95	80-112	0	30
Hexachlorobenzene	N.D.	1661.13	1617.92	1661.13	1572.86	97	95	77-114	3	30
Hexachlorobutadiene	N.D.	1661.13	1534.19	1661.13	1507.92	92	91	75-115	2	30
Hexachlorocyclopentadiene	N.D.	3322.26	2945.04	3322.26	2893.4	89	87	37-161	2	30
Hexachloroethane	N.D.	1661.13	1376.74	1661.13	1332.05	83	80	76-106	3	30

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:06

Group Number: 2015485

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Indeno(1,2,3-cd)pyrene	16.71	1661.13	1562.27	1661.13	1552.87	93	92	78-113	1	30
Isophorone	N.D.	1661.13	1470.58	1661.13	1431.67	89	86	76-115	3	30
2-Methylnaphthalene	N.D.	1661.13	1542.52	1661.13	1521.42	93	92	80-111	1	30
2-Methylphenol	N.D.	1661.13	1510.17	1661.13	1484.87	91	89	80-122	2	30
4-Methylphenol	N.D.	1661.13	1573.47	1661.13	1550.66	95	93	75-121	1	30
Naphthalene	N.D.	1661.13	1482.57	1661.13	1448.32	89	87	81-111	2	30
2-Nitroaniline	N.D.	1661.13	1628.78	1661.13	1637.75	98	99	81-126	1	30
3-Nitroaniline	N.D.	1661.13	1482.41	1661.13	1441.58	89	87	60-128	3	30
4-Nitroaniline	N.D.	1661.13	1056.81	1661.13	1025.69	64	62	54-103	3	30
Nitrobenzene	N.D.	1661.13	1464.45	1661.13	1433.01	88	86	75-114	2	30
2-Nitrophenol	N.D.	1661.13	1586.27	1661.13	1531.61	95	92	85-118	4	30
4-Nitrophenol	N.D.	1661.13	1244.67	1661.13	1299.99	75	78	54-124	4	30
N-Nitroso-di-n-propylamine	N.D.	1661.13	1456.29	1661.13	1419.17	88	85	70-114	3	30
N-Nitrosodiphenylamine	N.D.	1661.13	1711.61	1661.13	1663.05	103	100	80-120	3	30
Di-n-octylphthalate	N.D.	1661.13	1655.38	1661.13	1706.28	100	103	84-128	3	30
Pentachlorophenol	N.D.	1661.13	1716.94	1661.13	1675.34	103	101	47-134	2	30
Phenanthrene	14.92	1661.13	1565.65	1661.13	1576.29	93	94	81-109	1	30
Phenol	N.D.	1661.13	1573.58	1661.13	1547.44	95	93	74-119	2	30
Pyrene	27.49	1661.13	1562.48	1661.13	1563.35	92	92	80-107	0	30
2,4,5-Trichlorophenol	N.D.	1661.13	1662	1661.13	1638.34	100	99	80-120	1	30
2,4,6-Trichlorophenol	N.D.	1661.13	1661.26	1661.13	1674.17	100	101	80-120	1	30
Batch number: 18346SLC026				Sample number(s): 9925816-9925822 UNSPK: 9925820						
Acenaphthene	N.D.	1655.63	1566.34	1661.13	1573.13	95	95	85-114	0	30
Acenaphthylene	10.77	1655.63	1704.22	1661.13	1736.12	102	104	80-120	2	30
Acetophenone	N.D.	1655.63	1482.55	1661.13	1447.26	90	87	77-110	2	30
Anthracene	6.26	1655.63	1520.5	1661.13	1545.63	91	93	82-113	2	30
Atrazine	N.D.	1655.63	1498.24	1661.13	1559.04	90	94	68-123	4	30
Benzaldehyde	N.D.	1655.63	1357.34	1661.13	1138.84	82	69	31-119	18	30
Benzo(a)anthracene	22.79	1655.63	1407.74	1661.13	1480.54	84	88	76-111	5	30
Benzo(a)pyrene	33.63	1655.63	1578.84	1661.13	1597.31	93	94	82-114	1	30
Benzo(b)fluoranthene	55.9	1655.63	1606.69	1661.13	1579.94	94	92	78-115	2	30
Benzo(g,h,i)perylene	28.06	1655.63	1536.7	1661.13	1596.6	91	94	76-111	4	30
Benzo(k)fluoranthene	22.24	1655.63	1505.69	1661.13	1579.39	90	94	78-119	5	30
1,1'-Biphenyl	N.D.	1655.63	1579.84	1661.13	1620.19	95	98	84-112	3	30
4-Bromophenyl-phenylether	N.D.	1655.63	1551.09	1661.13	1612.55	94	97	81-116	4	30
Butylbenzylphthalate	N.D.	1655.63	1538.77	1661.13	1563.68	93	94	81-113	2	30
Di-n-butylphthalate	N.D.	1655.63	1497.79	1661.13	1540.59	90	93	85-115	3	30
Caprolactam	N.D.	1655.63	1412.11	1661.13	1418.4	85	85	75-118	0	30
Carbazole	N.D.	1655.63	1471.89	1661.13	1527.77	89	92	84-117	4	30
4-Chloro-3-methylphenol	N.D.	1655.63	1421.29	1661.13	1456.37	86	88	78-127	2	30
4-Chloroaniline	N.D.	1655.63	230.81	1661.13	422.47	14	25	10-125	59*	30
bis(2-Chloroethoxy)methane	N.D.	1655.63	1453.05	1661.13	1447.35	88	87	72-117	0	30

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:06

Group Number: 2015485

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
bis(2-Chloroethyl)ether	N.D.	1655.63	1427.31	1661.13	1401.74	86	84	74-109	2	30
2-Chloronaphthalene	N.D.	1655.63	1294.21	1661.13	1287.48	78	78	62-138	1	30
2-Chlorophenol	N.D.	1655.63	1575.03	1661.13	1511.51	95	91	85-116	4	30
4-Chlorophenyl-phenylether	N.D.	1655.63	1493.03	1661.13	1524.8	90	92	79-112	2	30
2,2'-oxybis(1-Chloropropane)	N.D.	1655.63	1381.12	1661.13	1359.69	83	82	68-112	2	30
Chrysene	35.16	1655.63	1382.33	1661.13	1433.25	81	84	75-109	4	30
Dibenz(a,h)anthracene	7.62	1655.63	1619.43	1661.13	1625.1	97	97	79-117	0	30
Dibenzofuran	N.D.	1655.63	1531.8	1661.13	1543.98	93	93	84-110	1	30
3,3'-Dichlorobenzidine	N.D.	1655.63	189.52	1661.13	378.3	11*	23*	26-124	66*	30
2,4-Dichlorophenol	N.D.	1655.63	1522.33	1661.13	1531.81	92	92	80-120	1	30
Diethylphthalate	N.D.	1655.63	1446.09	1661.13	1484.02	87	89	81-113	3	30
2,4-Dimethylphenol	N.D.	1655.63	1168.11	1661.13	1167.46	71	70	66-106	0	30
Dimethylphthalate	N.D.	1655.63	1445.77	1661.13	1479.19	87	89	82-110	2	30
4,6-Dinitro-2-methylphenol	N.D.	1655.63	1407	1661.13	1447.19	85	87	73-127	3	30
2,4-Dinitrophenol	N.D.	3311.26	2732.94	3322.26	2678.37	83	81	41-136	2	30
2,4-Dinitrotoluene	N.D.	1655.63	1414.79	1661.13	1459.59	85	88	82-116	3	30
2,6-Dinitrotoluene	N.D.	1655.63	1540.41	1661.13	1563.38	93	94	86-116	1	30
bis(2-Ethylhexyl)phthalate	N.D.	1655.63	1621.78	1661.13	1633.79	98	98	78-118	1	30
Fluoranthene	55.23	1655.63	1446.47	1661.13	1528.52	84	89	76-115	6	30
Fluorene	N.D.	1655.63	1536.25	1661.13	1559.4	93	94	80-112	1	30
Hexachlorobenzene	N.D.	1655.63	1527.68	1661.13	1585.41	92	95	77-114	4	30
Hexachlorobutadiene	N.D.	1655.63	1523.98	1661.13	1570.55	92	95	75-115	3	30
Hexachlorocyclopentadiene	N.D.	3311.26	3349.64	3322.26	3204.59	101	96	37-161	4	30
Hexachloroethane	N.D.	1655.63	1411.62	1661.13	1398.83	85	84	76-106	1	30
Indeno(1,2,3-cd)pyrene	23.7	1655.63	1538.87	1661.13	1603.87	92	95	78-113	4	30
Isophorone	N.D.	1655.63	1412.52	1661.13	1431.24	85	86	76-115	1	30
2-Methylnaphthalene	N.D.	1655.63	1493.97	1661.13	1486.4	90	89	80-111	1	30
2-Methylphenol	N.D.	1655.63	1456.05	1661.13	1382.44	88	83	80-122	5	30
4-Methylphenol	N.D.	1655.63	1423.39	1661.13	1394.18	86	84	75-121	2	30
Naphthalene	N.D.	1655.63	1462.57	1661.13	1464.8	88	88	81-111	0	30
2-Nitroaniline	N.D.	1655.63	1548.59	1661.13	1618.12	94	97	81-126	4	30
3-Nitroaniline	N.D.	1655.63	856.85	1661.13	1013.14	52*	61	60-128	17	30
4-Nitroaniline	N.D.	1655.63	901.42	1661.13	998.84	54	60	54-103	10	30
Nitrobenzene	N.D.	1655.63	1425.94	1661.13	1452.99	86	87	75-114	2	30
2-Nitrophenol	N.D.	1655.63	1533.7	1661.13	1547.04	93	93	85-118	1	30
4-Nitrophenol	N.D.	1655.63	1161.87	1661.13	1168.34	70	70	54-124	1	30
N-Nitroso-di-n-propylamine	N.D.	1655.63	1393.87	1661.13	1358.22	84	82	70-114	3	30
N-Nitrosodiphenylamine	N.D.	1655.63	1600.76	1661.13	1654.87	97	100	80-120	3	30
Di-n-octylphthalate	N.D.	1655.63	1734.88	1661.13	1682.39	105	101	84-128	3	30
Pentachlorophenol	N.D.	1655.63	1736.23	1661.13	1696.68	105	102	47-134	2	30
Phenanthrene	36.56	1655.63	1569.05	1661.13	1658.24	93	98	81-109	6	30
Phenol	N.D.	1655.63	1535.46	1661.13	1492.73	93	90	74-119	3	30
Pyrene	55.95	1655.63	1631.65	1661.13	1708.86	95	100	80-107	5	30

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:06

Group Number: 2015485

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
2,4,5-Trichlorophenol	N.D.	1655.63	1588.93	1661.13	1633.76	96	98	80-120	3	30
2,4,6-Trichlorophenol	N.D.	1655.63	1628.96	1661.13	1666.31	98	100	80-120	2	30
Batch number: 183410024A	Sample number(s): 9925816-9925822,9925824-9925831 UNSPK: 9925820									
PCB-1016	N.D.	165.72	164.62	164.42	159.09	99	97	76-121	3	50
PCB-1260	N.D.	165.51	158.64	164.2	155.27	96	95	79-130	2	50
Batch number: 183410570801	Sample number(s): 9925816-9925831 UNSPK: 9925820									
Antimony	N.D.	41.67	26.03	36.5	23.08	62*	63*	75-125	12	20
Arsenic	3.89	12.5	17.53	10.95	15.71	109	108	75-125	11	20
Beryllium	0.490	4.17	4.48	3.65	4.12	96	100	75-125	8	20
Cadmium	N.D.	4.17	3.91	3.65	3.46	94	95	75-125	12	20
Chromium	13.46	16.67	31.43	14.6	31.19	108	121	75-125	1	20
Copper	14.42	20.83	36.26	18.25	37.19	105	125	75-125	3	20
Lead	44.52	12.5	51.45	10.95	47.49	55*	27 (2)	75-125	8	20
Nickel	15.3	41.67	53.93	36.5	52.2	93	101	75-125	3	20
Selenium	2.81	12.5	14.55	10.95	12.6	94	89	75-125	14	20
Silver	N.D.	4.17	3.96	3.65	3.57	95	98	75-125	11	20
Thallium	N.D.	12.5	12.46	10.95	10.66	100	97	75-125	16	20
Zinc	70.52	41.67	103.18	36.5	109.74	78	107	75-125	6	20
Batch number: 183410571101	Sample number(s): 9925816-9925831 UNSPK: 9925820									
Mercury	N.D.	0.161	0.194	0.159	0.189	120	119	80-120	2	20

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/kg	DUP Conc mg/kg	DUP RPD	DUP RPD Max
Batch number: 183410570801	Sample number(s): 9925816-9925831 BKG: 9925820			
Antimony	N.D.	N.D.	0 (1)	20
Arsenic	3.89	3.87	0 (1)	20
Beryllium	0.490	0.493	1 (1)	20
Cadmium	N.D.	N.D.	0 (1)	20
Chromium	13.46	14.57	8	20
Copper	14.42	13.86	4	20
Lead	44.52	30.26	38*	20

*- Outside of specification

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(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:06

Group Number: 2015485

Laboratory Duplicate (continued)

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/kg	DUP Conc mg/kg	DUP RPD	DUP RPD Max
Nickel	15.3	16.24	6	20
Selenium	2.81	2.20	24* (1)	20
Silver	N.D.	N.D.	0 (1)	20
Thallium	N.D.	N.D.	0 (1)	20
Zinc	70.52	64.4	9	20
Batch number: 183410571101 Sample number(s): 9925816-9925831 BKG: 9925820				
Mercury	N.D.	N.D.	0 (1)	20
	%	%		
Batch number: 18345820004A Sample number(s): 9925816-9925831 BKG: 9925820				
Moisture	20.27	19.58	3	5
Moisture	20.27	19.58	3	5
Moisture Duplicate	20.27	19.58	3	5

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: VOCs- Solid by 8260B
Batch number: A183421AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9925826	105	107	97	87
9925827	102	110	98	85
9925828	103	113	96	83
9925830	108	115	95	90
9925831	107	110	93	91
Blank	103	107	95	93
LCS	102	108	99	101
LCSD	101	104	100	101
Limits:	50-141	54-135	52-141	50-131

Analysis Name: VOCs- Solid by 8260B
Batch number: R183421AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9925829	86	85	75	86
Blank	94	93	86	80
LCS	95	93	90	91
LCSD	93	91	83	87

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:06

Group Number: 2015485

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: VOCs- Solid by 8260B
Batch number: R183421AA

Limits: 50-141 54-135 52-141 50-131

Analysis Name: VOCs- Solid by 8260B
Batch number: X183421AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9925816	129	118	143*	51
9925817	111	109	100	86
9925818	106	104	109	80
9925819	111	108	103	77
9925820	105	102	108	76
9925821	102	103	114	87
9925822	102	103	117	86
Blank	107	104	99	92
LCS	101	100	103	104
LCSD	100	99	103	103
MS	102	103	114	87
MSD	102	103	117	86

Limits: 50-141 54-135 52-141 50-131

Analysis Name: VOCs- Solid by 8260B
Batch number: X183441AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9925824	110	111	96	83
9925825	107	105	99	88
Blank	106	105	100	88
LCS	101	101	104	104
LCSD	100	101	104	103

Limits: 50-141 54-135 52-141 50-131

Analysis Name: VOCs- 5ml Water by 8260B
Batch number: Y183412AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9925832	103	104	100	93
9925833	103	106	100	91
Blank	102	106	100	93
LCS	97	101	103	102

Limits: 80-120 80-120 80-120 80-120

*- Outside of specification

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(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:06

Group Number: 2015485

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: TCL 8270 (microwave)
Batch number: 18340SLF026

	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
9925824	83	90	84	79	87	93
Blank	86	95	97	89	94	98
LCS	89	96	91	91	94	99
Limits:	47-120	51-123	19-137	49-118	57-116	55-118

Analysis Name: TCL 8270 (microwave)
Batch number: 18341SLC026

	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
9925825	90	96	91	89	93	103
9925826	89	95	86	86	96	100
9925827	84	93	74	87	95	96
9925828	85	94	78	90	100	101
9925829	83	90	88	85	86	97
9925830	83	90	83	87	98	104
9925831	87	95	94	87	90	96
Blank	79	89	94	83	87	99
LCS	86	93	88	85	90	96
MS	89	96	86	88	94	98
MSD	88	94	90	87	91	100
Limits:	47-120	51-123	19-137	49-118	57-116	55-118

Analysis Name: TCL 8270 (microwave)
Batch number: 18346SLC026

	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
9925816	84	90	82	80	90	92
9925817	81	88	85	80	87	94
9925818	86	95	84	87	95	98
9925819	79	88	81	82	88	90
9925820	85	91	84	84	91	96
9925821	86	95	84	86	92	97
9925822	82	92	86	86	92	98
Blank	80	90	94	84	92	97
LCS	82	88	89	83	88	93
MS	86	95	84	86	92	97
MSD	82	92	86	86	92	98
Limits:	47-120	51-123	19-137	49-118	57-116	55-118

Analysis Name: TCL SW846 8270C MINI
Batch number: 18346WAZ026

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:06

Group Number: 2015485

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: TCL SW846 8270C MINI
Batch number: 18346WAZ026

	2-Fluorophenol	Phenol-d6	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
9925832	43	29	85	67	72	98
Blank	48	33	84	70	71	92
LCS	56	39	85	75	75	90
Limits:	10-85	10-72	29-133	30-111	39-105	27-126

Analysis Name: PCBs in Soil (microwave)
Batch number: 183410024A

	Tetrachloro-m-xylene-D1	Decachlorobiphenyl-D1	Tetrachloro-m-xylene-D2	Decachlorobiphenyl-D2
9925816	103	87	98	89
9925817	107	92	102	94
9925818	91	72	89	78
9925819	110	142	103	139
9925820	112	95	105	94
9925821	109	91	104	93
9925822	107	91	102	90
9925824	102	90	94	91
9925825	107	92	103	93
9925826	104	79	99	86
9925827	99	71	90	80
9925828	95	70	91	79
9925829	80	84	83	87
9925830	93	83	90	90
9925831	109	83	105	89
Blank	113	94	108	92
LCS	111	94	107	92
MS	109	91	104	93
MSD	107	91	102	90
Limits:	53-140	45-143	53-140	45-143

Analysis Name: PCBs in Water
Batch number: 183410047A

	Tetrachloro-m-xylene-D1	Decachlorobiphenyl-D1	Tetrachloro-m-xylene-D2	Decachlorobiphenyl-D2
9925832	60	64	55	66
Blank	59	61	55	65
LCS	43	23	39	24
Limits:	33-137	10-148	33-137	10-148

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Environmental Analysis Request/Chain of Custody



Lancaster Laboratories
Environmental

us49 2015110 9925861-70 (B) 2305 12/5/18
 For Eurofins Lancaster Laboratories Environmental use only 9925816-33
 Acct. # 10655 Group # 2015478 Sample # 9925789 810

page 1 of 2
COE # 568827

Client Information				Matrix			Analysis Requested										For Lab Use Only		
Client: <u>Bright Fields, Inc.</u>		Acct. #:		<input type="checkbox"/> Tissue <input type="checkbox"/> Ground <input type="checkbox"/> Surface <input type="checkbox"/> Potable <input type="checkbox"/> NPDES <input type="checkbox"/> Water <input type="checkbox"/> Other:	Total # of Containers	Preservation and Filtration Codes										FSC: _____	SCR#: _____		
Project Name: <u>1-80 Perfection Shoe Co.</u>		PWSID #:				VOCs (method 8360) 1,2,4,1,3,5-TMB SVOCs (method 8370E) PPL Metals (method 6010B) PCBs (8082)											Preservation Codes H=HCl T=Thiosulfate N=HNO ₃ B=NaOH S=H ₂ SO ₄ P=H ₃ PO ₄ F=Field Filtered O=Other		
Project Manager: <u>Victoria Bisbing</u>		P.O. #: <u>15380</u>															Remarks		
Sampler: <u>M. Atterbury / C. Cumming</u>		Quote #:																	
State where samples were collected: <u>PA</u>		For Compliance: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>																	
Sample Identification		Collected		Grab	Composite														
		Date	Time																
<u>PSC-GP01-S001</u>		<u>12/3/18</u>	<u>1010</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>														
<u>PSC-GP01-S002</u>		<u>12/3/18</u>	<u>1020</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											<u>0 = 102</u>			
<u>PSC-GP02-S001</u>		<u>12/3/18</u>	<u>1030</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											<u>*MS/MSD</u>			
<u>PSC-GP02-S002</u>		<u>12/3/18</u>	<u>1040</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>														
<u>PSC-GP03-S001*</u>		<u>12/3/18</u>	<u>1100</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>														
<u>PSC-GP03-S002</u>		<u>12/3/18</u>	<u>1115</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>														
<u>PSC-GP04-S001</u>		<u>12/3/18</u>	<u>1130</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>														
<u>PSC-GP04-S002</u>		<u>12/3/18</u>	<u>1140</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>														
<u>PSC-GP05-S001</u>		<u>12/3/18</u>	<u>1150</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											<u>CS# 30518</u>			
<u>PSC-GP05-S01</u>		<u>12/3/18</u>	<u>1151</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											<u>30517</u>			
Turnaround Time (TAT) Requested (please circle) (Standard) <input checked="" type="checkbox"/> Rush <input type="checkbox"/> (Rush TAT is subject to laboratory approval and surcharge.)				Relinquished by: <u>Margaret</u> Date: <u>12/5/18</u> Time: <u>1205</u>		Received by: <u>A. Cumming</u> Date: <u>12/5/18</u> Time: <u>1205</u>		Relinquished by: <u>A. Cumming</u> Date: <u>12/5/18</u> Time: <u>1810</u>		Received by: _____ Date: _____ Time: _____		Relinquished by: _____ Date: _____ Time: _____		Received by: _____ Date: _____ Time: _____		Relinquished by: _____ Date: _____ Time: _____		Received by: <u>E. Jones</u> Date: <u>12/5/18</u> Time: <u>1810</u>	
Requested TAT in business days: _____				Relinquished by: _____		Received by: _____		Relinquished by: _____		Received by: _____		Relinquished by: _____		Received by: _____		Relinquished by: _____		Received by: _____	
E-mail address: _____				Relinquished by: _____		Received by: _____		Relinquished by: _____		Received by: _____		Relinquished by: _____		Received by: _____		Relinquished by: _____		Received by: _____	
Data Package Options (circle if required) Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only) Type III (Reduced non-CLP) NJ DKQP TX TRRP-13 NYSDEC Category A or B MA MCP CT RCP				EDD Required? Yes No If yes, format: _____				Relinquished by Commercial Carrier: UPS _____ FedEx _____ Other _____				Site-Specific QC (MS/MSD/Dup)? Yes No (If yes, indicate QC sample and submit triplicate sample volume.)				Temperature upon receipt: <u>0.0-2.1°C</u>			

Environmental Analysis Request/Chain of Custody



Lancaster Laboratories Environmental

245485
245485
Acc. # 10855

For Eurofins Lancaster Laboratories Environmental use only
Group # 245478
Sample # 9925789-800

Page 2 of 2
COC # 568826

Client Information				Matrix			Analysis Requested										For Lab Use Only			
Client: <u>Brightfields, Inc.</u>		Acct. #:		<input type="checkbox"/> Tissue	<input type="checkbox"/> Potable	<input type="checkbox"/> Ground	<input type="checkbox"/> Surface	Preservation and Filtration Codes										FSC: _____	SCR#: _____	
Project Name/ID: <u>1-80 Perfection Shoe Co.</u>		PWSID #:						<input type="checkbox"/> Sediment	<input type="checkbox"/> Water	<input type="checkbox"/> NPDES	Other: <u>BLANK WATER</u>	Total # of Containers	<u>VOC (method 8160)</u>	<u>1,2,4 + 1,1,1,2</u>	<u>SVOC (method 8160)</u>	<u>Dissolved PPL</u>	<u>Metals (method 6010 B)</u>	<u>PCBS (8082)</u>	Preservation Codes	
Project Manager: <u>Victoria Bisbing</u>		P.O. #: <u>15380</u>		H=HCl		T=Thiosulfate														
Sampler: <u>M. Atterbury / C. Cumming</u>		Quote #:		N=HNO ₃		B=NaOH		S=H ₂ SO ₄		P=H ₃ PO ₄		F=Field Filtered		O=Other		Remarks				
State where samples were collected: <u>PA</u>		For Compliance: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		Grab		Composite														
Sample Identification		Collected		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Date	Time	Grab	Composite																	
<u>DSC-GP05-S002</u>	<u>12/3/18</u>	<u>1200</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>0 = 1ce</u>
<u>DSC-GP06-S001</u>	<u>12/3/18</u>	<u>1205</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<u>DSC-GP06-S002</u>	<u>12/3/18</u>	<u>1210</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<u>DSC-GP06-S201</u>	<u>12/3/18</u>	<u>1400</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<u>DSC-GP06-S301</u>	<u>12/3/18</u>	<u>1356</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Turnaround Time (TAT) Requested (please circle)		Relinquished by: <u>[Signature]</u>		Date: <u>12/5/18</u>	Time: <u>1205</u>	Received by: <u>[Signature]</u>	Date: <u>12/5/18</u>	Time: <u>1205</u>
<u>Standard</u> (Rush TAT is subject to laboratory approval and surcharge.)		Relinquished by: <u>[Signature]</u>		Date: <u>12/5/18</u>	Time: <u>1810</u>	Received by: <u>[Signature]</u>	Date: _____	Time: _____
Requested TAT in business days: _____		Relinquished by: _____		Date: _____	Time: _____	Received by: _____	Date: _____	Time: _____
E-mail address: _____		Relinquished by: _____		Date: _____	Time: _____	Received by: _____	Date: _____	Time: _____
Relinquished by: _____		Relinquished by: _____		Date: _____	Time: _____	Received by: <u>[Signature]</u>	Date: <u>12-5-18</u>	Time: <u>1810</u>
Data Package Options (circle if required)		EDD Required? Yes <input type="checkbox"/> No <input type="checkbox"/>		If yes, format: _____		Relinquished by Commercial Carrier: _____		
Type I (EPA Level 3 Equivalent/non-CLP)	Type VI (Raw Data Only)	Site-Specific QC (MS/MSD/Dup)? Yes <input type="checkbox"/> No <input type="checkbox"/>		(If yes, indicate QC sample and submit triplicate sample volume.)		Temperature upon receipt <u>0-0.2°C</u>		
Type III (Reduced non-CLP)	NJ DKQP TX TRRP-13					UPS _____ FedEx _____ Other _____		
NYSDEC Category A or B	MA MCP CT RCP							



Client: Bright Field, Inc.

Delivery and Receipt Information

Delivery Method:	<u>ELLE Courier</u>	Arrival Timestamp:	<u>12/05/2018 18:10</u>
Number of Packages:	<u>6</u>	Number of Projects:	<u>4</u>
State/Province of Origin:	<u>PA</u>		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace \geq 6mm:	Yes
Samples Chilled:	Yes	VOA IDs (\geq 6mm):	See Below
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	2
Samples Intact:	Yes	Trip Blank Type:	HCl
Missing Samples:	No	Air Quality Samples Present:	No
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

VOA Vial IDs (Headspace \geq 6mm): PPSC-GP06-S301 (2 of 2)

Unpacked by Melvin Sanchez (8943) at 22:59 on 12/05/2018

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT131	0.4	DT	Wet	Y	Bagged	N
2	DT131	2.1	DT	Wet	Y	Bagged	N
3	DT131	1.2	DT	Wet	Y	Bagged	N
4	DT131	0.4	DT	Wet	Y	Bagged	N
5	DT131	0.6	DT	Wet	Y	Bagged	N
6	DT131	0.0	DT	Wet	Y	Bagged	N

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	mL	milliliter(s)
C	degrees Celsius	MPN	Most Probable Number
cfu	colony forming units	N.D.	non-detect
CP Units	cobalt-chloroplatinate units	ng	nanogram(s)
F	degrees Fahrenheit	NTU	nephelometric turbidity units
g	gram(s)	pg/L	picogram/liter
IU	International Units	RL	Reporting Limit
kg	kilogram(s)	TNTC	Too Numerous To Count
L	liter(s)	µg	microgram(s)
lb.	pound(s)	µL	microliter(s)
m3	cubic meter(s)	umhos/cm	micromhos/cm
meq	milliequivalents	MCL	Maximum Contamination Limit
mg	milligram(s)		
<	less than		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
K1	Initial Calibration Blank is above the QC limit and the sample result is ND
K2	Continuing Calibration Blank is above the QC limit and the sample result is ND
K3	Initial Calibration Verification is above the QC limit and the sample result is ND
K4	Continuing Calibration Verification is above the QC limit and the sample result is ND
J (or G, I, X)	Estimated value \geq the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
P^	Concentration difference between the primary and confirmation column $> 40\%$. The higher result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report
B	Detection in the Blank
Q0	LCS/LCSD Low
Q1	LCS/LCSD High
Q2	MS/MSD Low
Q3	MS/MSD High
Q7	LCS/LCSD RPD
Q8	DUP RPD
Q9	MS/MSD RPD

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.



ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Brightfields, Inc.
801 Industrial St.
Suite 1
Wilmington DE 19801

Report Date: December 27, 2018 15:39

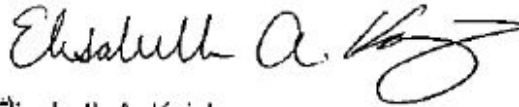
Project: I-80 Perfection Shoe Company

Account #: 04549
Group Number: 2015487
PO Number: 15380
State of Sample Origin: PA

Electronic Copy To Brightfields, Inc.
Electronic Copy To Brightfields, Inc.

Attn: Victoria Bisbing
Attn: Maggie Atterbury

Respectfully Submitted,



Elisabeth A. Knisley
Project Manager

(717) 556-7262

To view our laboratory's current scopes of accreditation please go to <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/> . Historical copies may be requested through your project manager.



SAMPLE INFORMATION

<u>Client Sample Description</u>	<u>Sample Collection Date/Time</u>	<u>ELLE#</u>
PSC-GP01-W001 Grab Groundwater	12/03/2018 12:20	9925835
PSC-GP01-W001 MS Grab Groundwater	12/03/2018 12:20	9925836
PSC-GP01-W001 MSD Grab Groundwater	12/03/2018 12:20	9925837
PSC-GP01-W001 DUP Grab Groundwater	12/03/2018 12:20	9925838
PSC-GP02-W001 Grab Groundwater	12/03/2018 13:00	9925839
PSC-GP06-W001 Grab Groundwater	12/03/2018 13:45	9925840
PSC-GP06-W101 Grab Groundwater	12/03/2018 13:46	9925841
PSC-GP06-W201 Grab Water	12/03/2018 13:50	9925842
PSC-GP06-W301 Water	12/03/2018 13:55	9925843

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Sample Description: PSC-GP01-W001 Grab Groundwater
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: WW 9925835
ELLE Group #: 2015487
Matrix: Groundwater

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 12:20

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10335	Acetone	67-64-1	N.D.	0.8	20	1
10335	Benzene	71-43-2	N.D. Q3	0.2	1	1
10335	Bromodichloromethane	75-27-4	N.D.	0.2	1	1
10335	Bromoform	75-25-2	N.D.	2	5	1
10335	Bromomethane	74-83-9	N.D.	0.5	1	1
10335	2-Butanone	78-93-3	N.D.	1	10	1
10335	Carbon Disulfide	75-15-0	N.D.	0.3	5	1
10335	Carbon Tetrachloride	56-23-5	N.D.	0.2	1	1
10335	Chlorobenzene	108-90-7	N.D.	0.2	1	1
10335	Chloroethane	75-00-3	N.D.	0.3	1	1
10335	Chloroform	67-66-3	N.D.	0.2	1	1
10335	Chloromethane	74-87-3	N.D.	0.3	1	1
10335	Cyclohexane	110-82-7	N.D. Q3	2	5	1
10335	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	1	5	1
10335	Dibromochloromethane	124-48-1	N.D.	0.4	1	1
10335	1,2-Dibromoethane	106-93-4	N.D.	0.3	1	1
10335	1,2-Dichlorobenzene	95-50-1	N.D.	0.2	5	1
10335	1,3-Dichlorobenzene	541-73-1	N.D.	0.2	5	1
10335	1,4-Dichlorobenzene	106-46-7	N.D.	0.2	5	1
10335	Dichlorodifluoromethane	75-71-8	N.D.	0.3	1	1
10335	1,1-Dichloroethane	75-34-3	N.D. Q3	0.2	1	1
10335	1,2-Dichloroethane	107-06-2	N.D.	2	5	1
10335	1,1-Dichloroethene	75-35-4	N.D.	0.2	1	1
10335	cis-1,2-Dichloroethene	156-59-2	N.D.	0.2	1	1
10335	trans-1,2-Dichloroethene	156-60-5	N.D.	0.2	1	1
10335	1,2-Dichloropropane	78-87-5	N.D. Q3	0.2	1	1
10335	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.2	1	1
10335	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.2	1	1
10335	Ethylbenzene	100-41-4	N.D.	0.2	1	1
10335	Freon 113	76-13-1	N.D.	2	10	1
10335	2-Hexanone	591-78-6	N.D.	3	10	1
10335	Isopropylbenzene	98-82-8	N.D.	0.3	5	1
10335	Methyl Acetate	79-20-9	N.D.	0.6	5	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.2	1	1
10335	4-Methyl-2-pentanone	108-10-1	N.D.	0.5	10	1
10335	Methylcyclohexane	108-87-2	N.D.	0.2	5	1
10335	Methylene Chloride	75-09-2	N.D. Q3	0.2	1	1
10335	Styrene	100-42-5	N.D.	0.2	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	N.D. Q1Q3	0.2	1	1
10335	Tetrachloroethene	127-18-4	N.D.	0.2	1	1
10335	Toluene	108-88-3	N.D.	0.2	1	1
10335	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.4	5	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP01-W001 Grab Groundwater
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: WW 9925835
ELLE Group #: 2015487
Matrix: Groundwater

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 12:20

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10335	1,1,1-Trichloroethane	71-55-6	N.D.	0.2	1	1
10335	1,1,2-Trichloroethane	79-00-5	N.D.	0.2	1	1
10335	Trichloroethene	79-01-6	N.D.	0.2	1	1
10335	Trichlorofluoromethane	75-69-4	N.D.	0.4	1	1
10335	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.3	5	1
10335	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.3	5	1
10335	Vinyl Chloride	75-01-4	N.D.	0.4	1	1
10335	Xylene (Total)	1330-20-7	N.D.	0.5	5	1
GC/MS Semivolatiles		SW-846 8270C	ug/l	ug/l	ug/l	
14240	Acenaphthene	83-32-9	N.D.	0.1	0.5	1
14240	Acenaphthylene	208-96-8	N.D.	0.1	0.5	1
14240	Acetophenone	98-86-2	N.D.	4	10	1
14240	Anthracene	120-12-7	N.D.	0.1	0.5	1
14240	Atrazine	1912-24-9	N.D.	2	5	1
14240	Benzaldehyde	100-52-7	N.D. Q2	3	10	1
14240	Benzo(a)anthracene	56-55-3	N.D.	0.1	0.5	1
14240	Benzo(a)pyrene	50-32-8	N.D.	0.1	0.5	1
14240	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	0.5	1
14240	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	0.5	1
14240	Benzo(k)fluoranthene	207-08-9	N.D.	0.1	0.5	1
14240	1,1'-Biphenyl	92-52-4	N.D.	3	10	1
14240	4-Bromophenyl-phenylether	101-55-3	N.D.	0.5	2	1
14240	Butylbenzylphthalate	85-68-7	N.D.	2	5	1
14240	Di-n-butylphthalate	84-74-2	N.D.	2	5	1
14240	Caprolactam	105-60-2	N.D. Q1Q3	5	11	1
14240	Carbazole	86-74-8	N.D.	0.5	2	1
14240	4-Chloro-3-methylphenol	59-50-7	N.D.	0.5	2	1
14240	4-Chloroaniline	106-47-8	N.D.	4	10	1
14240	bis(2-Chloroethoxy)methane	111-91-1	N.D.	0.5	2	1
14240	bis(2-Chloroethyl)ether	111-44-4	N.D.	0.5	2	1
14240	2-Chloronaphthalene	91-58-7	N.D.	0.4	1	1
14240	2-Chlorophenol	95-57-8	N.D.	0.5	2	1
14240	4-Chlorophenyl-phenylether	7005-72-3	N.D.	0.5	2	1
14240	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	0.5	2	1
Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.						
14240	Chrysene	218-01-9	N.D.	0.1	0.5	1
14240	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	0.5	1
14240	Dibenzofuran	132-64-9	N.D.	0.5	2	1
14240	3,3'-Dichlorobenzidine	91-94-1	N.D.	3	10	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP01-W001 Grab Groundwater
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: WW 9925835
ELLE Group #: 2015487
Matrix: Groundwater

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 12:20

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles		SW-846 8270C	ug/l	ug/l	ug/l	
14240	2,4-Dichlorophenol	120-83-2	N.D.	0.5	2	1
14240	Diethylphthalate	84-66-2	N.D. Q0Q2	2	5	1
14240	2,4-Dimethylphenol	105-67-9	N.D. Q2Q9	3	10	1
14240	Dimethylphthalate	131-11-3	N.D. Q2	2	5	1
14240	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	8	22	1
14240	2,4-Dinitrophenol	51-28-5	N.D.	14	31	1
14240	2,4-Dinitrotoluene	121-14-2	N.D.	1	5	1
14240	2,6-Dinitrotoluene	606-20-2	N.D.	0.5	2	1
14240	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	5	11	1
14240	Fluoranthene	206-44-0	N.D.	0.1	0.5	1
14240	Fluorene	86-73-7	N.D.	0.1	0.5	1
14240	Hexachlorobenzene	118-74-1	N.D.	0.1	0.5	1
14240	Hexachlorobutadiene	87-68-3	N.D.	0.5	2	1
14240	Hexachlorocyclopentadiene	77-47-4	N.D.	5	11	1
14240	Hexachloroethane	67-72-1	N.D.	1	5	1
14240	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	0.5	1
14240	Isophorone	78-59-1	N.D.	0.5	2	1
14240	2-Methylnaphthalene	91-57-6	N.D.	0.1	0.5	1
14240	2-Methylphenol	95-48-7	N.D. Q2	0.5	2	1
14240	4-Methylphenol	106-44-5	N.D. Q2	0.5	2	1
3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.						
14240	Naphthalene	91-20-3	N.D.	0.1	0.5	1
14240	2-Nitroaniline	88-74-4	N.D.	2	5	1
14240	3-Nitroaniline	99-09-2	N.D.	3	7	1
14240	4-Nitroaniline	100-01-6	N.D.	0.9	3	1
14240	Nitrobenzene	98-95-3	N.D.	0.5	2	1
14240	2-Nitrophenol	88-75-5	N.D.	3	10	1
14240	4-Nitrophenol	100-02-7	N.D.	10	31	1
14240	N-Nitroso-di-n-propylamine	621-64-7	N.D.	0.7	3	1
14240	N-Nitrosodiphenylamine	86-30-6	N.D.	0.7	3	1
N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.						
14240	Di-n-octylphthalate	117-84-0	N.D.	5	11	1
14240	Pentachlorophenol	87-86-5	N.D.	1	5	1
14240	Phenanthrene	85-01-8	N.D.	0.1	0.5	1
14240	Phenol	108-95-2	N.D.	0.5	2	1
14240	Pyrene	129-00-0	N.D.	0.1	0.5	1
14240	2,4,5-Trichlorophenol	95-95-4	N.D.	0.5	2	1
14240	2,4,6-Trichlorophenol	88-06-2	N.D.	0.5	2	1

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP01-W001 Grab Groundwater
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: WW 9925835
ELLE Group #: 2015487
Matrix: Groundwater

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 12:20

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
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the TNI/DoD Standards. The following analytes are accepted based on this allowance: Diethylphthalate

The recovery for Caprolactam in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. Since the recovery is high and the target analyte(s) was not detected in the sample, the data is reported.

The holding time was not met. The client was notified and the data reported.

PCBs		SW-846 8082	ug/l	ug/l	ug/l	
10227	PCB-1016	12674-11-2	N.D. D1 Q0	0.10	0.50	1
10227	PCB-1221	11104-28-2	N.D. D1	0.10	0.50	1
10227	PCB-1232	11141-16-5	N.D. D1	0.20	0.50	1
10227	PCB-1242	53469-21-9	N.D. D1	0.10	0.50	1
10227	PCB-1248	12672-29-6	N.D. D1	0.10	0.50	1
10227	PCB-1254	11097-69-1	N.D. D1	0.10	0.50	1
10227	PCB-1260	11096-82-5	N.D. D1 Q0	0.15	0.50	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. Sufficient sample was not available to repeat the analysis.

Metals Dissolved		SW-846 6010B	mg/l	mg/l	mg/l	
07044	Antimony	7440-36-0	N.D.	0.0100	0.0500	1
07035	Arsenic	7440-38-2	N.D.	0.0160	0.0500	1
07047	Beryllium	7440-41-7	N.D.	0.0010	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.0010	0.0050	1
07051	Chromium	7440-47-3	N.D.	0.0053	0.0150	1
07053	Copper	7440-50-8	N.D.	0.0062	0.0200	1
07055	Lead	7439-92-1	N.D.	0.0071	0.0150	1
07061	Nickel	7440-02-0	0.0039 J	0.0031	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0210	0.0500	1
07066	Silver	7440-22-4	N.D.	0.0050	0.0100	1
07022	Thallium	7440-28-0	N.D.	0.0140	0.0300	1
07072	Zinc	7440-66-6	N.D.	0.0030	0.0200	1

		SW-846 7470A	mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	N.D.	0.000050	0.00020	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.
This sample was field filtered for dissolved metals.

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP01-W001 Grab Groundwater
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: WW 9925835
ELLE Group #: 2015487
Matrix: Groundwater

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 12:20

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs- 5ml Water by 8260B	SW-846 8260B	1	Y183412AA	12/07/2018 22:19	Kevin D Kelly	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y183412AA	12/07/2018 22:18	Kevin D Kelly	1
14240	TCL SW846 8270C MINI	SW-846 8270C	1	18346WAZ026	12/20/2018 16:25	Kira N Beck	1
00813	BNA Water Extraction	SW-846 3510C	2	18346WAZ026	12/13/2018 08:00	David S Schrum	1
10227	PCBs in Water	SW-846 8082	1	183410047A	12/10/2018 18:43	Kirby B Turner	1
11117	PCB Waters Extraction	SW-846 3510C	1	183410047A	12/09/2018 14:20	Christine E Gleim	1
07044	Antimony	SW-846 6010B	1	183401404407	12/13/2018 21:29	Elaine F Stoltzfus	1
07035	Arsenic	SW-846 6010B	1	183401404407	12/13/2018 21:29	Elaine F Stoltzfus	1
07047	Beryllium	SW-846 6010B	1	183401404407	12/13/2018 21:29	Elaine F Stoltzfus	1
07049	Cadmium	SW-846 6010B	1	183401404407	12/13/2018 21:29	Elaine F Stoltzfus	1
07051	Chromium	SW-846 6010B	1	183401404407	12/13/2018 21:29	Elaine F Stoltzfus	1
07053	Copper	SW-846 6010B	1	183401404407	12/13/2018 21:29	Elaine F Stoltzfus	1
07055	Lead	SW-846 6010B	1	183401404407	12/13/2018 21:29	Elaine F Stoltzfus	1
07061	Nickel	SW-846 6010B	1	183401404407	12/13/2018 21:29	Elaine F Stoltzfus	1
07036	Selenium	SW-846 6010B	1	183401404407	12/13/2018 21:29	Elaine F Stoltzfus	1
07066	Silver	SW-846 6010B	1	183401404407	12/13/2018 21:29	Elaine F Stoltzfus	1
07022	Thallium	SW-846 6010B	1	183401404407	12/13/2018 21:29	Elaine F Stoltzfus	1
07072	Zinc	SW-846 6010B	1	183401404407	12/13/2018 21:29	Elaine F Stoltzfus	1
00259	Mercury	SW-846 7470A	1	183410571310	12/08/2018 10:02	Damary Valentin	1
14044	ICP-WW, 3005A (tot rec) - U345	SW-846 3005A	1	183401404407	12/07/2018 03:14	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	183410571310	12/07/2018 21:30	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP01-W001 MS Grab Groundwater
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: WW 9925836
ELLE Group #: 2015487
Matrix: Groundwater

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 12:20

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10335	Acetone	67-64-1	170	0.8	20	1
10335	Benzene	71-43-2	24	0.2	1	1
10335	Bromodichloromethane	75-27-4	21	0.2	1	1
10335	Bromoform	75-25-2	15	2	5	1
10335	Bromomethane	74-83-9	15	0.5	1	1
10335	2-Butanone	78-93-3	170	1	10	1
10335	Carbon Disulfide	75-15-0	23	0.3	5	1
10335	Carbon Tetrachloride	56-23-5	23	0.2	1	1
10335	Chlorobenzene	108-90-7	23	0.2	1	1
10335	Chloroethane	75-00-3	18	0.3	1	1
10335	Chloroform	67-66-3	24	0.2	1	1
10335	Chloromethane	74-87-3	19	0.3	1	1
10335	Cyclohexane	110-82-7	25	2	5	1
10335	1,2-Dibromo-3-chloropropane	96-12-8	21	1	5	1
10335	Dibromochloromethane	124-48-1	19	0.4	1	1
10335	1,2-Dibromoethane	106-93-4	21	0.3	1	1
10335	1,2-Dichlorobenzene	95-50-1	22	0.2	5	1
10335	1,3-Dichlorobenzene	541-73-1	22	0.2	5	1
10335	1,4-Dichlorobenzene	106-46-7	23	0.2	5	1
10335	Dichlorodifluoromethane	75-71-8	17	0.3	1	1
10335	1,1-Dichloroethane	75-34-3	25	0.2	1	1
10335	1,2-Dichloroethane	107-06-2	25	2	5	1
10335	1,1-Dichloroethene	75-35-4	24	0.2	1	1
10335	cis-1,2-Dichloroethene	156-59-2	24	0.2	1	1
10335	trans-1,2-Dichloroethene	156-60-5	24	0.2	1	1
10335	1,2-Dichloropropane	78-87-5	25	0.2	1	1
10335	cis-1,3-Dichloropropene	10061-01-5	19	0.2	1	1
10335	trans-1,3-Dichloropropene	10061-02-6	20	0.2	1	1
10335	Ethylbenzene	100-41-4	23	0.2	1	1
10335	Freon 113	76-13-1	27	2	10	1
10335	2-Hexanone	591-78-6	110	3	10	1
10335	Isopropylbenzene	98-82-8	22	0.3	5	1
10335	Methyl Acetate	79-20-9	22	0.6	5	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	19	0.2	1	1
10335	4-Methyl-2-pentanone	108-10-1	110	0.5	10	1
10335	Methylcyclohexane	108-87-2	20	0.2	5	1
10335	Methylene Chloride	75-09-2	24	0.2	1	1
10335	Styrene	100-42-5	20	0.2	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	24 Q1	0.2	1	1
10335	Tetrachloroethene	127-18-4	20	0.2	1	1
10335	Toluene	108-88-3	23	0.2	1	1
10335	1,2,4-Trichlorobenzene	120-82-1	19	0.4	5	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP01-W001 MS Grab Groundwater
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: WW 9925836
ELLE Group #: 2015487
Matrix: Groundwater

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 12:20

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10335	1,1,1-Trichloroethane	71-55-6	23	0.2	1	1
10335	1,1,2-Trichloroethane	79-00-5	23	0.2	1	1
10335	Trichloroethene	79-01-6	23	0.2	1	1
10335	Trichlorofluoromethane	75-69-4	20	0.4	1	1
10335	1,2,4-Trimethylbenzene	95-63-6	23	0.3	5	1
10335	1,3,5-Trimethylbenzene	108-67-8	23	0.3	5	1
10335	Vinyl Chloride	75-01-4	19	0.4	1	1
10335	Xylene (Total)	1330-20-7	66	0.5	5	1
GC/MS Semivolatiles		SW-846 8270C	ug/l	ug/l	ug/l	
14240	Acenaphthene	83-32-9	44	0.1	0.5	1
14240	Acenaphthylene	208-96-8	49	0.1	0.5	1
14240	Acetophenone	98-86-2	44	4	10	1
14240	Anthracene	120-12-7	46	0.1	0.5	1
14240	Atrazine	1912-24-9	51	2	5	1
14240	Benzaldehyde	100-52-7	27	3	10	1
14240	Benzo(a)anthracene	56-55-3	40	0.1	0.5	1
14240	Benzo(a)pyrene	50-32-8	40	0.1	0.5	1
14240	Benzo(b)fluoranthene	205-99-2	39	0.1	0.5	1
14240	Benzo(g,h,i)perylene	191-24-2	38	0.1	0.5	1
14240	Benzo(k)fluoranthene	207-08-9	38	0.1	0.5	1
14240	1,1'-Biphenyl	92-52-4	45	3	10	1
14240	4-Bromophenyl-phenylether	101-55-3	46	0.5	2	1
14240	Butylbenzylphthalate	85-68-7	32	2	5	1
14240	Di-n-butylphthalate	84-74-2	42	2	5	1
14240	Caprolactam	105-60-2	28 Q1	5	11	1
14240	Carbazole	86-74-8	48	0.5	2	1
14240	4-Chloro-3-methylphenol	59-50-7	34	0.5	2	1
14240	4-Chloroaniline	106-47-8	28	4	10	1
14240	bis(2-Chloroethoxy)methane	111-91-1	42	0.5	2	1
14240	bis(2-Chloroethyl)ether	111-44-4	39	0.5	2	1
14240	2-Chloronaphthalene	91-58-7	42	0.4	1	1
14240	2-Chlorophenol	95-57-8	36	0.5	2	1
14240	4-Chlorophenyl-phenylether	7005-72-3	42	0.5	2	1
14240	2,2'-oxybis(1-Chloropropane)	108-60-1	36	0.5	2	1
Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.						
14240	Chrysene	218-01-9	39	0.1	0.5	1
14240	Dibenz(a,h)anthracene	53-70-3	40	0.1	0.5	1
14240	Dibenzofuran	132-64-9	44	0.5	2	1
14240	3,3'-Dichlorobenzidine	91-94-1	36	3	10	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP01-W001 MS Grab Groundwater
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: WW 9925836
ELLE Group #: 2015487
Matrix: Groundwater

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 12:20

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles		SW-846 8270C	ug/l	ug/l	ug/l	
14240	2,4-Dichlorophenol	120-83-2	40	0.5	2	1
14240	Diethylphthalate	84-66-2	34 Q0	2	5	1
14240	2,4-Dimethylphenol	105-67-9	17	3	10	1
14240	Dimethylphthalate	131-11-3	23	2	5	1
14240	4,6-Dinitro-2-methylphenol	534-52-1	47	8	22	1
14240	2,4-Dinitrophenol	51-28-5	90	15	31	1
14240	2,4-Dinitrotoluene	121-14-2	45	1	5	1
14240	2,6-Dinitrotoluene	606-20-2	47	0.5	2	1
14240	bis(2-Ethylhexyl)phthalate	117-81-7	40	5	11	1
14240	Fluoranthene	206-44-0	46	0.1	0.5	1
14240	Fluorene	86-73-7	45	0.1	0.5	1
14240	Hexachlorobenzene	118-74-1	45	0.1	0.5	1
14240	Hexachlorobutadiene	87-68-3	41	0.5	2	1
14240	Hexachlorocyclopentadiene	77-47-4	78	5	11	1
14240	Hexachloroethane	67-72-1	33	1	5	1
14240	Indeno(1,2,3-cd)pyrene	193-39-5	39	0.1	0.5	1
14240	Isophorone	78-59-1	45	0.5	2	1
14240	2-Methylnaphthalene	91-57-6	42	0.1	0.5	1
14240	2-Methylphenol	95-48-7	30	0.5	2	1
14240	4-Methylphenol	106-44-5	28	0.5	2	1
3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.						
14240	Naphthalene	91-20-3	39	0.1	0.5	1
14240	2-Nitroaniline	88-74-4	48	2	5	1
14240	3-Nitroaniline	99-09-2	38	3	7	1
14240	4-Nitroaniline	100-01-6	37	0.9	3	1
14240	Nitrobenzene	98-95-3	40	0.5	2	1
14240	2-Nitrophenol	88-75-5	45	3	10	1
14240	4-Nitrophenol	100-02-7	30 J	10	31	1
14240	N-Nitroso-di-n-propylamine	621-64-7	42	0.7	3	1
14240	N-Nitrosodiphenylamine	86-30-6	47	0.7	3	1
N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.						
14240	Di-n-octylphthalate	117-84-0	39	5	11	1
14240	Pentachlorophenol	87-86-5	47	1	5	1
14240	Phenanthrene	85-01-8	45	0.1	0.5	1
14240	Phenol	108-95-2	21	0.5	2	1
14240	Pyrene	129-00-0	45	0.1	0.5	1
14240	2,4,5-Trichlorophenol	95-95-4	44	0.5	2	1
14240	2,4,6-Trichlorophenol	88-06-2	46	0.5	2	1

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP01-W001 MS Grab Groundwater
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: WW 9925836
ELLE Group #: 2015487
Matrix: Groundwater

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 12:20

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
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the TNI/DoD Standards. The following analytes are accepted based on this allowance: Diethylphthalate

The recovery for Caprolactam in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. No further action was taken.

The holding time was not met. The client was notified and the data reported.

PCBs		SW-846 8082	ug/l	ug/l	ug/l	
10227	PCB-1016	12674-11-2	3.8 D1 Q0	0.10	0.50	1
10227	PCB-1221	11104-28-2	N.D. D1	0.10	0.50	1
10227	PCB-1232	11141-16-5	N.D. D1	0.20	0.50	1
10227	PCB-1242	53469-21-9	N.D. D1	0.10	0.50	1
10227	PCB-1248	12672-29-6	N.D. D1	0.10	0.50	1
10227	PCB-1254	11097-69-1	N.D. D1	0.10	0.50	1
10227	PCB-1260	11096-82-5	4.0 D1 Q0	0.15	0.50	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. Sufficient sample was not available to repeat the analysis.

Metals Dissolved		SW-846 6010B	mg/l	mg/l	mg/l	
07044	Antimony	7440-36-0	0.522	0.0100	0.0500	1
07035	Arsenic	7440-38-2	0.157	0.0160	0.0500	1
07047	Beryllium	7440-41-7	0.0516	0.0010	0.0050	1
07049	Cadmium	7440-43-9	0.0522	0.0010	0.0050	1
07051	Chromium	7440-47-3	0.204	0.0053	0.0150	1
07053	Copper	7440-50-8	0.261	0.0062	0.0200	1
07055	Lead	7439-92-1	0.146	0.0071	0.0150	1
07061	Nickel	7440-02-0	0.526	0.0031	0.0100	1
07036	Selenium	7782-49-2	0.160	0.0210	0.0500	1
07066	Silver	7440-22-4	0.0522	0.0050	0.0100	1
07022	Thallium	7440-28-0	0.171	0.0140	0.0300	1
07072	Zinc	7440-66-6	0.523	0.0030	0.0200	1
		SW-846 7470A	mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	0.00088	0.000050	0.00020	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.
This sample was field filtered for dissolved metals.

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP01-W001 MS Grab Groundwater
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: WW 9925836
ELLE Group #: 2015487
Matrix: Groundwater

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 12:20

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs- 5ml Water by 8260B	SW-846 8260B	1	Y183412AA	12/07/2018 22:41	Kevin D Kelly	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y183412AA	12/07/2018 22:40	Kevin D Kelly	1
14240	TCL SW846 8270C MINI	SW-846 8270C	1	18346WAZ026	12/20/2018 16:55	Kira N Beck	1
00813	BNA Water Extraction	SW-846 3510C	2	18346WAZ026	12/13/2018 08:00	David S Schrum	1
10227	PCBs in Water	SW-846 8082	1	183410047A	12/10/2018 18:54	Kirby B Turner	1
11117	PCB Waters Extraction	SW-846 3510C	1	183410047A	12/09/2018 14:20	Christine E Gleim	1
07044	Antimony	SW-846 6010B	1	183401404407	12/13/2018 21:37	Elaine F Stoltzfus	1
07035	Arsenic	SW-846 6010B	1	183401404407	12/13/2018 21:37	Elaine F Stoltzfus	1
07047	Beryllium	SW-846 6010B	1	183401404407	12/13/2018 21:37	Elaine F Stoltzfus	1
07049	Cadmium	SW-846 6010B	1	183401404407	12/13/2018 21:37	Elaine F Stoltzfus	1
07051	Chromium	SW-846 6010B	1	183401404407	12/13/2018 21:37	Elaine F Stoltzfus	1
07053	Copper	SW-846 6010B	1	183401404407	12/13/2018 21:37	Elaine F Stoltzfus	1
07055	Lead	SW-846 6010B	1	183401404407	12/13/2018 21:37	Elaine F Stoltzfus	1
07061	Nickel	SW-846 6010B	1	183401404407	12/13/2018 21:37	Elaine F Stoltzfus	1
07036	Selenium	SW-846 6010B	1	183401404407	12/13/2018 21:37	Elaine F Stoltzfus	1
07066	Silver	SW-846 6010B	1	183401404407	12/13/2018 21:37	Elaine F Stoltzfus	1
07022	Thallium	SW-846 6010B	1	183401404407	12/13/2018 21:37	Elaine F Stoltzfus	1
07072	Zinc	SW-846 6010B	1	183401404407	12/13/2018 21:37	Elaine F Stoltzfus	1
00259	Mercury	SW-846 7470A	1	183410571310	12/08/2018 10:06	Damary Valentin	1
14044	ICP-WW, 3005A (tot rec) - U345	SW-846 3005A	1	183401404407	12/07/2018 03:14	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	183410571310	12/07/2018 21:30	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP01-W001 MSD Grab Groundwater
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: WW 9925837
ELLE Group #: 2015487
Matrix: Groundwater

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 12:20

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10335	Acetone	67-64-1	170	0.8	20	1
10335	Benzene	71-43-2	24	0.2	1	1
10335	Bromodichloromethane	75-27-4	21	0.2	1	1
10335	Bromoform	75-25-2	16	2	5	1
10335	Bromomethane	74-83-9	13	0.5	1	1
10335	2-Butanone	78-93-3	170	1	10	1
10335	Carbon Disulfide	75-15-0	22	0.3	5	1
10335	Carbon Tetrachloride	56-23-5	23	0.2	1	1
10335	Chlorobenzene	108-90-7	23	0.2	1	1
10335	Chloroethane	75-00-3	16	0.3	1	1
10335	Chloroform	67-66-3	23	0.2	1	1
10335	Chloromethane	74-87-3	17	0.3	1	1
10335	Cyclohexane	110-82-7	25	2	5	1
10335	1,2-Dibromo-3-chloropropane	96-12-8	21	1	5	1
10335	Dibromochloromethane	124-48-1	19	0.4	1	1
10335	1,2-Dibromoethane	106-93-4	21	0.3	1	1
10335	1,2-Dichlorobenzene	95-50-1	22	0.2	5	1
10335	1,3-Dichlorobenzene	541-73-1	22	0.2	5	1
10335	1,4-Dichlorobenzene	106-46-7	23	0.2	5	1
10335	Dichlorodifluoromethane	75-71-8	15	0.3	1	1
10335	1,1-Dichloroethane	75-34-3	25	0.2	1	1
10335	1,2-Dichloroethane	107-06-2	25	2	5	1
10335	1,1-Dichloroethene	75-35-4	24	0.2	1	1
10335	cis-1,2-Dichloroethene	156-59-2	23	0.2	1	1
10335	trans-1,2-Dichloroethene	156-60-5	24	0.2	1	1
10335	1,2-Dichloropropane	78-87-5	25	0.2	1	1
10335	cis-1,3-Dichloropropene	10061-01-5	20	0.2	1	1
10335	trans-1,3-Dichloropropene	10061-02-6	20	0.2	1	1
10335	Ethylbenzene	100-41-4	23	0.2	1	1
10335	Freon 113	76-13-1	27	2	10	1
10335	2-Hexanone	591-78-6	110	3	10	1
10335	Isopropylbenzene	98-82-8	22	0.3	5	1
10335	Methyl Acetate	79-20-9	24	0.6	5	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	19	0.2	1	1
10335	4-Methyl-2-pentanone	108-10-1	110	0.5	10	1
10335	Methylcyclohexane	108-87-2	23	0.2	5	1
10335	Methylene Chloride	75-09-2	24	0.2	1	1
10335	Styrene	100-42-5	20	0.2	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	24 Q1	0.2	1	1
10335	Tetrachloroethene	127-18-4	20	0.2	1	1
10335	Toluene	108-88-3	23	0.2	1	1
10335	1,2,4-Trichlorobenzene	120-82-1	19	0.4	5	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP01-W001 MSD Grab Groundwater
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: WW 9925837
ELLE Group #: 2015487
Matrix: Groundwater

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 12:20

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10335	1,1,1-Trichloroethane	71-55-6	23	0.2	1	1
10335	1,1,2-Trichloroethane	79-00-5	23	0.2	1	1
10335	Trichloroethene	79-01-6	23	0.2	1	1
10335	Trichlorofluoromethane	75-69-4	17	0.4	1	1
10335	1,2,4-Trimethylbenzene	95-63-6	23	0.3	5	1
10335	1,3,5-Trimethylbenzene	108-67-8	24	0.3	5	1
10335	Vinyl Chloride	75-01-4	17	0.4	1	1
10335	Xylene (Total)	1330-20-7	66	0.5	5	1
GC/MS Semivolatiles		SW-846 8270C	ug/l	ug/l	ug/l	
14240	Acenaphthene	83-32-9	42	0.1	0.5	1
14240	Acenaphthylene	208-96-8	47	0.1	0.5	1
14240	Acetophenone	98-86-2	43	4	10	1
14240	Anthracene	120-12-7	47	0.1	0.5	1
14240	Atrazine	1912-24-9	53	2	5	1
14240	Benzaldehyde	100-52-7	28	3	10	1
14240	Benzo(a)anthracene	56-55-3	39	0.1	0.5	1
14240	Benzo(a)pyrene	50-32-8	38	0.1	0.5	1
14240	Benzo(b)fluoranthene	205-99-2	38	0.1	0.5	1
14240	Benzo(g,h,i)perylene	191-24-2	37	0.1	0.5	1
14240	Benzo(k)fluoranthene	207-08-9	38	0.1	0.5	1
14240	1,1'-Biphenyl	92-52-4	45	3	10	1
14240	4-Bromophenyl-phenylether	101-55-3	45	0.5	2	1
14240	Butylbenzylphthalate	85-68-7	33	2	5	1
14240	Di-n-butylphthalate	84-74-2	41	2	5	1
14240	Caprolactam	105-60-2	25	5	11	1
14240	Carbazole	86-74-8	51	0.5	2	1
14240	4-Chloro-3-methylphenol	59-50-7	37	0.5	2	1
14240	4-Chloroaniline	106-47-8	27	4	10	1
14240	bis(2-Chloroethoxy)methane	111-91-1	43	0.5	2	1
14240	bis(2-Chloroethyl)ether	111-44-4	39	0.5	2	1
14240	2-Chloronaphthalene	91-58-7	42	0.4	1	1
14240	2-Chlorophenol	95-57-8	38	0.5	2	1
14240	4-Chlorophenyl-phenylether	7005-72-3	40	0.5	2	1
14240	2,2'-oxybis(1-Chloropropane)	108-60-1	35	0.5	2	1
Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.						
14240	Chrysene	218-01-9	39	0.1	0.5	1
14240	Dibenz(a,h)anthracene	53-70-3	39	0.1	0.5	1
14240	Dibenzofuran	132-64-9	43	0.5	2	1
14240	3,3'-Dichlorobenzidine	91-94-1	35	3	10	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP01-W001 MSD Grab Groundwater
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: WW 9925837
ELLE Group #: 2015487
Matrix: Groundwater

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 12:20

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles		SW-846 8270C	ug/l	ug/l	ug/l	
14240	2,4-Dichlorophenol	120-83-2	43	0.5	2	1
14240	Diethylphthalate	84-66-2	31 Q0	2	5	1
14240	2,4-Dimethylphenol	105-67-9	26	3	10	1
14240	Dimethylphthalate	131-11-3	19	2	5	1
14240	4,6-Dinitro-2-methylphenol	534-52-1	45	8	22	1
14240	2,4-Dinitrophenol	51-28-5	80	15	31	1
14240	2,4-Dinitrotoluene	121-14-2	44	1	5	1
14240	2,6-Dinitrotoluene	606-20-2	45	0.5	2	1
14240	bis(2-Ethylhexyl)phthalate	117-81-7	39	5	11	1
14240	Fluoranthene	206-44-0	46	0.1	0.5	1
14240	Fluorene	86-73-7	44	0.1	0.5	1
14240	Hexachlorobenzene	118-74-1	42	0.1	0.5	1
14240	Hexachlorobutadiene	87-68-3	40	0.5	2	1
14240	Hexachlorocyclopentadiene	77-47-4	78	5	11	1
14240	Hexachloroethane	67-72-1	33	1	5	1
14240	Indeno(1,2,3-cd)pyrene	193-39-5	36	0.1	0.5	1
14240	Isophorone	78-59-1	45	0.5	2	1
14240	2-Methylnaphthalene	91-57-6	42	0.1	0.5	1
14240	2-Methylphenol	95-48-7	36	0.5	2	1
14240	4-Methylphenol	106-44-5	34	0.5	2	1
3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.						
14240	Naphthalene	91-20-3	39	0.1	0.5	1
14240	2-Nitroaniline	88-74-4	46	2	5	1
14240	3-Nitroaniline	99-09-2	35	3	7	1
14240	4-Nitroaniline	100-01-6	34	0.9	3	1
14240	Nitrobenzene	98-95-3	40	0.5	2	1
14240	2-Nitrophenol	88-75-5	45	3	10	1
14240	4-Nitrophenol	100-02-7	27 J	10	31	1
14240	N-Nitroso-di-n-propylamine	621-64-7	42	0.7	3	1
14240	N-Nitrosodiphenylamine	86-30-6	47	0.7	3	1
N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.						
14240	Di-n-octylphthalate	117-84-0	37	5	11	1
14240	Pentachlorophenol	87-86-5	39	1	5	1
14240	Phenanthrene	85-01-8	46	0.1	0.5	1
14240	Phenol	108-95-2	22	0.5	2	1
14240	Pyrene	129-00-0	42	0.1	0.5	1
14240	2,4,5-Trichlorophenol	95-95-4	44	0.5	2	1
14240	2,4,6-Trichlorophenol	88-06-2	47	0.5	2	1

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP01-W001 MSD Grab Groundwater
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: WW 9925837
ELLE Group #: 2015487
Matrix: Groundwater

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 12:20

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
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the TNI/DoD Standards. The following analytes are accepted based on this allowance: Diethylphthalate

The recovery for Caprolactam in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. No further action was taken.

The holding time was not met. The client was notified and the data reported.

PCBs		SW-846 8082	ug/l	ug/l	ug/l	
10227	PCB-1016	12674-11-2	4.2 D1 Q0	0.10	0.52	1
10227	PCB-1221	11104-28-2	N.D. D1	0.10	0.52	1
10227	PCB-1232	11141-16-5	N.D. D1	0.21	0.52	1
10227	PCB-1242	53469-21-9	N.D. D1	0.10	0.52	1
10227	PCB-1248	12672-29-6	N.D. D1	0.10	0.52	1
10227	PCB-1254	11097-69-1	N.D. D1	0.10	0.52	1
10227	PCB-1260	11096-82-5	4.0 D1 Q0	0.15	0.52	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. Sufficient sample was not available to repeat the analysis.

Metals Dissolved		SW-846 6010B	mg/l	mg/l	mg/l	
07044	Antimony	7440-36-0	0.532	0.0100	0.0500	1
07035	Arsenic	7440-38-2	0.157	0.0160	0.0500	1
07047	Beryllium	7440-41-7	0.0529	0.0010	0.0050	1
07049	Cadmium	7440-43-9	0.0526	0.0010	0.0050	1
07051	Chromium	7440-47-3	0.211	0.0053	0.0150	1
07053	Copper	7440-50-8	0.270	0.0062	0.0200	1
07055	Lead	7439-92-1	0.151	0.0071	0.0150	1
07061	Nickel	7440-02-0	0.535	0.0031	0.0100	1
07036	Selenium	7782-49-2	0.158	0.0210	0.0500	1
07066	Silver	7440-22-4	0.0536	0.0050	0.0100	1
07022	Thallium	7440-28-0	0.176	0.0140	0.0300	1
07072	Zinc	7440-66-6	0.539	0.0030	0.0200	1
		SW-846 7470A	mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	0.00088	0.000050	0.00020	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.
This sample was field filtered for dissolved metals.

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP01-W001 MSD Grab Groundwater
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: WW 9925837
ELLE Group #: 2015487
Matrix: Groundwater

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 12:20

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs- 5ml Water by 8260B	SW-846 8260B	1	Y183412AA	12/07/2018 23:03	Kevin D Kelly	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y183412AA	12/07/2018 23:02	Kevin D Kelly	1
14240	TCL SW846 8270C MINI	SW-846 8270C	1	18346WAZ026	12/20/2018 17:24	Kira N Beck	1
00813	BNA Water Extraction	SW-846 3510C	2	18346WAZ026	12/13/2018 08:00	David S Schrum	1
10227	PCBs in Water	SW-846 8082	1	183410047A	12/10/2018 19:04	Kirby B Turner	1
11117	PCB Waters Extraction	SW-846 3510C	1	183410047A	12/09/2018 14:20	Christine E Gleim	1
07044	Antimony	SW-846 6010B	1	183401404407	12/13/2018 21:40	Elaine F Stoltzfus	1
07035	Arsenic	SW-846 6010B	1	183401404407	12/13/2018 21:40	Elaine F Stoltzfus	1
07047	Beryllium	SW-846 6010B	1	183401404407	12/13/2018 21:40	Elaine F Stoltzfus	1
07049	Cadmium	SW-846 6010B	1	183401404407	12/13/2018 21:40	Elaine F Stoltzfus	1
07051	Chromium	SW-846 6010B	1	183401404407	12/13/2018 21:40	Elaine F Stoltzfus	1
07053	Copper	SW-846 6010B	1	183401404407	12/13/2018 21:40	Elaine F Stoltzfus	1
07055	Lead	SW-846 6010B	1	183401404407	12/13/2018 21:40	Elaine F Stoltzfus	1
07061	Nickel	SW-846 6010B	1	183401404407	12/13/2018 21:40	Elaine F Stoltzfus	1
07036	Selenium	SW-846 6010B	1	183401404407	12/13/2018 21:40	Elaine F Stoltzfus	1
07066	Silver	SW-846 6010B	1	183401404407	12/13/2018 21:40	Elaine F Stoltzfus	1
07022	Thallium	SW-846 6010B	1	183401404407	12/13/2018 21:40	Elaine F Stoltzfus	1
07072	Zinc	SW-846 6010B	1	183401404407	12/13/2018 21:40	Elaine F Stoltzfus	1
00259	Mercury	SW-846 7470A	1	183410571310	12/08/2018 10:08	Damary Valentin	1
14044	ICP-WW, 3005A (tot rec) - U345	SW-846 3005A	1	183401404407	12/07/2018 03:14	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	183410571310	12/07/2018 21:30	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP01-W001 DUP Grab Groundwater
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: WW 9925838
ELLE Group #: 2015487
Matrix: Groundwater

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 12:20

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
Metals Dissolved SW-846 6010B			mg/l	mg/l	mg/l	
07044	Antimony	7440-36-0	N.D.	0.0100	0.0500	1
07035	Arsenic	7440-38-2	N.D.	0.0160	0.0500	1
07047	Beryllium	7440-41-7	N.D.	0.0010	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.0010	0.0050	1
07051	Chromium	7440-47-3	N.D.	0.0053	0.0150	1
07053	Copper	7440-50-8	N.D.	0.0062	0.0200	1
07055	Lead	7439-92-1	N.D.	0.0071	0.0150	1
07061	Nickel	7440-02-0	0.0037 J	0.0031	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0210	0.0500	1
07066	Silver	7440-22-4	N.D.	0.0050	0.0100	1
07022	Thallium	7440-28-0	N.D.	0.0140	0.0300	1
07072	Zinc	7440-66-6	N.D.	0.0030	0.0200	1
SW-846 7470A			mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	N.D.	0.000050	0.00020	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.
This sample was field filtered for dissolved metals.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07044	Antimony	SW-846 6010B	1	183401404407	12/13/2018 21:34	Elaine F Stoltzfus	1
07035	Arsenic	SW-846 6010B	1	183401404407	12/13/2018 21:34	Elaine F Stoltzfus	1
07047	Beryllium	SW-846 6010B	1	183401404407	12/13/2018 21:34	Elaine F Stoltzfus	1
07049	Cadmium	SW-846 6010B	1	183401404407	12/13/2018 21:34	Elaine F Stoltzfus	1
07051	Chromium	SW-846 6010B	1	183401404407	12/13/2018 21:34	Elaine F Stoltzfus	1
07053	Copper	SW-846 6010B	1	183401404407	12/13/2018 21:34	Elaine F Stoltzfus	1
07055	Lead	SW-846 6010B	1	183401404407	12/13/2018 21:34	Elaine F Stoltzfus	1
07061	Nickel	SW-846 6010B	1	183401404407	12/13/2018 21:34	Elaine F Stoltzfus	1
07036	Selenium	SW-846 6010B	1	183401404407	12/13/2018 21:34	Elaine F Stoltzfus	1
07066	Silver	SW-846 6010B	1	183401404407	12/13/2018 21:34	Elaine F Stoltzfus	1
07022	Thallium	SW-846 6010B	1	183401404407	12/13/2018 21:34	Elaine F Stoltzfus	1
07072	Zinc	SW-846 6010B	1	183401404407	12/13/2018 21:34	Elaine F Stoltzfus	1
00259	Mercury	SW-846 7470A	1	183410571310	12/08/2018 10:04	Damary Valentin	1
14044	ICP-WW, 3005A (tot rec) - U345	SW-846 3005A	1	183401404407	12/07/2018 03:14	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	183410571310	12/07/2018 21:30	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP02-W001 Grab Groundwater
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: WW 9925839
ELLE Group #: 2015487
Matrix: Groundwater

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 13:00

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10335	Acetone	67-64-1	N.D.	0.8	20	1
10335	Benzene	71-43-2	N.D.	0.2	1	1
10335	Bromodichloromethane	75-27-4	N.D.	0.2	1	1
10335	Bromoform	75-25-2	N.D.	2	5	1
10335	Bromomethane	74-83-9	N.D.	0.5	1	1
10335	2-Butanone	78-93-3	N.D.	1	10	1
10335	Carbon Disulfide	75-15-0	N.D.	0.3	5	1
10335	Carbon Tetrachloride	56-23-5	N.D.	0.2	1	1
10335	Chlorobenzene	108-90-7	N.D.	0.2	1	1
10335	Chloroethane	75-00-3	N.D.	0.3	1	1
10335	Chloroform	67-66-3	N.D.	0.2	1	1
10335	Chloromethane	74-87-3	N.D.	0.3	1	1
10335	Cyclohexane	110-82-7	N.D.	2	5	1
10335	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	1	5	1
10335	Dibromochloromethane	124-48-1	N.D.	0.4	1	1
10335	1,2-Dibromoethane	106-93-4	N.D.	0.3	1	1
10335	1,2-Dichlorobenzene	95-50-1	N.D.	0.2	5	1
10335	1,3-Dichlorobenzene	541-73-1	N.D.	0.2	5	1
10335	1,4-Dichlorobenzene	106-46-7	N.D.	0.2	5	1
10335	Dichlorodifluoromethane	75-71-8	N.D.	0.3	1	1
10335	1,1-Dichloroethane	75-34-3	N.D.	0.2	1	1
10335	1,2-Dichloroethane	107-06-2	N.D.	2	5	1
10335	1,1-Dichloroethene	75-35-4	N.D.	0.2	1	1
10335	cis-1,2-Dichloroethene	156-59-2	N.D.	0.2	1	1
10335	trans-1,2-Dichloroethene	156-60-5	N.D.	0.2	1	1
10335	1,2-Dichloropropane	78-87-5	N.D.	0.2	1	1
10335	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.2	1	1
10335	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.2	1	1
10335	Ethylbenzene	100-41-4	N.D.	0.2	1	1
10335	Freon 113	76-13-1	N.D.	2	10	1
10335	2-Hexanone	591-78-6	N.D.	3	10	1
10335	Isopropylbenzene	98-82-8	N.D.	0.3	5	1
10335	Methyl Acetate	79-20-9	N.D.	0.6	5	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.2	1	1
10335	4-Methyl-2-pentanone	108-10-1	N.D.	0.5	10	1
10335	Methylcyclohexane	108-87-2	N.D.	0.2	5	1
10335	Methylene Chloride	75-09-2	N.D.	0.2	1	1
10335	Styrene	100-42-5	N.D.	0.2	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	N.D. Q1	0.2	1	1
10335	Tetrachloroethene	127-18-4	N.D.	0.2	1	1
10335	Toluene	108-88-3	N.D.	0.2	1	1
10335	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.4	5	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP02-W001 Grab Groundwater
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: WW 9925839
ELLE Group #: 2015487
Matrix: Groundwater

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 13:00

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10335	1,1,1-Trichloroethane	71-55-6	N.D.	0.2	1	1
10335	1,1,2-Trichloroethane	79-00-5	N.D.	0.2	1	1
10335	Trichloroethene	79-01-6	N.D.	0.2	1	1
10335	Trichlorofluoromethane	75-69-4	N.D.	0.4	1	1
10335	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.3	5	1
10335	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.3	5	1
10335	Vinyl Chloride	75-01-4	N.D.	0.4	1	1
10335	Xylene (Total)	1330-20-7	N.D.	0.5	5	1
GC/MS Semivolatiles		SW-846 8270C	ug/l	ug/l	ug/l	
14240	Acenaphthene	83-32-9	N.D.	0.1	0.5	1
14240	Acenaphthylene	208-96-8	N.D.	0.1	0.5	1
14240	Acetophenone	98-86-2	N.D.	4	10	1
14240	Anthracene	120-12-7	N.D.	0.1	0.5	1
14240	Atrazine	1912-24-9	N.D.	2	5	1
14240	Benzaldehyde	100-52-7	N.D.	3	10	1
14240	Benzo(a)anthracene	56-55-3	N.D.	0.1	0.5	1
14240	Benzo(a)pyrene	50-32-8	N.D.	0.1	0.5	1
14240	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	0.5	1
14240	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	0.5	1
14240	Benzo(k)fluoranthene	207-08-9	N.D.	0.1	0.5	1
14240	1,1'-Biphenyl	92-52-4	N.D.	3	10	1
14240	4-Bromophenyl-phenylether	101-55-3	N.D.	0.5	2	1
14240	Butylbenzylphthalate	85-68-7	N.D.	2	5	1
14240	Di-n-butylphthalate	84-74-2	N.D.	2	5	1
14240	Caprolactam	105-60-2	N.D. Q1	5	11	1
14240	Carbazole	86-74-8	N.D.	0.5	2	1
14240	4-Chloro-3-methylphenol	59-50-7	N.D.	0.5	2	1
14240	4-Chloroaniline	106-47-8	N.D.	4	10	1
14240	bis(2-Chloroethoxy)methane	111-91-1	N.D.	0.5	2	1
14240	bis(2-Chloroethyl)ether	111-44-4	N.D.	0.5	2	1
14240	2-Chloronaphthalene	91-58-7	N.D.	0.4	1	1
14240	2-Chlorophenol	95-57-8	N.D.	0.5	2	1
14240	4-Chlorophenyl-phenylether	7005-72-3	N.D.	0.5	2	1
14240	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	0.5	2	1
Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.						
14240	Chrysene	218-01-9	N.D.	0.1	0.5	1
14240	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	0.5	1
14240	Dibenzofuran	132-64-9	N.D.	0.5	2	1
14240	3,3'-Dichlorobenzidine	91-94-1	N.D.	3	10	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP02-W001 Grab Groundwater
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: WW 9925839
ELLE Group #: 2015487
Matrix: Groundwater

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 13:00

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles		SW-846 8270C	ug/l	ug/l	ug/l	
14240	2,4-Dichlorophenol	120-83-2	N.D.	0.5	2	1
14240	Diethylphthalate	84-66-2	N.D. Q0	2	5	1
14240	2,4-Dimethylphenol	105-67-9	N.D.	3	10	1
14240	Dimethylphthalate	131-11-3	N.D.	2	5	1
14240	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	8	22	1
14240	2,4-Dinitrophenol	51-28-5	N.D.	14	31	1
14240	2,4-Dinitrotoluene	121-14-2	N.D.	1	5	1
14240	2,6-Dinitrotoluene	606-20-2	N.D.	0.5	2	1
14240	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	5	11	1
14240	Fluoranthene	206-44-0	N.D.	0.1	0.5	1
14240	Fluorene	86-73-7	N.D.	0.1	0.5	1
14240	Hexachlorobenzene	118-74-1	N.D.	0.1	0.5	1
14240	Hexachlorobutadiene	87-68-3	N.D.	0.5	2	1
14240	Hexachlorocyclopentadiene	77-47-4	N.D.	5	11	1
14240	Hexachloroethane	67-72-1	N.D.	1	5	1
14240	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	0.5	1
14240	Isophorone	78-59-1	N.D.	0.5	2	1
14240	2-Methylnaphthalene	91-57-6	N.D.	0.1	0.5	1
14240	2-Methylphenol	95-48-7	N.D.	0.5	2	1
14240	4-Methylphenol	106-44-5	N.D.	0.5	2	1
3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.						
14240	Naphthalene	91-20-3	N.D.	0.1	0.5	1
14240	2-Nitroaniline	88-74-4	N.D.	2	5	1
14240	3-Nitroaniline	99-09-2	N.D.	3	7	1
14240	4-Nitroaniline	100-01-6	N.D.	0.9	3	1
14240	Nitrobenzene	98-95-3	N.D.	0.5	2	1
14240	2-Nitrophenol	88-75-5	N.D.	3	10	1
14240	4-Nitrophenol	100-02-7	N.D.	10	31	1
14240	N-Nitroso-di-n-propylamine	621-64-7	N.D.	0.7	3	1
14240	N-Nitrosodiphenylamine	86-30-6	N.D.	0.7	3	1
N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.						
14240	Di-n-octylphthalate	117-84-0	N.D.	5	11	1
14240	Pentachlorophenol	87-86-5	N.D.	1	5	1
14240	Phenanthrene	85-01-8	N.D.	0.1	0.5	1
14240	Phenol	108-95-2	N.D.	0.5	2	1
14240	Pyrene	129-00-0	N.D.	0.1	0.5	1
14240	2,4,5-Trichlorophenol	95-95-4	N.D.	0.5	2	1
14240	2,4,6-Trichlorophenol	88-06-2	N.D.	0.5	2	1

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP02-W001 Grab Groundwater
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: WW 9925839
ELLE Group #: 2015487
Matrix: Groundwater

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 13:00

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
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the TNI/DoD Standards. The following analytes are accepted based on this allowance: Diethylphthalate

The recovery for Caprolactam in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. Since the recovery is high and the target analyte(s) was not detected in the sample, the data is reported.

The holding time was not met. The client was notified and the data reported.

PCBs		SW-846 8082	ug/l	ug/l	ug/l	
10227	PCB-1016	12674-11-2	N.D. D1 Q0	0.10	0.50	1
10227	PCB-1221	11104-28-2	N.D. D1	0.10	0.50	1
10227	PCB-1232	11141-16-5	N.D. D1	0.20	0.50	1
10227	PCB-1242	53469-21-9	N.D. D1	0.10	0.50	1
10227	PCB-1248	12672-29-6	N.D. D1	0.10	0.50	1
10227	PCB-1254	11097-69-1	N.D. D1	0.10	0.50	1
10227	PCB-1260	11096-82-5	N.D. D1 Q0	0.15	0.50	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. Sufficient sample was not available to repeat the analysis.

Metals Dissolved		SW-846 6010B	mg/l	mg/l	mg/l	
07044	Antimony	7440-36-0	N.D.	0.0100	0.0500	1
07035	Arsenic	7440-38-2	N.D.	0.0160	0.0500	1
07047	Beryllium	7440-41-7	N.D.	0.0010	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.0010	0.0050	1
07051	Chromium	7440-47-3	N.D.	0.0053	0.0150	1
07053	Copper	7440-50-8	N.D.	0.0062	0.0200	1
07055	Lead	7439-92-1	N.D.	0.0071	0.0150	1
07061	Nickel	7440-02-0	0.0101	0.0031	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0210	0.0500	1
07066	Silver	7440-22-4	N.D.	0.0050	0.0100	1
07022	Thallium	7440-28-0	N.D.	0.0140	0.0300	1
07072	Zinc	7440-66-6	0.0054 J	0.0030	0.0200	1

		SW-846 7470A	mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	N.D.	0.000050	0.00020	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.
This sample was field filtered for dissolved metals.

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP02-W001 Grab Groundwater
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: WW 9925839
ELLE Group #: 2015487
Matrix: Groundwater

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 13:00

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs- 5ml Water by 8260B	SW-846 8260B	1	Y183412AA	12/08/2018 00:31	Kevin D Kelly	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y183412AA	12/08/2018 00:30	Kevin D Kelly	1
14240	TCL SW846 8270C MINI	SW-846 8270C	1	18346WAZ026	12/20/2018 17:54	Kira N Beck	1
00813	BNA Water Extraction	SW-846 3510C	2	18346WAZ026	12/13/2018 08:00	David S Schrum	1
10227	PCBs in Water	SW-846 8082	1	183410047A	12/10/2018 19:15	Kirby B Turner	1
11117	PCB Waters Extraction	SW-846 3510C	1	183410047A	12/09/2018 14:20	Christine E Gleim	1
07044	Antimony	SW-846 6010B	1	183401404407	12/13/2018 21:48	Elaine F Stoltzfus	1
07035	Arsenic	SW-846 6010B	1	183401404407	12/13/2018 21:48	Elaine F Stoltzfus	1
07047	Beryllium	SW-846 6010B	1	183401404407	12/13/2018 21:48	Elaine F Stoltzfus	1
07049	Cadmium	SW-846 6010B	1	183401404407	12/13/2018 21:48	Elaine F Stoltzfus	1
07051	Chromium	SW-846 6010B	1	183401404407	12/13/2018 21:48	Elaine F Stoltzfus	1
07053	Copper	SW-846 6010B	1	183401404407	12/13/2018 21:48	Elaine F Stoltzfus	1
07055	Lead	SW-846 6010B	1	183401404407	12/13/2018 21:48	Elaine F Stoltzfus	1
07061	Nickel	SW-846 6010B	1	183401404407	12/13/2018 21:48	Elaine F Stoltzfus	1
07036	Selenium	SW-846 6010B	1	183401404407	12/13/2018 21:48	Elaine F Stoltzfus	1
07066	Silver	SW-846 6010B	1	183401404407	12/13/2018 21:48	Elaine F Stoltzfus	1
07022	Thallium	SW-846 6010B	1	183401404407	12/13/2018 21:48	Elaine F Stoltzfus	1
07072	Zinc	SW-846 6010B	1	183401404407	12/13/2018 21:48	Elaine F Stoltzfus	1
00259	Mercury	SW-846 7470A	1	183410571310	12/08/2018 10:14	Damary Valentin	1
14044	ICP-WW, 3005A (tot rec) - U345	SW-846 3005A	1	183401404407	12/07/2018 03:14	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	183410571310	12/07/2018 21:30	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP06-W001 Grab Groundwater
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: WW 9925840
ELLE Group #: 2015487
Matrix: Groundwater

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 13:45

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles			ug/l	ug/l	ug/l	
	SW-846 8260B					
10335	Acetone	67-64-1	N.D.	0.8	20	1
10335	Benzene	71-43-2	N.D.	0.2	1	1
10335	Bromodichloromethane	75-27-4	N.D.	0.2	1	1
10335	Bromoform	75-25-2	N.D.	2	5	1
10335	Bromomethane	74-83-9	N.D.	0.5	1	1
10335	2-Butanone	78-93-3	N.D.	1	10	1
10335	Carbon Disulfide	75-15-0	N.D.	0.3	5	1
10335	Carbon Tetrachloride	56-23-5	N.D.	0.2	1	1
10335	Chlorobenzene	108-90-7	N.D.	0.2	1	1
10335	Chloroethane	75-00-3	N.D.	0.3	1	1
10335	Chloroform	67-66-3	N.D.	0.2	1	1
10335	Chloromethane	74-87-3	N.D.	0.3	1	1
10335	Cyclohexane	110-82-7	N.D.	2	5	1
10335	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	1	5	1
10335	Dibromochloromethane	124-48-1	N.D.	0.4	1	1
10335	1,2-Dibromoethane	106-93-4	N.D.	0.3	1	1
10335	1,2-Dichlorobenzene	95-50-1	N.D.	0.2	5	1
10335	1,3-Dichlorobenzene	541-73-1	N.D.	0.2	5	1
10335	1,4-Dichlorobenzene	106-46-7	N.D.	0.2	5	1
10335	Dichlorodifluoromethane	75-71-8	N.D.	0.3	1	1
10335	1,1-Dichloroethane	75-34-3	N.D.	0.2	1	1
10335	1,2-Dichloroethane	107-06-2	N.D.	2	5	1
10335	1,1-Dichloroethene	75-35-4	N.D.	0.2	1	1
10335	cis-1,2-Dichloroethene	156-59-2	N.D.	0.2	1	1
10335	trans-1,2-Dichloroethene	156-60-5	N.D.	0.2	1	1
10335	1,2-Dichloropropane	78-87-5	N.D.	0.2	1	1
10335	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.2	1	1
10335	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.2	1	1
10335	Ethylbenzene	100-41-4	N.D.	0.2	1	1
10335	Freon 113	76-13-1	N.D.	2	10	1
10335	2-Hexanone	591-78-6	N.D.	3	10	1
10335	Isopropylbenzene	98-82-8	N.D.	0.3	5	1
10335	Methyl Acetate	79-20-9	N.D.	0.6	5	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.2	1	1
10335	4-Methyl-2-pentanone	108-10-1	N.D.	0.5	10	1
10335	Methylcyclohexane	108-87-2	N.D.	0.2	5	1
10335	Methylene Chloride	75-09-2	N.D.	0.2	1	1
10335	Styrene	100-42-5	N.D.	0.2	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	N.D. Q1	0.2	1	1
10335	Tetrachloroethene	127-18-4	N.D.	0.2	1	1
10335	Toluene	108-88-3	N.D.	0.2	1	1
10335	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.4	5	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP06-W001 Grab Groundwater
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: WW 9925840
ELLE Group #: 2015487
Matrix: Groundwater

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 13:45

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10335	1,1,1-Trichloroethane	71-55-6	N.D.	0.2	1	1
10335	1,1,2-Trichloroethane	79-00-5	N.D.	0.2	1	1
10335	Trichloroethene	79-01-6	N.D.	0.2	1	1
10335	Trichlorofluoromethane	75-69-4	N.D.	0.4	1	1
10335	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.3	5	1
10335	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.3	5	1
10335	Vinyl Chloride	75-01-4	N.D.	0.4	1	1
10335	Xylene (Total)	1330-20-7	N.D.	0.5	5	1
GC/MS Semivolatiles		SW-846 8270C	ug/l	ug/l	ug/l	
14240	Acenaphthene	83-32-9	N.D.	0.1	0.5	1
14240	Acenaphthylene	208-96-8	N.D.	0.1	0.5	1
14240	Acetophenone	98-86-2	N.D.	4	10	1
14240	Anthracene	120-12-7	N.D.	0.1	0.5	1
14240	Atrazine	1912-24-9	N.D.	2	5	1
14240	Benzaldehyde	100-52-7	N.D.	3	10	1
14240	Benzo(a)anthracene	56-55-3	N.D.	0.1	0.5	1
14240	Benzo(a)pyrene	50-32-8	N.D.	0.1	0.5	1
14240	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	0.5	1
14240	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	0.5	1
14240	Benzo(k)fluoranthene	207-08-9	N.D.	0.1	0.5	1
14240	1,1'-Biphenyl	92-52-4	N.D.	3	10	1
14240	4-Bromophenyl-phenylether	101-55-3	N.D.	0.5	2	1
14240	Butylbenzylphthalate	85-68-7	N.D.	2	5	1
14240	Di-n-butylphthalate	84-74-2	N.D.	2	5	1
14240	Caprolactam	105-60-2	N.D. Q1	5	11	1
14240	Carbazole	86-74-8	N.D.	0.5	2	1
14240	4-Chloro-3-methylphenol	59-50-7	N.D.	0.5	2	1
14240	4-Chloroaniline	106-47-8	N.D.	4	10	1
14240	bis(2-Chloroethoxy)methane	111-91-1	N.D.	0.5	2	1
14240	bis(2-Chloroethyl)ether	111-44-4	N.D.	0.5	2	1
14240	2-Chloronaphthalene	91-58-7	N.D.	0.4	1	1
14240	2-Chlorophenol	95-57-8	N.D.	0.5	2	1
14240	4-Chlorophenyl-phenylether	7005-72-3	N.D.	0.5	2	1
14240	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	0.5	2	1
Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.						
14240	Chrysene	218-01-9	N.D.	0.1	0.5	1
14240	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	0.5	1
14240	Dibenzofuran	132-64-9	N.D.	0.5	2	1
14240	3,3'-Dichlorobenzidine	91-94-1	N.D.	3	10	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP06-W001 Grab Groundwater
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: WW 9925840
ELLE Group #: 2015487
Matrix: Groundwater

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 13:45

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles		SW-846 8270C	ug/l	ug/l	ug/l	
14240	2,4-Dichlorophenol	120-83-2	N.D.	0.5	2	1
14240	Diethylphthalate	84-66-2	N.D. Q0	2	5	1
14240	2,4-Dimethylphenol	105-67-9	N.D.	3	10	1
14240	Dimethylphthalate	131-11-3	N.D.	2	5	1
14240	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	8	22	1
14240	2,4-Dinitrophenol	51-28-5	N.D.	14	31	1
14240	2,4-Dinitrotoluene	121-14-2	N.D.	1	5	1
14240	2,6-Dinitrotoluene	606-20-2	N.D.	0.5	2	1
14240	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	5	11	1
14240	Fluoranthene	206-44-0	N.D.	0.1	0.5	1
14240	Fluorene	86-73-7	N.D.	0.1	0.5	1
14240	Hexachlorobenzene	118-74-1	N.D.	0.1	0.5	1
14240	Hexachlorobutadiene	87-68-3	N.D.	0.5	2	1
14240	Hexachlorocyclopentadiene	77-47-4	N.D.	5	11	1
14240	Hexachloroethane	67-72-1	N.D.	1	5	1
14240	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	0.5	1
14240	Isophorone	78-59-1	N.D.	0.5	2	1
14240	2-Methylnaphthalene	91-57-6	N.D.	0.1	0.5	1
14240	2-Methylphenol	95-48-7	N.D.	0.5	2	1
14240	4-Methylphenol	106-44-5	N.D.	0.5	2	1
3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.						
14240	Naphthalene	91-20-3	N.D.	0.1	0.5	1
14240	2-Nitroaniline	88-74-4	N.D.	2	5	1
14240	3-Nitroaniline	99-09-2	N.D.	3	7	1
14240	4-Nitroaniline	100-01-6	N.D.	0.9	3	1
14240	Nitrobenzene	98-95-3	N.D.	0.5	2	1
14240	2-Nitrophenol	88-75-5	N.D.	3	10	1
14240	4-Nitrophenol	100-02-7	N.D.	10	31	1
14240	N-Nitroso-di-n-propylamine	621-64-7	N.D.	0.7	3	1
14240	N-Nitrosodiphenylamine	86-30-6	N.D.	0.7	3	1
N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.						
14240	Di-n-octylphthalate	117-84-0	N.D.	5	11	1
14240	Pentachlorophenol	87-86-5	N.D.	1	5	1
14240	Phenanthrene	85-01-8	N.D.	0.1	0.5	1
14240	Phenol	108-95-2	N.D.	0.5	2	1
14240	Pyrene	129-00-0	N.D.	0.1	0.5	1
14240	2,4,5-Trichlorophenol	95-95-4	N.D.	0.5	2	1
14240	2,4,6-Trichlorophenol	88-06-2	N.D.	0.5	2	1

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP06-W001 Grab Groundwater
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: WW 9925840
ELLE Group #: 2015487
Matrix: Groundwater

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 13:45

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
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the TNI/DoD Standards. The following analytes are accepted based on this allowance: Diethylphthalate

The recovery for Caprolactam in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. Since the recovery is high and the target analyte(s) was not detected in the sample, the data is reported.

The holding time was not met. The client was notified and the data reported.

PCBs		SW-846 8082	ug/l	ug/l	ug/l	
10227	PCB-1016	12674-11-2	N.D. D1 Q0	0.10	0.52	1
10227	PCB-1221	11104-28-2	N.D. D1	0.10	0.52	1
10227	PCB-1232	11141-16-5	N.D. D1	0.21	0.52	1
10227	PCB-1242	53469-21-9	N.D. D1	0.10	0.52	1
10227	PCB-1248	12672-29-6	N.D. D1	0.10	0.52	1
10227	PCB-1254	11097-69-1	N.D. D1	0.10	0.52	1
10227	PCB-1260	11096-82-5	N.D. D1 Q0	0.15	0.52	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. Sufficient sample was not available to repeat the analysis.

Metals Dissolved		SW-846 6010B	mg/l	mg/l	mg/l	
07044	Antimony	7440-36-0	N.D.	0.0100	0.0500	1
07035	Arsenic	7440-38-2	N.D.	0.0160	0.0500	1
07047	Beryllium	7440-41-7	N.D.	0.0010	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.0010	0.0050	1
07051	Chromium	7440-47-3	N.D.	0.0053	0.0150	1
07053	Copper	7440-50-8	N.D.	0.0062	0.0200	1
07055	Lead	7439-92-1	N.D.	0.0071	0.0150	1
07061	Nickel	7440-02-0	N.D.	0.0031	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0210	0.0500	1
07066	Silver	7440-22-4	N.D.	0.0050	0.0100	1
07022	Thallium	7440-28-0	N.D.	0.0140	0.0300	1
07072	Zinc	7440-66-6	N.D.	0.0030	0.0200	1

		SW-846 7470A	mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	N.D.	0.000050	0.00020	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.
This sample was field filtered for dissolved metals.

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP06-W001 Grab Groundwater
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: WW 9925840
ELLE Group #: 2015487
Matrix: Groundwater

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 13:45

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs- 5ml Water by 8260B	SW-846 8260B	1	Y183412AA	12/08/2018 00:53	Kevin D Kelly	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y183412AA	12/08/2018 00:52	Kevin D Kelly	1
14240	TCL SW846 8270C MINI	SW-846 8270C	1	18346WAZ026	12/20/2018 18:24	Kira N Beck	1
00813	BNA Water Extraction	SW-846 3510C	2	18346WAZ026	12/13/2018 08:00	David S Schrum	1
10227	PCBs in Water	SW-846 8082	1	183410047A	12/10/2018 19:25	Kirby B Turner	1
11117	PCB Waters Extraction	SW-846 3510C	1	183410047A	12/09/2018 14:20	Christine E Gleim	1
07044	Antimony	SW-846 6010B	1	183401404407	12/13/2018 22:11	Elaine F Stoltzfus	1
07035	Arsenic	SW-846 6010B	1	183401404407	12/13/2018 22:11	Elaine F Stoltzfus	1
07047	Beryllium	SW-846 6010B	1	183401404407	12/13/2018 22:11	Elaine F Stoltzfus	1
07049	Cadmium	SW-846 6010B	1	183401404407	12/13/2018 22:11	Elaine F Stoltzfus	1
07051	Chromium	SW-846 6010B	1	183401404407	12/13/2018 22:11	Elaine F Stoltzfus	1
07053	Copper	SW-846 6010B	1	183401404407	12/13/2018 22:11	Elaine F Stoltzfus	1
07055	Lead	SW-846 6010B	1	183401404407	12/13/2018 22:11	Elaine F Stoltzfus	1
07061	Nickel	SW-846 6010B	1	183401404407	12/13/2018 22:11	Elaine F Stoltzfus	1
07036	Selenium	SW-846 6010B	1	183401404407	12/13/2018 22:11	Elaine F Stoltzfus	1
07066	Silver	SW-846 6010B	1	183401404407	12/13/2018 22:11	Elaine F Stoltzfus	1
07022	Thallium	SW-846 6010B	1	183401404407	12/13/2018 22:11	Elaine F Stoltzfus	1
07072	Zinc	SW-846 6010B	1	183401404407	12/13/2018 22:11	Elaine F Stoltzfus	1
00259	Mercury	SW-846 7470A	1	183410571310	12/08/2018 10:16	Damary Valentin	1
14044	ICP-WW, 3005A (tot rec) - U345	SW-846 3005A	1	183401404407	12/07/2018 03:14	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	183410571310	12/07/2018 21:30	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP06-W101 Grab Groundwater
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: WW 9925841
ELLE Group #: 2015487
Matrix: Groundwater

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 13:46

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles			ug/l	ug/l	ug/l	
	SW-846 8260B					
10335	Acetone	67-64-1	N.D.	0.8	20	1
10335	Benzene	71-43-2	N.D.	0.2	1	1
10335	Bromodichloromethane	75-27-4	N.D.	0.2	1	1
10335	Bromoform	75-25-2	N.D.	2	5	1
10335	Bromomethane	74-83-9	N.D.	0.5	1	1
10335	2-Butanone	78-93-3	N.D.	1	10	1
10335	Carbon Disulfide	75-15-0	N.D.	0.3	5	1
10335	Carbon Tetrachloride	56-23-5	N.D.	0.2	1	1
10335	Chlorobenzene	108-90-7	N.D.	0.2	1	1
10335	Chloroethane	75-00-3	N.D.	0.3	1	1
10335	Chloroform	67-66-3	N.D.	0.2	1	1
10335	Chloromethane	74-87-3	N.D.	0.3	1	1
10335	Cyclohexane	110-82-7	N.D.	2	5	1
10335	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	1	5	1
10335	Dibromochloromethane	124-48-1	N.D.	0.4	1	1
10335	1,2-Dibromoethane	106-93-4	N.D.	0.3	1	1
10335	1,2-Dichlorobenzene	95-50-1	N.D.	0.2	5	1
10335	1,3-Dichlorobenzene	541-73-1	N.D.	0.2	5	1
10335	1,4-Dichlorobenzene	106-46-7	N.D.	0.2	5	1
10335	Dichlorodifluoromethane	75-71-8	N.D.	0.3	1	1
10335	1,1-Dichloroethane	75-34-3	N.D.	0.2	1	1
10335	1,2-Dichloroethane	107-06-2	N.D.	2	5	1
10335	1,1-Dichloroethene	75-35-4	N.D.	0.2	1	1
10335	cis-1,2-Dichloroethene	156-59-2	N.D.	0.2	1	1
10335	trans-1,2-Dichloroethene	156-60-5	N.D.	0.2	1	1
10335	1,2-Dichloropropane	78-87-5	N.D.	0.2	1	1
10335	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.2	1	1
10335	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.2	1	1
10335	Ethylbenzene	100-41-4	N.D.	0.2	1	1
10335	Freon 113	76-13-1	N.D.	2	10	1
10335	2-Hexanone	591-78-6	N.D.	3	10	1
10335	Isopropylbenzene	98-82-8	N.D.	0.3	5	1
10335	Methyl Acetate	79-20-9	N.D.	0.6	5	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.2	1	1
10335	4-Methyl-2-pentanone	108-10-1	N.D.	0.5	10	1
10335	Methylcyclohexane	108-87-2	N.D.	0.2	5	1
10335	Methylene Chloride	75-09-2	N.D.	0.2	1	1
10335	Styrene	100-42-5	N.D.	0.2	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	N.D. Q1	0.2	1	1
10335	Tetrachloroethene	127-18-4	N.D.	0.2	1	1
10335	Toluene	108-88-3	N.D.	0.2	1	1
10335	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.4	5	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP06-W101 Grab Groundwater
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: WW 9925841
ELLE Group #: 2015487
Matrix: Groundwater

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 13:46

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10335	1,1,1-Trichloroethane	71-55-6	N.D.	0.2	1	1
10335	1,1,2-Trichloroethane	79-00-5	N.D.	0.2	1	1
10335	Trichloroethene	79-01-6	N.D.	0.2	1	1
10335	Trichlorofluoromethane	75-69-4	N.D.	0.4	1	1
10335	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.3	5	1
10335	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.3	5	1
10335	Vinyl Chloride	75-01-4	N.D.	0.4	1	1
10335	Xylene (Total)	1330-20-7	N.D.	0.5	5	1
GC/MS Semivolatiles		SW-846 8270C	ug/l	ug/l	ug/l	
14240	Acenaphthene	83-32-9	N.D.	0.1	0.5	1
14240	Acenaphthylene	208-96-8	N.D.	0.1	0.5	1
14240	Acetophenone	98-86-2	N.D.	4	10	1
14240	Anthracene	120-12-7	N.D.	0.1	0.5	1
14240	Atrazine	1912-24-9	N.D.	2	5	1
14240	Benzaldehyde	100-52-7	N.D.	3	10	1
14240	Benzo(a)anthracene	56-55-3	N.D.	0.1	0.5	1
14240	Benzo(a)pyrene	50-32-8	N.D.	0.1	0.5	1
14240	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	0.5	1
14240	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	0.5	1
14240	Benzo(k)fluoranthene	207-08-9	N.D.	0.1	0.5	1
14240	1,1'-Biphenyl	92-52-4	N.D.	3	10	1
14240	4-Bromophenyl-phenylether	101-55-3	N.D.	0.5	2	1
14240	Butylbenzylphthalate	85-68-7	N.D.	2	5	1
14240	Di-n-butylphthalate	84-74-2	N.D.	2	5	1
14240	Caprolactam	105-60-2	N.D. Q1	5	11	1
14240	Carbazole	86-74-8	N.D.	0.5	2	1
14240	4-Chloro-3-methylphenol	59-50-7	N.D.	0.5	2	1
14240	4-Chloroaniline	106-47-8	N.D.	4	10	1
14240	bis(2-Chloroethoxy)methane	111-91-1	N.D.	0.5	2	1
14240	bis(2-Chloroethyl)ether	111-44-4	N.D.	0.5	2	1
14240	2-Chloronaphthalene	91-58-7	N.D.	0.4	1	1
14240	2-Chlorophenol	95-57-8	N.D.	0.5	2	1
14240	4-Chlorophenyl-phenylether	7005-72-3	N.D.	0.5	2	1
14240	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	0.5	2	1
Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.						
14240	Chrysene	218-01-9	N.D.	0.1	0.5	1
14240	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	0.5	1
14240	Dibenzofuran	132-64-9	N.D.	0.5	2	1
14240	3,3'-Dichlorobenzidine	91-94-1	N.D.	3	10	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP06-W101 Grab Groundwater
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: WW 9925841
ELLE Group #: 2015487
Matrix: Groundwater

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 13:46

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles		SW-846 8270C	ug/l	ug/l	ug/l	
14240	2,4-Dichlorophenol	120-83-2	N.D.	0.5	2	1
14240	Diethylphthalate	84-66-2	N.D. Q0	2	5	1
14240	2,4-Dimethylphenol	105-67-9	N.D.	3	10	1
14240	Dimethylphthalate	131-11-3	N.D.	2	5	1
14240	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	8	21	1
14240	2,4-Dinitrophenol	51-28-5	N.D.	14	30	1
14240	2,4-Dinitrotoluene	121-14-2	N.D.	1	5	1
14240	2,6-Dinitrotoluene	606-20-2	N.D.	0.5	2	1
14240	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	5	11	1
14240	Fluoranthene	206-44-0	N.D.	0.1	0.5	1
14240	Fluorene	86-73-7	N.D.	0.1	0.5	1
14240	Hexachlorobenzene	118-74-1	N.D.	0.1	0.5	1
14240	Hexachlorobutadiene	87-68-3	N.D.	0.5	2	1
14240	Hexachlorocyclopentadiene	77-47-4	N.D.	5	11	1
14240	Hexachloroethane	67-72-1	N.D.	1	5	1
14240	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	0.5	1
14240	Isophorone	78-59-1	N.D.	0.5	2	1
14240	2-Methylnaphthalene	91-57-6	N.D.	0.1	0.5	1
14240	2-Methylphenol	95-48-7	N.D.	0.5	2	1
14240	4-Methylphenol	106-44-5	N.D.	0.5	2	1
3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.						
14240	Naphthalene	91-20-3	N.D.	0.1	0.5	1
14240	2-Nitroaniline	88-74-4	N.D.	2	5	1
14240	3-Nitroaniline	99-09-2	N.D.	3	7	1
14240	4-Nitroaniline	100-01-6	N.D.	0.9	3	1
14240	Nitrobenzene	98-95-3	N.D.	0.5	2	1
14240	2-Nitrophenol	88-75-5	N.D.	3	10	1
14240	4-Nitrophenol	100-02-7	N.D.	10	30	1
14240	N-Nitroso-di-n-propylamine	621-64-7	N.D.	0.7	3	1
14240	N-Nitrosodiphenylamine	86-30-6	N.D.	0.7	3	1
N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.						
14240	Di-n-octylphthalate	117-84-0	N.D.	5	11	1
14240	Pentachlorophenol	87-86-5	N.D.	1	5	1
14240	Phenanthrene	85-01-8	N.D.	0.1	0.5	1
14240	Phenol	108-95-2	N.D.	0.5	2	1
14240	Pyrene	129-00-0	N.D.	0.1	0.5	1
14240	2,4,5-Trichlorophenol	95-95-4	N.D.	0.5	2	1
14240	2,4,6-Trichlorophenol	88-06-2	N.D.	0.5	2	1

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP06-W101 Grab Groundwater
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: WW 9925841
ELLE Group #: 2015487
Matrix: Groundwater

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 13:46

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
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the TNI/DoD Standards. The following analytes are accepted based on this allowance: Diethylphthalate

The recovery for Caprolactam in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. Since the recovery is high and the target analyte(s) was not detected in the sample, the data is reported.

The holding time was not met. The client was notified and the data reported.

PCBs		SW-846 8082	ug/l	ug/l	ug/l	
10227	PCB-1016	12674-11-2	N.D. D1 Q0	0.10	0.51	1
10227	PCB-1221	11104-28-2	N.D. D1	0.10	0.51	1
10227	PCB-1232	11141-16-5	N.D. D1	0.20	0.51	1
10227	PCB-1242	53469-21-9	N.D. D1	0.10	0.51	1
10227	PCB-1248	12672-29-6	N.D. D1	0.10	0.51	1
10227	PCB-1254	11097-69-1	N.D. D1	0.10	0.51	1
10227	PCB-1260	11096-82-5	N.D. D1 Q0	0.15	0.51	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. Sufficient sample was not available to repeat the analysis.

Metals Dissolved		SW-846 6010B	mg/l	mg/l	mg/l	
07044	Antimony	7440-36-0	N.D.	0.0100	0.0500	1
07035	Arsenic	7440-38-2	N.D.	0.0160	0.0500	1
07047	Beryllium	7440-41-7	N.D.	0.0010	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.0010	0.0050	1
07051	Chromium	7440-47-3	N.D.	0.0053	0.0150	1
07053	Copper	7440-50-8	N.D.	0.0062	0.0200	1
07055	Lead	7439-92-1	N.D.	0.0071	0.0150	1
07061	Nickel	7440-02-0	N.D.	0.0031	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0210	0.0500	1
07066	Silver	7440-22-4	N.D.	0.0050	0.0100	1
07022	Thallium	7440-28-0	N.D.	0.0140	0.0300	1
07072	Zinc	7440-66-6	N.D.	0.0030	0.0200	1

		SW-846 7470A	mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	N.D.	0.000050	0.00020	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.
This sample was field filtered for dissolved metals.

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP06-W101 Grab Groundwater
I-80 Perfection Shoe Co.

Brightfields, Inc.
ELLE Sample #: WW 9925841
ELLE Group #: 2015487
Matrix: Groundwater

Project Name: I-80 Perfection Shoe Company

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 13:46

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs- 5ml Water by 8260B	SW-846 8260B	1	Y183412AA	12/08/2018 01:15	Kevin D Kelly	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y183412AA	12/08/2018 01:14	Kevin D Kelly	1
14240	TCL SW846 8270C MINI	SW-846 8270C	1	18346WAZ026	12/20/2018 18:53	Kira N Beck	1
00813	BNA Water Extraction	SW-846 3510C	2	18346WAZ026	12/13/2018 08:00	David S Schrum	1
10227	PCBs in Water	SW-846 8082	1	183410047A	12/10/2018 19:36	Kirby B Turner	1
11117	PCB Waters Extraction	SW-846 3510C	1	183410047A	12/09/2018 14:20	Christine E Gleim	1
07044	Antimony	SW-846 6010B	1	183401404407	12/13/2018 22:14	Elaine F Stoltzfus	1
07035	Arsenic	SW-846 6010B	1	183401404407	12/13/2018 22:14	Elaine F Stoltzfus	1
07047	Beryllium	SW-846 6010B	1	183401404407	12/13/2018 22:14	Elaine F Stoltzfus	1
07049	Cadmium	SW-846 6010B	1	183401404407	12/13/2018 22:14	Elaine F Stoltzfus	1
07051	Chromium	SW-846 6010B	1	183401404407	12/13/2018 22:14	Elaine F Stoltzfus	1
07053	Copper	SW-846 6010B	1	183401404407	12/13/2018 22:14	Elaine F Stoltzfus	1
07055	Lead	SW-846 6010B	1	183401404407	12/13/2018 22:14	Elaine F Stoltzfus	1
07061	Nickel	SW-846 6010B	1	183401404407	12/13/2018 22:14	Elaine F Stoltzfus	1
07036	Selenium	SW-846 6010B	1	183401404407	12/13/2018 22:14	Elaine F Stoltzfus	1
07066	Silver	SW-846 6010B	1	183401404407	12/13/2018 22:14	Elaine F Stoltzfus	1
07022	Thallium	SW-846 6010B	1	183401404407	12/13/2018 22:14	Elaine F Stoltzfus	1
07072	Zinc	SW-846 6010B	1	183401404407	12/13/2018 22:14	Elaine F Stoltzfus	1
00259	Mercury	SW-846 7470A	1	183410571310	12/08/2018 10:23	Damary Valentin	1
14044	ICP-WW, 3005A (tot rec) - U345	SW-846 3005A	1	183401404407	12/07/2018 03:14	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	183410571310	12/07/2018 21:30	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP06-W201 Grab Water
I-80 Perfection Shoe Co.

Project Name: I-80 Perfection Shoe Company

Brightfields, Inc.
ELLE Sample #: WW 9925842
ELLE Group #: 2015487
Matrix: Water

Submittal Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 13:50

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10335	Acetone	67-64-1	N.D.	0.8	20	1
10335	Benzene	71-43-2	N.D.	0.2	1	1
10335	Bromodichloromethane	75-27-4	N.D.	0.2	1	1
10335	Bromoform	75-25-2	N.D.	2	5	1
10335	Bromomethane	74-83-9	N.D.	0.5	1	1
10335	2-Butanone	78-93-3	N.D.	1	10	1
10335	Carbon Disulfide	75-15-0	N.D.	0.3	5	1
10335	Carbon Tetrachloride	56-23-5	N.D.	0.2	1	1
10335	Chlorobenzene	108-90-7	N.D.	0.2	1	1
10335	Chloroethane	75-00-3	N.D.	0.3	1	1
10335	Chloroform	67-66-3	0.4 J	0.2	1	1
10335	Chloromethane	74-87-3	N.D.	0.3	1	1
10335	Cyclohexane	110-82-7	N.D.	2	5	1
10335	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	1	5	1
10335	Dibromochloromethane	124-48-1	N.D.	0.4	1	1
10335	1,2-Dibromoethane	106-93-4	N.D.	0.3	1	1
10335	1,2-Dichlorobenzene	95-50-1	N.D.	0.2	5	1
10335	1,3-Dichlorobenzene	541-73-1	N.D.	0.2	5	1
10335	1,4-Dichlorobenzene	106-46-7	N.D.	0.2	5	1
10335	Dichlorodifluoromethane	75-71-8	N.D.	0.3	1	1
10335	1,1-Dichloroethane	75-34-3	N.D.	0.2	1	1
10335	1,2-Dichloroethane	107-06-2	N.D.	2	5	1
10335	1,1-Dichloroethene	75-35-4	N.D.	0.2	1	1
10335	cis-1,2-Dichloroethene	156-59-2	N.D.	0.2	1	1
10335	trans-1,2-Dichloroethene	156-60-5	N.D.	0.2	1	1
10335	1,2-Dichloropropane	78-87-5	N.D.	0.2	1	1
10335	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.2	1	1
10335	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.2	1	1
10335	Ethylbenzene	100-41-4	N.D.	0.2	1	1
10335	Freon 113	76-13-1	N.D.	2	10	1
10335	2-Hexanone	591-78-6	N.D.	3	10	1
10335	Isopropylbenzene	98-82-8	N.D.	0.3	5	1
10335	Methyl Acetate	79-20-9	N.D.	0.6	5	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.2	1	1
10335	4-Methyl-2-pentanone	108-10-1	N.D.	0.5	10	1
10335	Methylcyclohexane	108-87-2	N.D.	0.2	5	1
10335	Methylene Chloride	75-09-2	N.D.	0.2	1	1
10335	Styrene	100-42-5	N.D.	0.2	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	N.D. Q1	0.2	1	1
10335	Tetrachloroethene	127-18-4	N.D.	0.2	1	1
10335	Toluene	108-88-3	N.D.	0.2	1	1
10335	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.4	5	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP06-W201 Grab Water
I-80 Perfection Shoe Co.

Project Name: I-80 Perfection Shoe Company

Brightfields, Inc.
ELLE Sample #: WW 9925842
ELLE Group #: 2015487
Matrix: Water

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 13:50

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10335	1,1,1-Trichloroethane	71-55-6	N.D.	0.2	1	1
10335	1,1,2-Trichloroethane	79-00-5	N.D.	0.2	1	1
10335	Trichloroethene	79-01-6	N.D.	0.2	1	1
10335	Trichlorofluoromethane	75-69-4	N.D.	0.4	1	1
10335	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.3	5	1
10335	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.3	5	1
10335	Vinyl Chloride	75-01-4	N.D.	0.4	1	1
10335	Xylene (Total)	1330-20-7	N.D.	0.5	5	1
GC/MS Semivolatiles		SW-846 8270C	ug/l	ug/l	ug/l	
14240	Acenaphthene	83-32-9	N.D.	0.1	0.5	1
14240	Acenaphthylene	208-96-8	N.D.	0.1	0.5	1
14240	Acetophenone	98-86-2	N.D.	4	10	1
14240	Anthracene	120-12-7	N.D.	0.1	0.5	1
14240	Atrazine	1912-24-9	N.D.	2	5	1
14240	Benzaldehyde	100-52-7	N.D.	3	10	1
14240	Benzo(a)anthracene	56-55-3	N.D.	0.1	0.5	1
14240	Benzo(a)pyrene	50-32-8	N.D.	0.1	0.5	1
14240	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	0.5	1
14240	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	0.5	1
14240	Benzo(k)fluoranthene	207-08-9	N.D.	0.1	0.5	1
14240	1,1'-Biphenyl	92-52-4	N.D.	3	10	1
14240	4-Bromophenyl-phenylether	101-55-3	N.D.	0.5	2	1
14240	Butylbenzylphthalate	85-68-7	N.D.	2	5	1
14240	Di-n-butylphthalate	84-74-2	N.D.	2	5	1
14240	Caprolactam	105-60-2	N.D. Q1	5	12	1
14240	Carbazole	86-74-8	N.D.	0.5	2	1
14240	4-Chloro-3-methylphenol	59-50-7	N.D.	0.5	2	1
14240	4-Chloroaniline	106-47-8	N.D.	4	10	1
14240	bis(2-Chloroethoxy)methane	111-91-1	N.D.	0.5	2	1
14240	bis(2-Chloroethyl)ether	111-44-4	N.D.	0.5	2	1
14240	2-Chloronaphthalene	91-58-7	N.D.	0.4	1	1
14240	2-Chlorophenol	95-57-8	N.D.	0.5	2	1
14240	4-Chlorophenyl-phenylether	7005-72-3	N.D.	0.5	2	1
14240	2,2'-oxybis(1-Chloropropane)	108-60-1	N.D.	0.5	2	1
Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.						
14240	Chrysene	218-01-9	N.D.	0.1	0.5	1
14240	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	0.5	1
14240	Dibenzofuran	132-64-9	N.D.	0.5	2	1
14240	3,3'-Dichlorobenzidine	91-94-1	N.D.	3	10	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP06-W201 Grab Water
I-80 Perfection Shoe Co.

Project Name: I-80 Perfection Shoe Company

Brightfields, Inc.
ELLE Sample #: WW 9925842
ELLE Group #: 2015487
Matrix: Water

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 13:50

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles		SW-846 8270C	ug/l	ug/l	ug/l	
14240	2,4-Dichlorophenol	120-83-2	N.D.	0.5	2	1
14240	Diethylphthalate	84-66-2	N.D. Q0	2	5	1
14240	2,4-Dimethylphenol	105-67-9	N.D.	3	10	1
14240	Dimethylphthalate	131-11-3	N.D.	2	5	1
14240	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	8	22	1
14240	2,4-Dinitrophenol	51-28-5	N.D.	15	31	1
14240	2,4-Dinitrotoluene	121-14-2	N.D.	1	5	1
14240	2,6-Dinitrotoluene	606-20-2	N.D.	0.5	2	1
14240	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	5	12	1
14240	Fluoranthene	206-44-0	N.D.	0.1	0.5	1
14240	Fluorene	86-73-7	N.D.	0.1	0.5	1
14240	Hexachlorobenzene	118-74-1	N.D.	0.1	0.5	1
14240	Hexachlorobutadiene	87-68-3	N.D.	0.5	2	1
14240	Hexachlorocyclopentadiene	77-47-4	N.D.	5	12	1
14240	Hexachloroethane	67-72-1	N.D.	1	5	1
14240	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	0.5	1
14240	Isophorone	78-59-1	N.D.	0.5	2	1
14240	2-Methylnaphthalene	91-57-6	N.D.	0.1	0.5	1
14240	2-Methylphenol	95-48-7	N.D.	0.5	2	1
14240	4-Methylphenol	106-44-5	N.D.	0.5	2	1
3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.						
14240	Naphthalene	91-20-3	N.D.	0.1	0.5	1
14240	2-Nitroaniline	88-74-4	N.D.	2	5	1
14240	3-Nitroaniline	99-09-2	N.D.	3	7	1
14240	4-Nitroaniline	100-01-6	N.D.	0.9	3	1
14240	Nitrobenzene	98-95-3	N.D.	0.5	2	1
14240	2-Nitrophenol	88-75-5	N.D.	3	10	1
14240	4-Nitrophenol	100-02-7	N.D.	10	31	1
14240	N-Nitroso-di-n-propylamine	621-64-7	N.D.	0.7	3	1
14240	N-Nitrosodiphenylamine	86-30-6	N.D.	0.7	3	1
N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.						
14240	Di-n-octylphthalate	117-84-0	N.D.	5	12	1
14240	Pentachlorophenol	87-86-5	N.D.	1	5	1
14240	Phenanthrene	85-01-8	N.D.	0.1	0.5	1
14240	Phenol	108-95-2	N.D.	0.5	2	1
14240	Pyrene	129-00-0	N.D.	0.1	0.5	1
14240	2,4,5-Trichlorophenol	95-95-4	N.D.	0.5	2	1
14240	2,4,6-Trichlorophenol	88-06-2	N.D.	0.5	2	1

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP06-W201 Grab Water
I-80 Perfection Shoe Co.

Project Name: I-80 Perfection Shoe Company

Brightfields, Inc.
ELLE Sample #: WW 9925842
ELLE Group #: 2015487
Matrix: Water

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 13:50

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
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the TNI/DoD Standards. The following analytes are accepted based on this allowance: Diethylphthalate

The recovery for Caprolactam in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. Since the recovery is high and the target analyte(s) was not detected in the sample, the data is reported.

The holding time was not met. The client was notified and the data reported.

PCBs		SW-846 8082	ug/l	ug/l	ug/l	
10227	PCB-1016	12674-11-2	N.D. D1 Q0	0.10	0.52	1
10227	PCB-1221	11104-28-2	N.D. D1	0.10	0.52	1
10227	PCB-1232	11141-16-5	N.D. D1	0.21	0.52	1
10227	PCB-1242	53469-21-9	N.D. D1	0.10	0.52	1
10227	PCB-1248	12672-29-6	N.D. D1	0.10	0.52	1
10227	PCB-1254	11097-69-1	N.D. D1	0.10	0.52	1
10227	PCB-1260	11096-82-5	N.D. D1 Q0	0.16	0.52	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. Sufficient sample was not available to repeat the analysis.

Metals Dissolved		SW-846 6010B	mg/l	mg/l	mg/l	
07044	Antimony	7440-36-0	N.D.	0.0100	0.0500	1
07035	Arsenic	7440-38-2	N.D.	0.0160	0.0500	1
07047	Beryllium	7440-41-7	N.D.	0.0010	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.0010	0.0050	1
07051	Chromium	7440-47-3	N.D.	0.0053	0.0150	1
07053	Copper	7440-50-8	N.D.	0.0062	0.0200	1
07055	Lead	7439-92-1	N.D.	0.0071	0.0150	1
07061	Nickel	7440-02-0	N.D.	0.0031	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0210	0.0500	1
07066	Silver	7440-22-4	N.D.	0.0050	0.0100	1
07022	Thallium	7440-28-0	N.D.	0.0140	0.0300	1
07072	Zinc	7440-66-6	N.D.	0.0030	0.0200	1

		SW-846 7470A	mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	N.D.	0.000050	0.00020	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.
This sample was field filtered for dissolved metals.

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP06-W201 Grab Water
I-80 Perfection Shoe Co.

Project Name: I-80 Perfection Shoe Company

Brightfields, Inc.
ELLE Sample #: WW 9925842
ELLE Group #: 2015487
Matrix: Water

Submittal Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 13:50

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs- 5ml Water by 8260B	SW-846 8260B	1	Y183412AA	12/07/2018 21:36	Kevin D Kelly	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y183412AA	12/07/2018 21:35	Kevin D Kelly	1
14240	TCL SW846 8270C MINI	SW-846 8270C	1	18346WAZ026	12/20/2018 19:23	Kira N Beck	1
00813	BNA Water Extraction	SW-846 3510C	2	18346WAZ026	12/13/2018 08:00	David S Schrum	1
10227	PCBs in Water	SW-846 8082	1	183410047A	12/10/2018 19:46	Kirby B Turner	1
11117	PCB Waters Extraction	SW-846 3510C	1	183410047A	12/09/2018 14:20	Christine E Gleim	1
07044	Antimony	SW-846 6010B	1	183401404407	12/13/2018 22:17	Elaine F Stoltzfus	1
07035	Arsenic	SW-846 6010B	1	183401404407	12/13/2018 22:17	Elaine F Stoltzfus	1
07047	Beryllium	SW-846 6010B	1	183401404407	12/13/2018 22:17	Elaine F Stoltzfus	1
07049	Cadmium	SW-846 6010B	1	183401404407	12/13/2018 22:17	Elaine F Stoltzfus	1
07051	Chromium	SW-846 6010B	1	183401404407	12/13/2018 22:17	Elaine F Stoltzfus	1
07053	Copper	SW-846 6010B	1	183401404407	12/13/2018 22:17	Elaine F Stoltzfus	1
07055	Lead	SW-846 6010B	1	183401404407	12/13/2018 22:17	Elaine F Stoltzfus	1
07061	Nickel	SW-846 6010B	1	183401404407	12/13/2018 22:17	Elaine F Stoltzfus	1
07036	Selenium	SW-846 6010B	1	183401404407	12/13/2018 22:17	Elaine F Stoltzfus	1
07066	Silver	SW-846 6010B	1	183401404407	12/13/2018 22:17	Elaine F Stoltzfus	1
07022	Thallium	SW-846 6010B	1	183401404407	12/13/2018 22:17	Elaine F Stoltzfus	1
07072	Zinc	SW-846 6010B	1	183401404407	12/13/2018 22:17	Elaine F Stoltzfus	1
00259	Mercury	SW-846 7470A	1	183410571310	12/08/2018 10:25	Damary Valentin	1
14044	ICP-WW, 3005A (tot rec) - U345	SW-846 3005A	1	183401404407	12/07/2018 03:14	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	183410571310	12/07/2018 21:30	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP06-W301 Water
I-80 Perfection Shoe Co.

Project Name: I-80 Perfection Shoe Company

Brightfields, Inc.
ELLE Sample #: WW 9925843
ELLE Group #: 2015487
Matrix: Water

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 13:55

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles			ug/l	ug/l	ug/l	
SW-846 8260B						
10335	Acetone	67-64-1	N.D.	0.8	20	1
10335	Benzene	71-43-2	N.D.	0.2	1	1
10335	Bromodichloromethane	75-27-4	N.D.	0.2	1	1
10335	Bromoform	75-25-2	N.D.	2	5	1
10335	Bromomethane	74-83-9	N.D.	0.5	1	1
10335	2-Butanone	78-93-3	N.D.	1	10	1
10335	Carbon Disulfide	75-15-0	N.D.	0.3	5	1
10335	Carbon Tetrachloride	56-23-5	N.D.	0.2	1	1
10335	Chlorobenzene	108-90-7	N.D.	0.2	1	1
10335	Chloroethane	75-00-3	N.D.	0.3	1	1
10335	Chloroform	67-66-3	N.D.	0.2	1	1
10335	Chloromethane	74-87-3	N.D.	0.3	1	1
10335	Cyclohexane	110-82-7	N.D.	2	5	1
10335	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	1	5	1
10335	Dibromochloromethane	124-48-1	N.D.	0.4	1	1
10335	1,2-Dibromoethane	106-93-4	N.D.	0.3	1	1
10335	1,2-Dichlorobenzene	95-50-1	N.D.	0.2	5	1
10335	1,3-Dichlorobenzene	541-73-1	N.D.	0.2	5	1
10335	1,4-Dichlorobenzene	106-46-7	N.D.	0.2	5	1
10335	Dichlorodifluoromethane	75-71-8	N.D.	0.3	1	1
10335	1,1-Dichloroethane	75-34-3	N.D.	0.2	1	1
10335	1,2-Dichloroethane	107-06-2	N.D.	2	5	1
10335	1,1-Dichloroethene	75-35-4	N.D.	0.2	1	1
10335	cis-1,2-Dichloroethene	156-59-2	N.D.	0.2	1	1
10335	trans-1,2-Dichloroethene	156-60-5	N.D.	0.2	1	1
10335	1,2-Dichloropropane	78-87-5	N.D.	0.2	1	1
10335	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.2	1	1
10335	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.2	1	1
10335	Ethylbenzene	100-41-4	N.D.	0.2	1	1
10335	Freon 113	76-13-1	N.D.	2	10	1
10335	2-Hexanone	591-78-6	N.D.	3	10	1
10335	Isopropylbenzene	98-82-8	N.D.	0.3	5	1
10335	Methyl Acetate	79-20-9	N.D.	0.6	5	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.2	1	1
10335	4-Methyl-2-pentanone	108-10-1	N.D.	0.5	10	1
10335	Methylcyclohexane	108-87-2	N.D.	0.2	5	1
10335	Methylene Chloride	75-09-2	N.D.	0.2	1	1
10335	Styrene	100-42-5	N.D.	0.2	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	N.D. Q1	0.2	1	1
10335	Tetrachloroethene	127-18-4	N.D.	0.2	1	1
10335	Toluene	108-88-3	N.D.	0.2	1	1
10335	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.4	5	1

*=This limit was used in the evaluation of the final result

Sample Description: PSC-GP06-W301 Water
I-80 Perfection Shoe Co.

Project Name: I-80 Perfection Shoe Company

Brightfields, Inc.
ELLE Sample #: WW 9925843
ELLE Group #: 2015487
Matrix: Water

Submission Date/Time: 12/05/2018 18:10
Collection Date/Time: 12/03/2018 13:55

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260B	ug/l	ug/l	ug/l	
10335	1,1,1-Trichloroethane	71-55-6	N.D.	0.2	1	1
10335	1,1,2-Trichloroethane	79-00-5	N.D.	0.2	1	1
10335	Trichloroethene	79-01-6	N.D.	0.2	1	1
10335	Trichlorofluoromethane	75-69-4	N.D.	0.4	1	1
10335	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.3	5	1
10335	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.3	5	1
10335	Vinyl Chloride	75-01-4	N.D.	0.4	1	1
10335	Xylene (Total)	1330-20-7	N.D.	0.5	5	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOCs- 5ml Water by 8260B	SW-846 8260B	1	Y183412AA	12/07/2018 21:58	Kevin D Kelly	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y183412AA	12/07/2018 21:57	Kevin D Kelly	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:39

Group Number: 2015487

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	MDL**	LOQ
	ug/l	ug/l	ug/l
Batch number: Y183412AA	Sample number(s): 9925835-9925837,9925839-9925843		
Acetone	N.D.	0.8	20
Benzene	N.D.	0.2	1
Bromodichloromethane	N.D.	0.2	1
Bromoform	N.D.	2	5
Bromomethane	N.D.	0.5	1
2-Butanone	N.D.	1	10
Carbon Disulfide	N.D.	0.3	5
Carbon Tetrachloride	N.D.	0.2	1
Chlorobenzene	N.D.	0.2	1
Chloroethane	N.D.	0.3	1
Chloroform	N.D.	0.2	1
Chloromethane	N.D.	0.3	1
Cyclohexane	N.D.	2	5
1,2-Dibromo-3-chloropropane	N.D.	1	5
Dibromochloromethane	N.D.	0.4	1
1,2-Dibromoethane	N.D.	0.3	1
1,2-Dichlorobenzene	N.D.	0.2	5
1,3-Dichlorobenzene	N.D.	0.2	5
1,4-Dichlorobenzene	N.D.	0.2	5
Dichlorodifluoromethane	N.D.	0.3	1
1,1-Dichloroethane	N.D.	0.2	1
1,2-Dichloroethane	N.D.	2	5
1,1-Dichloroethene	N.D.	0.2	1
cis-1,2-Dichloroethene	N.D.	0.2	1
trans-1,2-Dichloroethene	N.D.	0.2	1
1,2-Dichloropropane	N.D.	0.2	1
cis-1,3-Dichloropropene	N.D.	0.2	1
trans-1,3-Dichloropropene	N.D.	0.2	1
Ethylbenzene	N.D.	0.2	1
Freon 113	N.D.	2	10
2-Hexanone	N.D.	3	10
Isopropylbenzene	N.D.	0.3	5
Methyl Acetate	N.D.	0.6	5
Methyl Tertiary Butyl Ether	N.D.	0.2	1
4-Methyl-2-pentanone	N.D.	0.5	10
Methylcyclohexane	N.D.	0.2	5
Methylene Chloride	N.D.	0.2	1
Styrene	N.D.	0.2	5
1,1,2,2-Tetrachloroethane	N.D.	0.2	1

*- Outside of specification

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(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:39

Group Number: 2015487

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	ug/l	ug/l	ug/l
Tetrachloroethene	N.D.	0.2	1
Toluene	N.D.	0.2	1
1,2,4-Trichlorobenzene	N.D.	0.4	5
1,1,1-Trichloroethane	N.D.	0.2	1
1,1,2-Trichloroethane	N.D.	0.2	1
Trichloroethene	N.D.	0.2	1
Trichlorofluoromethane	N.D.	0.4	1
1,2,4-Trimethylbenzene	N.D.	0.3	5
1,3,5-Trimethylbenzene	N.D.	0.3	5
Vinyl Chloride	N.D.	0.4	1
Xylene (Total)	N.D.	0.5	5
Batch number: 18346WAZ026	Sample number(s): 9925835-9925837,9925839-9925842		
Acenaphthene	N.D.	0.1	0.5
Acenaphthylene	N.D.	0.1	0.5
Acetophenone	N.D.	4	10
Anthracene	N.D.	0.1	0.5
Atrazine	N.D.	2	5
Benzaldehyde	N.D.	3	10
Benzo(a)anthracene	N.D.	0.1	0.5
Benzo(a)pyrene	N.D.	0.1	0.5
Benzo(b)fluoranthene	N.D.	0.1	0.5
Benzo(g,h,i)perylene	N.D.	0.1	0.5
Benzo(k)fluoranthene	N.D.	0.1	0.5
1,1'-Biphenyl	N.D.	3	10
4-Bromophenyl-phenylether	N.D.	0.5	2
Butylbenzylphthalate	N.D.	2	5
Di-n-butylphthalate	N.D.	2	5
Caprolactam	N.D.	5	11
Carbazole	N.D.	0.5	2
4-Chloro-3-methylphenol	N.D.	0.5	2
4-Chloroaniline	N.D.	4	10
bis(2-Chloroethoxy)methane	N.D.	0.5	2
bis(2-Chloroethyl)ether	N.D.	0.5	2
2-Chloronaphthalene	N.D.	0.4	1
2-Chlorophenol	N.D.	0.5	2
4-Chlorophenyl-phenylether	N.D.	0.5	2
2,2'-oxybis(1-Chloropropane)	N.D.	0.5	2
Chrysene	N.D.	0.1	0.5
Dibenz(a,h)anthracene	N.D.	0.1	0.5
Dibenzofuran	N.D.	0.5	2
3,3'-Dichlorobenzidine	N.D.	3	10
2,4-Dichlorophenol	N.D.	0.5	2
Diethylphthalate	N.D.	2	5
2,4-Dimethylphenol	N.D.	3	10

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:39

Group Number: 2015487

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	ug/l	ug/l	ug/l
Dimethylphthalate	N.D.	2	5
4,6-Dinitro-2-methylphenol	N.D.	8	21
2,4-Dinitrophenol	N.D.	14	30
2,4-Dinitrotoluene	N.D.	1	5
2,6-Dinitrotoluene	N.D.	0.5	2
bis(2-Ethylhexyl)phthalate	N.D.	5	11
Fluoranthene	N.D.	0.1	0.5
Fluorene	N.D.	0.1	0.5
Hexachlorobenzene	N.D.	0.1	0.5
Hexachlorobutadiene	N.D.	0.5	2
Hexachlorocyclopentadiene	N.D.	5	11
Hexachloroethane	N.D.	1	5
Indeno(1,2,3-cd)pyrene	N.D.	0.1	0.5
Isophorone	N.D.	0.5	2
2-Methylnaphthalene	N.D.	0.1	0.5
2-Methylphenol	N.D.	0.5	2
4-Methylphenol	N.D.	0.5	2
Naphthalene	N.D.	0.1	0.5
2-Nitroaniline	N.D.	2	5
3-Nitroaniline	N.D.	3	7
4-Nitroaniline	N.D.	0.9	3
Nitrobenzene	N.D.	0.5	2
2-Nitrophenol	N.D.	3	10
4-Nitrophenol	N.D.	10	30
N-Nitroso-di-n-propylamine	N.D.	0.7	3
N-Nitrosodiphenylamine	N.D.	0.7	3
Di-n-octylphthalate	N.D.	5	11
Pentachlorophenol	N.D.	1	5
Phenanthrene	N.D.	0.1	0.5
Phenol	N.D.	0.5	2
Pyrene	N.D.	0.1	0.5
2,4,5-Trichlorophenol	N.D.	0.5	2
2,4,6-Trichlorophenol	N.D.	0.5	2
Batch number: 183410047A	Sample number(s): 9925835-9925837,9925839-9925842		
PCB-1016	N.D.	0.10	0.50
PCB-1221	N.D.	0.10	0.50
PCB-1232	N.D.	0.20	0.50
PCB-1242	N.D.	0.10	0.50
PCB-1248	N.D.	0.10	0.50
PCB-1254	N.D.	0.10	0.50
PCB-1260	N.D.	0.15	0.50
	mg/l	mg/l	mg/l
Batch number: 183401404407	Sample number(s): 9925835-9925842		
Antimony	N.D.	0.0100	0.0500

*- Outside of specification

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:39

Group Number: 2015487

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	mg/l	mg/l	mg/l
Arsenic	N.D.	0.0160	0.0500
Beryllium	N.D.	0.0010	0.0050
Cadmium	N.D.	0.0010	0.0050
Chromium	N.D.	0.0053	0.0150
Copper	N.D.	0.0062	0.0200
Lead	N.D.	0.0071	0.0150
Nickel	N.D.	0.0031	0.0100
Selenium	N.D.	0.0210	0.0500
Silver	N.D.	0.0050	0.0100
Thallium	N.D.	0.0140	0.0300
Zinc	N.D.	0.0030	0.0200
Batch number: 183410571310	Sample number(s): 9925835-9925842		
Mercury	N.D.	0.000050	0.00020

LCS/LCSD

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: Y183412AA	Sample number(s): 9925835-9925837,9925839-9925843								
Acetone	150	168.15			112		54-157		
Benzene	20	22.49			112		80-120		
Bromodichloromethane	20	20.26			101		71-120		
Bromoform	20	15.33			77		51-120		
Bromomethane	20	14.76			74		53-128		
2-Butanone	150	167.13			111		59-135		
Carbon Disulfide	20	19.92			100		65-128		
Carbon Tetrachloride	20	20.29			101		64-134		
Chlorobenzene	20	21.39			107		80-120		
Chloroethane	20	17.53			88		55-123		
Chloroform	20	21.85			109		80-120		
Chloromethane	20	19.11			96		56-121		
Cyclohexane	20	19.05			95		68-126		
1,2-Dibromo-3-chloropropane	20	21.15			106		47-131		
Dibromochloromethane	20	18.78			94		71-120		
1,2-Dibromoethane	20	20.47			102		77-120		
1,2-Dichlorobenzene	20	21.7			109		80-120		
1,3-Dichlorobenzene	20	21.26			106		80-120		
1,4-Dichlorobenzene	20	21.97			110		80-120		
Dichlorodifluoromethane	20	13.11			66		41-127		
1,1-Dichloroethane	20	23.06			115		80-120		

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:39

Group Number: 2015487

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
1,2-Dichloroethane	20	24.01			120		73-124		
1,1-Dichloroethene	20	21.31			107		80-131		
cis-1,2-Dichloroethene	20	21.94			110		80-120		
trans-1,2-Dichloroethene	20	21.93			110		80-120		
1,2-Dichloropropane	20	23.98			120		80-120		
cis-1,3-Dichloropropene	20	19.92			100		75-120		
trans-1,3-Dichloropropene	20	19.57			98		67-120		
Ethylbenzene	20	21.46			107		80-120		
Freon 113	20	19.37			97		73-139		
2-Hexanone	100	113.59			114		56-135		
Isopropylbenzene	20	20.05			100		80-120		
Methyl Acetate	20	24.27			121		54-136		
Methyl Tertiary Butyl Ether	20	18.72			94		69-122		
4-Methyl-2-pentanone	100	111.13			111		62-133		
Methylcyclohexane	20	15.95			80		67-121		
Methylene Chloride	20	23.17			116		80-120		
Styrene	20	19.43			97		80-120		
1,1,2,2-Tetrachloroethane	20	24.35			122*		72-120		
Tetrachloroethene	20	18.35			92		80-120		
Toluene	20	21.68			108		80-120		
1,2,4-Trichlorobenzene	20	18.88			94		63-120		
1,1,1-Trichloroethane	20	20.6			103		67-126		
1,1,2-Trichloroethane	20	22.36			112		80-120		
Trichloroethene	20	20.89			104		80-120		
Trichlorofluoromethane	20	16.61			83		55-135		
1,2,4-Trimethylbenzene	20	22.08			110		75-120		
1,3,5-Trimethylbenzene	20	21.97			110		75-120		
Vinyl Chloride	20	18.21			91		56-120		
Xylene (Total)	60	61.85			103		80-120		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 18346WAZ026	Sample number(s): 9925835-9925837,9925839-9925842								
Acenaphthene	50	40.23			80		62-119		
Acenaphthylene	50	43.09			86		66-125		
Acetophenone	50	41.66			83		62-114		
Anthracene	50	41.71			83		70-118		
Atrazine	50	48.51			97		71-133		
Benzaldehyde	50	33.02			66		56-117		
Benzo(a)anthracene	50	45.89			92		70-123		
Benzo(a)pyrene	50	44.89			90		71-122		
Benzo(b)fluoranthene	50	44.12			88		70-120		
Benzo(g,h,i)perylene	50	45.97			92		64-119		
Benzo(k)fluoranthene	50	43.93			88		73-122		
1,1'-Biphenyl	50	41.18			82		54-116		

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:39

Group Number: 2015487

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
4-Bromophenyl-phenylether	50	42.6			85		64-119		
Butylbenzylphthalate	50	34.72			69		57-119		
Di-n-butylphthalate	50	40.08			80		71-113		
Caprolactam	50	24.93			50*		13-37		
Carbazole	50	43.07			86		71-128		
4-Chloro-3-methylphenol	50	36.72			73		65-122		
4-Chloroaniline	50	26.77			54		42-110		
bis(2-Chloroethoxy)methane	50	41.44			83		64-119		
bis(2-Chloroethyl)ether	50	38.19			76		60-110		
2-Chloronaphthalene	50	37.49			75		51-114		
2-Chlorophenol	50	38.09			76		58-108		
4-Chlorophenyl-phenylether	50	38.9			78		58-115		
2,2'-oxybis(1-Chloropropane)	50	35.37			71		48-118		
Chrysene	50	45.43			91		71-123		
Dibenz(a,h)anthracene	50	47.58			95		67-123		
Dibenzofuran	50	40.81			82		63-117		
3,3'-Dichlorobenzidine	50	34.59			69		36-116		
2,4-Dichlorophenol	50	41.33			83		65-117		
Diethylphthalate	50	30.24			60*		61-111		
2,4-Dimethylphenol	50	32.89			66		52-106		
Dimethylphthalate	50	18.57			37		37-116		
4,6-Dinitro-2-methylphenol	50	44.21			88		63-129		
2,4-Dinitrophenol	100	93.1			93		26-141		
2,4-Dinitrotoluene	50	38.87			78		69-117		
2,6-Dinitrotoluene	50	41.48			83		69-122		
bis(2-Ethylhexyl)phthalate	50	45.33			91		68-120		
Fluoranthene	50	44.42			89		70-124		
Fluorene	50	42.36			85		62-116		
Hexachlorobenzene	50	42.42			85		65-121		
Hexachlorobutadiene	50	36.73			73		21-114		
Hexachlorocyclopentadiene	100	55.6			56		10-117		
Hexachloroethane	50	31.1			62		24-100		
Indeno(1,2,3-cd)pyrene	50	46.16			92		61-121		
Isophorone	50	42.82			86		65-123		
2-Methylnaphthalene	50	40.1			80		51-112		
2-Methylphenol	50	37.5			75		59-109		
4-Methylphenol	50	35.91			72		56-108		
Naphthalene	50	37.59			75		54-107		
2-Nitroaniline	50	42.98			86		66-126		
3-Nitroaniline	50	34.22			68		51-120		
4-Nitroaniline	50	33.55			67		53-111		
Nitrobenzene	50	38.86			78		59-117		
2-Nitrophenol	50	42.04			84		63-121		
4-Nitrophenol	50	27.15			54		28-88		

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:39

Group Number: 2015487

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
N-Nitroso-di-n-propylamine	50	40.96			82		61-118		
N-Nitrosodiphenylamine	50	43.17			86		68-122		
Di-n-octylphthalate	50	44.63			89		67-120		
Pentachlorophenol	50	49.54			99		64-130		
Phenanthrene	50	41.55			83		68-118		
Phenol	50	22.28			45		23-82		
Pyrene	50	44.55			89		68-118		
2,4,5-Trichlorophenol	50	41.31			83		73-124		
2,4,6-Trichlorophenol	50	44.73			89		69-122		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 183410047A	Sample number(s): 9925835-9925837,9925839-9925842								
PCB-1016	5.01	2.92			58*		60-117		
PCB-1260	5.00	2.78			56*		57-134		
	mg/l	mg/l	mg/l	mg/l					
Batch number: 183401404407	Sample number(s): 9925835-9925842								
Antimony	0.500	0.530			106		90-117		
Arsenic	0.150	0.152			101		80-120		
Beryllium	0.0500	0.0518			104		86-110		
Cadmium	0.0500	0.0534			107		90-111		
Chromium	0.200	0.210			105		87-110		
Copper	0.250	0.270			108		90-115		
Lead	0.150	0.158			105		87-113		
Nickel	0.500	0.551			110		90-114		
Selenium	0.150	0.164			109		80-120		
Silver	0.0500	0.0536			107		80-120		
Thallium	0.150	0.177			118		80-120		
Zinc	0.500	0.532			106		89-111		
Batch number: 183410571310	Sample number(s): 9925835-9925842								
Mercury	0.00100	0.000851			85		80-114		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: Y183412AA	Sample number(s): 9925835-9925837,9925839-9925843 UNSPK: 9925835									
Acetone	N.D.	150	174.28	150	168.76	116	113	54-157	3	30

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:39

Group Number: 2015487

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Benzene	N.D.	20	24.36	20	24.06	122*	120	80-120	1	30
Bromodichloromethane	N.D.	20	21.35	20	21.48	107	107	71-120	1	30
Bromoform	N.D.	20	15.11	20	15.63	76	78	51-120	3	30
Bromomethane	N.D.	20	15.46	20	13.29	77	66	53-128	15	30
2-Butanone	N.D.	150	165.9	150	166.74	111	111	59-135	1	30
Carbon Disulfide	N.D.	20	22.57	20	22.12	113	111	65-128	2	30
Carbon Tetrachloride	N.D.	20	23.14	20	23.06	116	115	64-134	0	30
Chlorobenzene	N.D.	20	22.88	20	22.75	114	114	80-120	1	30
Chloroethane	N.D.	20	18.45	20	16.19	92	81	55-123	13	30
Chloroform	N.D.	20	23.71	20	23.41	119	117	80-120	1	30
Chloromethane	N.D.	20	19.27	20	17.34	96	87	56-121	11	30
Cyclohexane	N.D.	20	25.05	20	25.43	125	127*	68-126	1	30
1,2-Dibromo-3-chloropropane	N.D.	20	20.93	20	21.44	105	107	47-131	2	30
Dibromochloromethane	N.D.	20	19.04	20	19.3	95	96	71-120	1	30
1,2-Dibromoethane	N.D.	20	20.71	20	20.6	104	103	77-120	0	30
1,2-Dichlorobenzene	N.D.	20	22.36	20	22.36	112	112	80-120	0	30
1,3-Dichlorobenzene	N.D.	20	22.14	20	22.34	111	112	80-120	1	30
1,4-Dichlorobenzene	N.D.	20	22.64	20	22.58	113	113	80-120	0	30
Dichlorodifluoromethane	N.D.	20	17.43	20	15.27	87	76	41-127	13	30
1,1-Dichloroethane	N.D.	20	24.86	20	24.85	124*	124*	80-120	0	30
1,2-Dichloroethane	N.D.	20	24.8	20	24.54	124	123	73-124	1	30
1,1-Dichloroethene	N.D.	20	24.14	20	24.18	121	121	80-131	0	30
cis-1,2-Dichloroethene	N.D.	20	23.55	20	23.43	118	117	80-120	1	30
trans-1,2-Dichloroethene	N.D.	20	24.06	20	23.88	120	119	80-120	1	30
1,2-Dichloropropane	N.D.	20	25.01	20	25.2	125*	126*	80-120	1	30
cis-1,3-Dichloropropene	N.D.	20	19.12	20	19.67	96	98	75-120	3	30
trans-1,3-Dichloropropene	N.D.	20	19.83	20	19.97	99	100	67-120	1	30
Ethylbenzene	N.D.	20	23.02	20	23	115	115	80-120	0	30
Freon 113	N.D.	20	27.02	20	26.94	135	135	73-139	0	30
2-Hexanone	N.D.	100	113.19	100	112.88	113	113	56-135	0	30
Isopropylbenzene	N.D.	20	21.57	20	21.89	108	109	80-120	1	30
Methyl Acetate	N.D.	20	21.8	20	23.87	109	119	54-136	9	30
Methyl Tertiary Butyl Ether	N.D.	20	18.6	20	18.85	93	94	69-122	1	30
4-Methyl-2-pentanone	N.D.	100	110.08	100	109.37	110	109	62-133	1	30
Methylcyclohexane	N.D.	20	20.15	20	22.51	101	113	67-121	11	30
Methylene Chloride	N.D.	20	24.3	20	24.02	122*	120	80-120	1	30
Styrene	N.D.	20	20.31	20	20.26	102	101	80-120	0	30
1,1,2,2-Tetrachloroethane	N.D.	20	24.45	20	24.49	122*	122*	72-120	0	30
Tetrachloroethene	N.D.	20	20.02	20	20.2	100	101	80-120	1	30
Toluene	N.D.	20	22.99	20	23.09	115	115	80-120	0	30
1,2,4-Trichlorobenzene	N.D.	20	18.93	20	19.22	95	96	63-120	2	30
1,1,1-Trichloroethane	N.D.	20	23.06	20	22.86	115	114	67-126	1	30
1,1,2-Trichloroethane	N.D.	20	22.97	20	22.71	115	114	80-120	1	30

*- Outside of specification

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(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:39

Group Number: 2015487

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Trichloroethene	N.D.	20	22.88	20	22.86	114	114	80-120	0	30
Trichlorofluoromethane	N.D.	20	20.3	20	17.04	101	85	55-135	17	30
1,2,4-Trimethylbenzene	N.D.	20	23.15	20	23.38	116	117	75-120	1	30
1,3,5-Trimethylbenzene	N.D.	20	23.18	20	23.52	116	118	75-120	1	30
Vinyl Chloride	N.D.	20	19.22	20	17.09	96	85	56-120	12	30
Xylene (Total)	N.D.	60	66.09	60	66.03	110	110	80-120	0	30
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: 18346WAZ026	Sample number(s): 9925835-9925837,9925839-9925842 UNSPK: 9925835									
Acenaphthene	N.D.	52.08	43.67	51.87	41.93	84	81	62-119	4	30
Acenaphthylene	N.D.	52.08	48.6	51.87	46.84	93	90	66-125	4	30
Acetophenone	N.D.	52.08	43.51	51.87	43.04	84	83	62-114	1	30
Anthracene	N.D.	52.08	45.82	51.87	47.27	88	91	70-118	3	30
Atrazine	N.D.	52.08	51.13	51.87	52.68	98	102	71-133	3	30
Benzaldehyde	N.D.	52.08	26.59	51.87	28.15	51*	54*	56-117	6	30
Benzo(a)anthracene	N.D.	52.08	39.93	51.87	39.45	77	76	70-123	1	30
Benzo(a)pyrene	N.D.	52.08	39.91	51.87	38.3	77	74	71-122	4	30
Benzo(b)fluoranthene	N.D.	52.08	38.58	51.87	38	74	73	70-120	2	30
Benzo(g,h,i)perylene	N.D.	52.08	38.19	51.87	37.1	73	72	64-119	3	30
Benzo(k)fluoranthene	N.D.	52.08	38.33	51.87	37.8	74	73	73-122	1	30
1,1'-Biphenyl	N.D.	52.08	45.26	51.87	44.54	87	86	54-116	2	30
4-Bromophenyl-phenylether	N.D.	52.08	46.18	51.87	45.26	89	87	64-119	2	30
Butylbenzylphthalate	N.D.	52.08	31.93	51.87	32.54	61	63	57-119	2	30
Di-n-butylphthalate	N.D.	52.08	41.66	51.87	41.3	80	80	71-113	1	30
Caprolactam	N.D.	52.08	27.92	51.87	24.83	54*	48*	13-37	12	30
Carbazole	N.D.	52.08	48.35	51.87	51.33	93	99	71-128	6	30
4-Chloro-3-methylphenol	N.D.	52.08	33.85	51.87	37.13	65	72	65-122	9	30
4-Chloroaniline	N.D.	52.08	27.82	51.87	26.69	53	51	42-110	4	30
bis(2-Chloroethoxy)methane	N.D.	52.08	42.25	51.87	43.07	81	83	64-119	2	30
bis(2-Chloroethyl)ether	N.D.	52.08	39.22	51.87	38.53	75	74	60-110	2	30
2-Chloronaphthalene	N.D.	52.08	42.42	51.87	42.03	81	81	51-114	1	30
2-Chlorophenol	N.D.	52.08	36.17	51.87	38.1	69	73	58-108	5	30
4-Chlorophenyl-phenylether	N.D.	52.08	42.37	51.87	39.92	81	77	58-115	6	30
2,2'-oxybis(1-Chloropropane)	N.D.	52.08	35.96	51.87	35.33	69	68	48-118	2	30
Chrysene	N.D.	52.08	39.31	51.87	38.94	75	75	71-123	1	30
Dibenz(a,h)anthracene	N.D.	52.08	40.11	51.87	38.6	77	74	67-123	4	30
Dibenzofuran	N.D.	52.08	44.38	51.87	42.85	85	83	63-117	4	30
3,3'-Dichlorobenzidine	N.D.	52.08	35.7	51.87	35.47	69	68	36-116	1	30
2,4-Dichlorophenol	N.D.	52.08	39.69	51.87	43.26	76	83	65-117	9	30
Diethylphthalate	N.D.	52.08	33.74	51.87	30.78	65	59*	61-111	9	30
2,4-Dimethylphenol	N.D.	52.08	17.04	51.87	26.14	33*	50*	52-106	42*	30
Dimethylphthalate	N.D.	52.08	22.77	51.87	18.55	44	36*	37-116	20	30
4,6-Dinitro-2-methylphenol	N.D.	52.08	46.5	51.87	44.89	89	87	63-129	4	30

*- Outside of specification

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(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:39

Group Number: 2015487

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
2,4-Dinitrophenol	N.D.	104.17	90.05	103.73	79.59	86	77	26-141	12	30
2,4-Dinitrotoluene	N.D.	52.08	45.38	51.87	43.77	87	84	69-117	4	30
2,6-Dinitrotoluene	N.D.	52.08	47.08	51.87	45.17	90	87	69-122	4	30
bis(2-Ethylhexyl)phthalate	N.D.	52.08	40.12	51.87	38.53	77	74	68-120	4	30
Fluoranthene	N.D.	52.08	46.44	51.87	46.05	89	89	70-124	1	30
Fluorene	N.D.	52.08	45.42	51.87	43.96	87	85	62-116	3	30
Hexachlorobenzene	N.D.	52.08	45.26	51.87	41.75	87	81	65-121	8	30
Hexachlorobutadiene	N.D.	52.08	41.37	51.87	39.79	79	77	21-114	4	30
Hexachlorocyclopentadiene	N.D.	104.17	78.46	103.73	78.39	75	76	10-117	0	30
Hexachloroethane	N.D.	52.08	33.49	51.87	32.73	64	63	24-100	2	30
Indeno(1,2,3-cd)pyrene	N.D.	52.08	38.99	51.87	35.88	75	69	61-121	8	30
Isophorone	N.D.	52.08	44.89	51.87	44.98	86	87	65-123	0	30
2-Methylnaphthalene	N.D.	52.08	42.2	51.87	42.17	81	81	51-112	0	30
2-Methylphenol	N.D.	52.08	29.66	51.87	35.65	57*	69	59-109	18	30
4-Methylphenol	N.D.	52.08	27.9	51.87	33.75	54*	65	56-108	19	30
Naphthalene	N.D.	52.08	39.38	51.87	39.18	76	76	54-107	1	30
2-Nitroaniline	N.D.	52.08	47.61	51.87	45.76	91	88	66-126	4	30
3-Nitroaniline	N.D.	52.08	37.95	51.87	35.08	73	68	51-120	8	30
4-Nitroaniline	N.D.	52.08	37.26	51.87	34.1	72	66	53-111	9	30
Nitrobenzene	N.D.	52.08	40.12	51.87	40.33	77	78	59-117	1	30
2-Nitrophenol	N.D.	52.08	44.65	51.87	44.67	86	86	63-121	0	30
4-Nitrophenol	N.D.	52.08	29.83	51.87	27.43	57	53	28-88	8	30
N-Nitroso-di-n-propylamine	N.D.	52.08	41.94	51.87	41.8	81	81	61-118	0	30
N-Nitrosodiphenylamine	N.D.	52.08	46.83	51.87	47.15	90	91	68-122	1	30
Di-n-octylphthalate	N.D.	52.08	39.47	51.87	36.92	76	71	67-120	7	30
Pentachlorophenol	N.D.	52.08	46.65	51.87	38.53	90	74	64-130	19	30
Phenanthrene	N.D.	52.08	45.29	51.87	45.75	87	88	68-118	1	30
Phenol	N.D.	52.08	20.81	51.87	22.01	40	42	23-82	6	30
Pyrene	N.D.	52.08	45.07	51.87	41.97	87	81	68-118	7	30
2,4,5-Trichlorophenol	N.D.	52.08	44.17	51.87	43.8	85	84	73-124	1	30
2,4,6-Trichlorophenol	N.D.	52.08	45.53	51.87	46.89	87	90	69-122	3	30
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: 183410047A	Sample number(s): 9925835-9925837,9925839-9925842 UNSPK: 9925835									
PCB-1016	N.D.	5.01	3.82	5.17	4.17	76	81	60-117	9	30
PCB-1260	N.D.	5.00	4.02	5.17	3.97	80	77	57-134	1	30
	mg/l	mg/l	mg/l	mg/l	mg/l					
Batch number: 183401404407	Sample number(s): 9925835-9925842 UNSPK: 9925835									
Antimony	N.D.	0.500	0.522	0.500	0.532	104	106	75-125	2	20
Arsenic	N.D.	0.150	0.157	0.150	0.157	105	105	75-125	0	20
Beryllium	N.D.	0.0500	0.0516	0.0500	0.0529	103	106	80-115	2	20

*- Outside of specification

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(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:39

Group Number: 2015487

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/l	MS Spike Added mg/l	MS Conc mg/l	MSD Spike Added mg/l	MSD Conc mg/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Cadmium	N.D.	0.0500	0.0522	0.0500	0.0526	104	105	75-125	1	20
Chromium	N.D.	0.200	0.204	0.200	0.211	102	106	75-125	4	20
Copper	N.D.	0.250	0.261	0.250	0.270	104	108	80-125	3	20
Lead	N.D.	0.150	0.146	0.150	0.151	97	101	75-125	3	20
Nickel	0.00389	0.500	0.526	0.500	0.535	104	106	75-125	2	20
Selenium	N.D.	0.150	0.160	0.150	0.158	106	106	75-125	1	20
Silver	N.D.	0.0500	0.0522	0.0500	0.0536	104	107	75-125	3	20
Thallium	N.D.	0.150	0.171	0.150	0.176	114	117	75-125	3	20
Zinc	N.D.	0.500	0.523	0.500	0.539	105	108	75-125	3	20
Batch number: 183410571310	Sample number(s): 9925835-9925842 UNSPK: 9925835									
Mercury	N.D.	0.00100	0.000875	0.00100	0.000876	88	88	80-120	0	20

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/l	DUP Conc mg/l	DUP RPD	DUP RPD Max
Batch number: 183401404407	Sample number(s): 9925835-9925842 BKG: 9925835			
Antimony	N.D.	N.D.	0 (1)	20
Arsenic	N.D.	N.D.	0 (1)	20
Beryllium	N.D.	N.D.	0 (1)	20
Cadmium	N.D.	N.D.	0 (1)	20
Chromium	N.D.	N.D.	0 (1)	20
Copper	N.D.	N.D.	0 (1)	20
Lead	N.D.	N.D.	0 (1)	20
Nickel	0.00389	0.00373	4 (1)	20
Selenium	N.D.	N.D.	0 (1)	20
Silver	N.D.	N.D.	0 (1)	20
Thallium	N.D.	N.D.	0 (1)	20
Zinc	N.D.	N.D.	0 (1)	20
Batch number: 183410571310	Sample number(s): 9925835-9925842 BKG: 9925835			
Mercury	N.D.	N.D.	0 (1)	20

*- Outside of specification

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Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:39

Group Number: 2015487

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: VOCs- 5ml Water by 8260B
Batch number: Y183412AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9925835	105	107	100	92
9925836	99	102	104	104
9925837	97	100	104	103
9925839	103	107	100	92
9925840	104	107	99	90
9925841	105	109	100	90
9925842	104	107	100	91
9925843	105	109	100	91
Blank	102	106	100	93
LCS	97	101	103	102
MS	99	102	104	104
MSD	97	100	104	103
Limits:	80-120	80-120	80-120	80-120

Analysis Name: TCL SW846 8270C MINI
Batch number: 18346WAZ026

	2-Fluorophenol	Phenol-d6	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
9925835	44	30	83	74	73	83
9925836	48	36	84	76	78	51
9925837	51	37	84	74	79	55
9925839	44	29	81	73	77	40
9925840	44	30	84	70	72	67
9925841	43	29	83	68	73	87
9925842	38	26	82	62	69	87
Blank	48	33	84	70	71	92
LCS	56	39	85	75	75	90
MS	48	36	84	76	78	51
MSD	51	37	84	74	79	55
Limits:	10-85	10-72	29-133	30-111	39-105	27-126

Analysis Name: PCBs in Water
Batch number: 183410047A

	Tetrachloro-m-xylene-D1	Decachlorobiphenyl-D1	Tetrachloro-m-xylene-D2	Decachlorobiphenyl-D2
9925835	65	38	61	40
9925836	56	36	53	36
9925837	54	38	51	39
9925839	54	39	51	41
9925840	70	80	65	83
9925841	72	88	65	92
9925842	68	41	65	40

*- Outside of specification

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(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Brightfields, Inc.
Reported: 12/27/2018 15:39

Group Number: 2015487

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: PCBs in Water
Batch number: 183410047A

	Tetrachloro-m-xylene-D1	Decachlorobiphenyl-D1	Tetrachloro-m-xylene-D2	Decachlorobiphenyl-D2
Blank	59	61	55	65
LCS	43	23	39	24
MS	56	36	53	36
MSD	54	38	51	39
Limits:	33-137	10-148	33-137	10-148

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Environmental Analysis Request/Chain of Custody



Lancaster Laboratories Environmental

For Eurofins Lancaster Laboratories Environmental use only

Acct. # 4549 Group # WLSUS Sample # 9925835-43

page 1 of 1
COC # 568828

Client Information				Matrix			Analysis Requested								For Lab Use Only		
Client: <u>Bright Fields, Inc.</u>		Acct. #:		Soil <input type="checkbox"/> Sediment <input type="checkbox"/> Tissue <input type="checkbox"/>	Potable <input checked="" type="checkbox"/> Ground <input type="checkbox"/>	NPDES <input type="checkbox"/> Surface <input type="checkbox"/>	Preservation and Filtration Codes								FSC: _____	SCR#: <u>233328</u>	
Project Name/##: <u>1-80 Perfection Shoe Co.</u>		PWSID #:					Other: <u>Blank water</u>	Total # of Containers	<u>VOCs (method 8260)</u>	<u>1,2,4 and 1,3,5 THB</u>	<u>SVOCs (method 8270C)</u>	<u>Dissolved PPL</u>	<u>Metals (method 6010B)</u>	<u>PCBS (8082)</u>	Preservation Codes		Remarks
Project Manager: <u>Victoria Bisping</u>		P.O. #: <u>15380</u>		H=HCl T=Thiosulfate		N=HNO ₃ B=NaOH									S=H ₂ SO ₄ P=H ₃ PO ₄		F=Field Filtered O=Other
Sampler: <u>M. Atterbury/J.C. Cumming</u>		Quote #:		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>													
State where samples were collected: <u>PA</u>		For Compliance:															
Sample Identification		Collected		Grab	Composite	Soil	Water	Other	Total # of Containers	VOCs (method 8260)	1,2,4 and 1,3,5 THB	SVOCs (method 8270C)	Dissolved PPL	Metals (method 6010B)	PCBS (8082)	Remarks	
		Date	Time														
<u>PSC-GP01-W001*</u>		<u>12/3/18</u>	<u>1220</u>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<u>21</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>0 = ice</u>	
<u>PSC-GP02-W001</u>		<u>12/3/18</u>	<u>1300</u>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<u>7</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<u>PSC-GP06-W001</u>		<u>12/3/18</u>	<u>1345</u>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<u>7</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>* MS/MSD</u>	
<u>PSC-GP06-W101</u>		<u>12/3/18</u>	<u>1346</u>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		<u>7</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<u>PSC-GP06-W201</u>		<u>12/3/18</u>	<u>1350</u>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>7</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>samples collected for diss. metal analysis were field-filtered</u>	
<u>PSC-GP06-W301</u>		<u>12/3/18</u>	<u>1355</u>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>2</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<u>CS# 30520</u>	

Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Requested TAT in business days: _____

E-mail address: _____

Relinquished by <u>Bottle Storage</u>	Date <u>12/2/18</u>	Time <u>11:45</u>	Received by <u>[Signature]</u>	Date <u>12/5/18</u>	Time <u>12:05</u>
Relinquished by <u>[Signature]</u>	Date <u>12/5/18</u>	Time <u>10:10</u>	Received by <u>[Signature]</u>	Date <u>12/5/18</u>	Time <u>12:05</u>
Relinquished by <u>[Signature]</u>	Date <u>12/5/18</u>	Time <u>10:10</u>	Received by <u>[Signature]</u>	Date <u>12/5/18</u>	Time <u>12:05</u>

Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)

Type III (Reduced non-CLP) NJ DKQP TX TRRP-13

NYSDEC Category A or B MA MCP CT RCP

EDD Required? Yes No

If yes, format: _____

Site-Specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:
UPS _____ FedEx _____ Other _____

Temperature upon receipt 0.0-21°C



Client: Bright Field, Inc.

Delivery and Receipt Information

Delivery Method: ELLE Courier Arrival Timestamp: 12/05/2018 18:10
 Number of Packages: 6 Number of Projects: 4
 State/Province of Origin: PA

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace \geq 6mm:	Yes
Samples Chilled:	Yes	VOA IDs (\geq 6mm):	See Below
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	2
Samples Intact:	Yes	Trip Blank Type:	HCl
Missing Samples:	No	Air Quality Samples Present:	No
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

VOA Vial IDs (Headspace \geq 6mm): PSC-GP06-W301 (1 of 2)

Unpacked by Melvin Sanchez (8943) at 22:59 on 12/05/2018

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT131	0.4	DT	Wet	Y	Bagged	N
2	DT131	2.1	DT	Wet	Y	Bagged	N
3	DT131	1.2	DT	Wet	Y	Bagged	N
4	DT131	0.4	DT	Wet	Y	Bagged	N
5	DT131	0.6	DT	Wet	Y	Bagged	N
6	DT131	0.0	DT	Wet	Y	Bagged	N

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	mL	milliliter(s)
C	degrees Celsius	MPN	Most Probable Number
cfu	colony forming units	N.D.	non-detect
CP Units	cobalt-chloroplatinate units	ng	nanogram(s)
F	degrees Fahrenheit	NTU	nephelometric turbidity units
g	gram(s)	pg/L	picogram/liter
IU	International Units	RL	Reporting Limit
kg	kilogram(s)	TNTC	Too Numerous To Count
L	liter(s)	µg	microgram(s)
lb.	pound(s)	µL	microliter(s)
m3	cubic meter(s)	umhos/cm	micromhos/cm
meq	milliequivalents	MCL	Maximum Contamination Limit
mg	milligram(s)		
<	less than		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
K1	Initial Calibration Blank is above the QC limit and the sample result is ND
K2	Continuing Calibration Blank is above the QC limit and the sample result is ND
K3	Initial Calibration Verification is above the QC limit and the sample result is ND
K4	Continuing Calibration Verification is above the QC limit and the sample result is ND
J (or G, I, X)	Estimated value \geq the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
P^	Concentration difference between the primary and confirmation column $> 40\%$. The higher result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report
B	Detection in the Blank
Q0	LCS/LCSD Low
Q1	LCS/LCSD High
Q2	MS/MSD Low
Q3	MS/MSD High
Q7	LCS/LCSD RPD
Q8	DUP RPD
Q9	MS/MSD RPD

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.