Exhibit 9 GM-OU-4 Public Hearing April 9, 2020

FINAL SOIL VAPOR EXTRACTION SYSTEM EVALUATION REPORT

FORMER GENERAL MOTORS PLANT – OPERABLE UNIT 4 801 BOXWOOD ROAD, WILMINGTON, DELAWARE

AUGUST 2019

Submitted To:

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INTERNAL QUALITY CONTROL SHEET

This SVE System Evaluation Report has been prepared by BrightFields, Inc. (BrightFields). This Evaluation Report represents BrightFields' knowledge of conditions on the subject site at the time of preparation.

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SOIL VAPOR EXTRACTION SYSTEM EVALUATION REPORT Former General Motors Plant – Operable Unit 4 801 Boxwood Road, Wilmington, Delaware

1.0 <u>BACKGROUND</u>

BrightFields, Inc. (BrightFields) has prepared this Evaluation Report on behalf of the Revitalizing Auto Communities Environmental Response Trust (RACER Trust) to summarize activities related to the Soil Vapor Extraction (SVE) system at the Former General Motors Assembly Plant (Assembly Plant), Operable Unit 4 (OU4; Site) in Wilmington, Delaware (Figure 1).

1.1 <u>Site Background</u>

The Former General Motors Plant is approximately 142 acres consisting of two tax parcels. The property consists of a 3-million square foot auto assembly plant, waste water treatment plant, parking lots, and a 15-acre undeveloped wooded lot. The surrounding use of the Assembly Plant is commercial and residential.

The facility was operated by General Motors from 1947 until July 2009 for automobile manufacturing. Records indicate removal of multiple underground storage tanks (USTs) onsite containing diesel, gasoline, heating oil, waste oil, and engine oil. Ten of the USTs were located adjacent to the Anchor Motor Freight Building along Dodson Avenue.

The Assembly Plant was divided into six operable units during the Remedial Investigation of the property. OU4 contains a portion of the property along the eastern site boundary which includes the Anchor Motor Freight Building, a portion of the offsite storage center across Dodson Avenue, and three offsite twin townhouses.

Based on previous investigations, petroleum hydrocarbons in groundwater were identified extending from the Anchor Motor Freight Building towards the northeast across Dodson Avenue. The petroleum hydrocarbons include several volatile organic compounds (VOCs): 1,2,4-trimethylbenzene, benzene, ethylbenzene, toluene, and xylenes (BTEX) and semivolatile organic compounds (SVOCs): naphthalene and 2-methylnaphthalene. Subsurface contaminated soil



extended from the edge of the Anchor Motor Freight Building to approximately the eastern edge of Dodson Avenue. Petroleum hydrocarbons in soil consist of VOCs including 1,2,4-trimethylbenzene and BTEX.

An SVE system was installed in OU4 along the eastern property boundary as an interim vapor phase remedial measure. A detailed description of the system is included in Section 1.3. Installation of the system was completed in February 2015 and system start-up was implemented on March 30, 2015. An initial pilot test was conducted in September 2015. Field documentation and laboratory analytical reports for investigation activities from September and October 2015 are included as Appendix A.

BrightFields performed weekly monitoring and maintenance of the SVE system during its operation. During routine operation from March 30, 2015 through June 15, 2018, the SVE system recovered an estimated 8,065 pounds (lbs) of hydrocarbons and BrightFields removed an additional 13.8 lbs as separate phase product by hand bailing and absorbent sock.

On August 9, 2018, BrightFields turned off the SVE system with approval from the Delaware Department of Natural Resources and Environmental Control (DNREC) based on minimal recovery and decreased concentrations in environmental samples. The system has remained off to date.

1.2 <u>Purpose of Evaluation</u>

The purpose of this SVE system evaluation is to evaluate the performance of the system over the three year period of operation and determine the applicability of continued operation or expansion of the SVE system to address site contamination. The goals of this SVE system evaluation are as follows:

- Document post-SVE system operation soil gas and groundwater concentrations;
- Determine the radius of influence of the SVE system on GM-MW49;
- Evaluate the recovery rate of the SVE system to determine whether or not existing data can be used to determine the time to asymptotic recovery of Site contaminants;
- Determine if Light Non-Aqueous Phase Liquid (LNAPL) can be mobilized into GM-MW49; and,



• Determine the feasibility of continuing to operate the system as an interim measure and, if necessary, evaluate the opportunity for system optimization.

All work was performed in accordance with the June 2018 DNREC-approved Work Plan.

1.3 <u>Description of System</u>

The remediation system consists of a Falco 300 Catalytic Oxidizer with a 15-horsepower (hp) regenerative blower. The blower is capable of extracting 295 standard cubic feet per minute (scfm) of vapor flow at 60-inches of water vacuum. The blower is connected to six extraction wells, designated as SVE-01 through SVE-06, through below ground piping and a piping manifold which allows for any individual well to be isolated. The piping manifold also allows for connection to additional wells if necessary in the future.

In 2015, BrightFields installed two 2-inch diameter monitoring wells, GM-MW49 and GM-MW50, within OU4. The wells were installed in the vicinity of the existing extraction wells so they could be connected to the SVE system in the future if needed. Both wells were screened from approximately 10 feet below ground surface (bgs) to 25 feet bgs with a slot size of 0.010 inches. Prior to the SVE system evaluation, groundwater samples were collected in October 2015 and November 2017. BrightFields also gauged the wells on a routine basis. In preparation for a pilot test on monitoring well GM-MW49 as part of this SVE Evaluation, BrightFields constructed temporary aboveground piping to connect GM-MW49 to the SVE system in June 2018.



2.0 SOIL VAPOR EXTRACTION SYSTEM OPERATIONS

As part of the SVE system evaluation, BrightFields evaluated the radius of influence (ROI), system recovery, and light non-aqueous phase liquid (LNAPL) in two separate data sets (routine operation and expanded evaluation), as described below. The results are discussed in Section 2.1 through 2.3.

- The period of routine operation from startup on March 30, 2015 through the end of June 2018. During this period, the SVE system was operated by placing a vacuum on the six original extraction wells, SVE-01 through SVE-06. Note that the extraction wells with vacuum varied during this period, as discussed further in Section 2.2.1. System checks were generally performed on a weekly basis with the collection of at least one set of monthly influent and effluent air samples, in accordance with the Air Permit Waiver. Monitoring wells were generally gauged monthly during this period.
- The period during the expanded system operation in July and August 2018. During this period, the manifold was closed to all other extraction wells and the vacuum was placed solely on GM-MW49. System checks were performed at an increased frequency to more closely monitor the SVE system; three times per week for the first week and twice per week for the remaining four weeks. Sets of influent and effluent air samples were collected twice per week for the first week and once per week for the remaining four weeks. Grab air sample analytical results are shown on Table 1. BrightFields also gauged GM-MW49 on a weekly basis. Photoionization detector (PID) headspace readings and gauging data measured during the pilot test are summarized in Table 2.

An additional data review of energy usage, the well head PID readings, and groundwater elevations was conducted for the period prior to the expanded operation (GM-MW49), from March 30, 2015 through the end of June 2018. The data review is discussed in Section 2.4.

2.1 <u>Radius of Influence (ROI)</u>

2.1.1 Routine Operation

In September 2015, BrightFields performed SVE pilot tests on wells SVE-04 and SVE-05. The pilot tests were performed to assess the optimal operational parameters of the SVE system and assess the ROI of the system from the two wells. Based on the measured vacuum, the calculated radius of influence ranged from 87 feet to 143 feet.



2.1.2 Expanded Operation

On July 5 and 6, 2018, BrightFields performed a pilot test on GM-MW49 to assess the ROI of the system in the subsurface surrounding monitoring well GM-MW49. In order to determine if a ROI existed, BrightFields operated the SVE system and measured the vacuum at five surrounding wells (SVE-01, SVE-04, MW-50, MW-36S, and MW-36D) using a differential pressure gauge. BrightFields measured the vacuum at each of the five wells for three different applied vacuums (23, 34, and 45 inches of water (in wc)), referred to as steps. Air flow was measured from the well during each step. At each of the three steps, a pressure reading of 0.0 in wc was recorded for each well. The wells are located approximately 147 feet, 49 feet, 92 feet, 55 feet, and 56 feet away from GM-MW49, respectively. BrightFields concludes that the ROI at GM-MW49 is less than 49 feet. This could be due to the presence of clay and silt observed in the screen depth (10 feet bgs to 25 bgs). During well installation, clay and silt were observed from 10 feet bgs to 19 feet bgs and there was no recovery beyond 19 feet bgs. The results are not shown in a chart because no influence was observed.

2.2 <u>Recovery and Rate of Recovery</u>

BrightFields performed routine system checks and collected sets of influent and effluent air samples from the SVE system throughout both study periods. All grab air samples were collected using one liter Tedlar[®] bags and submitted to Eurofins Lancaster Laboratories (Eurofins) in Lancaster, Pennsylvania for analysis using Environmental Protection Agency (EPA) Method TO-18. Note that per Delaware regulation 1102, methane is not considered a VOC.

2.2.1 Routine Operation

BrightFields started operating the SVE system on March 30, 2015. During the period from startup until the expanded operation in July 2018, an estimated 8,065 lbs of hydrocarbons were recovered by the SVE system.

During the first six months of operation (March through August 2015), BrightFields observed an average recovery rate of 21.0 lbs of hydrocarbons per day. During the last six months of operation (January through June 2018) prior to the expanded operation, BrightFields observed an average daily recovery rate of 2.0 lbs of hydrocarbons per day. Since startup, hydrocarbon recovery rate has decreased and the cumulative recovery is asymptotic, as shown on Chart 1.



Throughout the period of operation, BrightFields alternated which extraction wells were open to the SVE system in order to increase recovery by closing less contaminated wells. Alternating which series of wells were used for extraction reduced preferential pathways and increased overall recovery. This was particularly effective in July 2017, when the extraction wells with the highest headspace PID readings (SVE-02, SVE-03, and SVE-05) were reopened after pulsing the extraction wells with lower headspace PID readings (SVE-01, SVE-04, and SVE-06) from June 2 through July 5, 2017. A sharp increase in rate of recovery was observed in July 2017. However, as seen on Chart 1, the increased recovery rate was temporary and made a small impact to overall cumulative mass recovery. The recovery, open wells, and ranges of dates are labeled on Chart 1. Table 3 shows that after alternating wells in June 2017 and July 2017, PID headspace readings measured at the SVE wells generally increased compared to the readings measured prior to pulsing. Again, the result of pulsing made a small impact to overall cumulative mass recovery.

2.2.2 Expanded Operation

Approximately 0.8 lbs of hydrocarbons were recovered by the SVE system during the pilot test from July 6 through August 9, 2018. The average daily recovery rate during the pilot test was 0.02 lbs of hydrocarbons per day.

VOCs were not detected during laboratory analysis of the influent air samples, indicating no measureable recovery from GM-MW49. The influent and effluent air sample results are summarized in Table 1 and the analytical data packages are included in Appendix B.

2.3 LNAPL Mobilization

Since the first observation of LNAPL in September 2015, BrightFields monitored wells routinely for the presence of LNAPL. The effect of the SVE system on LNAPL mobilization is described below.

2.3.1 Routine Operation

The SVE system began operating on March 30, 2015. LNAPL was first observed in September 2015 during the initial pilot test. During the initial gauging of all six extraction wells, approximately 1.02 feet of free product was observed in extraction well SVE-03. Approximately 0.67 gallons of free product were hand bailed from the well and placed in a drum for future disposal. BrightFields collected a product sample from SVE-03 in 2015 and sent it to Suburban



Testing Labs for characterization. Suburban Testing Labs concluded that the product most closely resembled #2 diesel fuel. The laboratory analysis report is included as Appendix C.

Based on product baildown test estimates performed on SVE-03 at the Site between December 29, 2015 and January 4, 2016, BrightFields estimated an LNAPL thickness of approximately 0.3 feet in the soil. LNAPL was observed during the OU4 Additional Characterization (September and October 2015) in SVE-03, GM-GP08, and GM-MW49. BrightFields continued to observe and recover LNAPL at the groundwater interface in SVE-03 and in the passive bailer installed in SVE-03 through January 2017. A total of approximately 13.8 lbs (approximately 2 gallons) of free product was removed via hand bailing, absorbent sock, and draining the water knockout drum since the SVE system was installed.

Significant quantities of LNAPL have not been observed in GM-MW49 during development, sampling, or gauging activities. During groundwater sampling in October 2015, BrightFields observed a small amount of free product on the groundwater interface (0.1 inches) at GM-MW49.

2.3.2 Expanded Operation

BrightFields gauged GM-MW49 on a weekly basis during the SVE System Evaluation (July 5 through August 9, 2018) and used an oil/water interface probe to monitor for the presence of free product. Measurements are included on Table 2. Free product was not observed, despite isolating the SVE vacuum to GM-MW49 during the pilot test. The measured vacuum at GM-MW49 reached a maximum of 26 in wc. Therefore, BrightFields concludes that connecting GM-MW49 to the SVE system is not likely to result in LNAPL mobilization.

2.4 Data Review during Routine Operation

BrightFields reviewed the routine operation data for March 30, 2015 through June 2018. Findings are summarized below.

2.4.1 Energy Usage

Monthly energy demand ranged from 21 kilowatts (kW) to 35 kW during system operation. There is some correlation between monthly energy demand and hours of operation, as shown on Chart 2. During months with higher total hours of operation, energy demand generally peaks and during months with fewer hours of operation, energy demand generally decreases.



BrightFields also reviewed how energy demand is affected by daily recovery rate, influent concentration, and groundwater elevation. Influent concentration and groundwater elevation (directly affecting amount of open screen) affect the recovery. In theory, when recovery is greater, the catalytic oxidizer is fueled by the vapors onsite and requires less energy from electricity. However, no significant correlation was observed between energy demand and daily recovery rate (Chart 3), energy demand and influent PID concentration (Chart 4), or energy demand and groundwater elevation (Chart 5).

2.4.2 Well Head PID

BrightFields generally gauged the extraction wells and measured PID headspace on a monthly basis throughout the period of routine operation. Extraction wells SVE-02, SVE-03, and SVE-06 generally exhibited the highest PID headspace readings. The PID headspace readings are shown on Table 3.

Influent VOC concentrations measured in monthly analytical air samples generally decreased over the operation of the system. From March 2018 through the end of the operating period (June 2018), no VOCs were detected above the laboratory method detection limit.

2.4.3 Groundwater Elevations

BrightFields analyzed daily recovery rate and groundwater elevation. A lower groundwater elevation results in more open screen area, yielding a greater area to draw soil vapors from and often a significant increase in recovery is noted when groundwater elevation is low. A higher groundwater elevation results in less open screen area and may even cut off the screen completely. However, no significant correlation was observed between daily recovery rate and groundwater elevation, as shown on Chart 6.



3.0 SOIL VAPOR SAMPLING

As part of this three year system evaluation, soil gas samples were collected from the following preexisting soil gas points on three separate occasions: SG-9, SG-10, SG-13S, SG-14S, SG-28, SG-29, and SG-31 (December sampling only). Sample locations are shown on Figure 1.

In 2012, temporary soil gas probes were installed and sampled as part of a comprehensive Remedial Investigation. In order to evaluate the current soil gas concentrations in the vicinity of one of the temporary locations (SG-2) in OU4, BrightFields installed a replacement soil gas point prior to the December 2018 soil gas sampling event. This point is designated as DA-SG31. On December 18, 2018, BrightFields utilized a hand auger and bored to approximately 9 feet bgs at the replacement location. An AMS, Inc. gas vapor probe kit was used to install a dedicated disposable stainless steel soil gas probe connected to Teflon[™]-lined polyethylene tubing at 8 feet bgs. The soil gas sampling point construction log is included as Appendix D.1.

3.1 Soil Vapor Sampling Methods

Soil gas samples were collected on July 2, 2018, August 27, 2018, and December 19, 2018. During both sampling events, the sampling apparatus was checked for leaks and the vapor points were purged prior to sampling. A leak test was conducted by introducing a tracer gas (helium) into the shroud surrounding the sample point. Concentrations of the tracer gas measured from within the sample train were all equal to or less than 10% of the concentration of tracer gas measured within the shroud, indicating that short-circuiting was negligible. A pressure test was conducted by measuring vacuum loss within the sampling train for five minutes. The final measured vacuums were within 2 pounds per square inch (psi) of the initial pressure; thereby, indicating that the fittings and connections within the sample train were sufficiently tightened and breakthrough was negligible. Approximately three volumes of soil gas were purged from each of the six vapor points prior to sampling.

Following successful leak and pressure testing, a soil gas sample was collected into batch certified clean, six-liter Summa[®] canisters. Each sample was collected over an 8-hour period. One duplicate sample (collected in August and December sampling events only) and one ambient outdoor air sample (designated as SVE-AA-G001, SVE-AA-G002, and SVE-AA01-G003) were collected for Quality Assurance (QA)/ Quality Control (QC) purposes. All air samples were submitted to TestAmerica Laboratories in Burlington, Vermont (TestAmerica) to be analyzed for VOCs by EPA Method TO-15. Copies of soil gas sampling logs are included as Appendix D.2 through D.4.



3.2 Soil Gas Analytical Results

The results of the soil gas sampling events are summarized in Table 4. Soil gas concentrations significantly decreased from historical levels. Table 4 includes previous investigation data for each soil gas point. The TestAmerica data packages are included in Appendix E.1 through Appendix E.3.

In soil gas samples DA-SG-9 and DA-SG-10, some VOCs exceeded the EPA and Hazardous Substance Cleanup Act (HSCA) screening levels during the 2012 and 2013 sampling events. However, none of the TO-15 VOCs were detected at concentrations above the respective screening levels in samples collected in 2018. In soil gas samples DA-SG-14S, DA-SG28, and DA-SG31, multiple VOCs exceeded the EPA and HSCA screening levels during each of the sampling events. However, number of VOCs that exceeded the screening levels and the VOC concentrations decreased significantly from 2012/2013 to 2018 sampling events. In soil gas samples DA-SG29, none of the TO-15 VOCs were detected at concentrations above the respective screening levels during any of the sampling events but concentrations decreased from 2012/2013 to 2018 sampling events.



4.0 **GROUNDWATER SAMPLING**

Seven previously installed monitoring wells and extraction wells (MW-36S, MW-42, GM-MW49, MW-50, SVE-01, SVE-03, and SVE-06) were sampled as part of this three year system evaluation. Sample locations are shown on Figure 1. Groundwater samples were collected from the wells on August 28, 2018 and December 18, 2018.

4.1 <u>Groundwater Sampling Methods</u>

Prior to sample collection, the wells were purged to ensure collection of a representative groundwater sample. Groundwater was purged from each well by placing dedicated polyethylene tubing within the screened interval and then drawing water out using a 12-volt peristaltic pump. The wells were purged of at least three well volumes, until water quality parameters (temperature, dissolved oxygen, conductivity, and pH) stabilized, or until discharge was as free of sediment as practicable. Purged groundwater was field screened for the presence of VOCs using a PID with a 10.6 eV lamp. All purged groundwater was placed in a 55-gallon drum and staged onsite for future disposal.

Groundwater samples were collected directly from dedicated polyethylene tubing into laboratoryprepared sample containers. Sample vials for VOC analysis were pre-preserved with hydrochloric acid (HCl). Steps were taken to ensure that no preservative material was spilled during sample collection. Samples were tightly sealed, clearly labeled, and documented on a chain-of-custody. All labels included the sample identification number, client/project name, project location, date and time of sample collection, and sampler's initials. One duplicate sample (collected from DA-SVE03 during both sampling events), one MS/MSD sample, one equipment blank, and one trip blank (analyzed for TCL VOCs only) were collected for QA/QC purposes. All groundwater samples were submitted to TestAmerica in Edison, New Jersey to be analyzed for Target Compound List (TCL) VOCs (including 1,2,4-Trimethylbenzene and 1,3,5-Trimethylbenzene) and SVOCs. Copies of the monitoring well sampling logs are included as Appendix D.5 and Appendix D.6.

4.2 <u>Groundwater Analytical Results</u>

The results of the groundwater sampling are summarized in Table 5. Concentrations in the monitoring wells (MW-36S, MW-42, GM-MW49, and MW-50) generally decreased compared to previous sampling events. Concentrations in the extraction wells (SVE-01, SVE-03, and SVE-06) were consistent with groundwater concentrations onsite. Table 5 also includes historical data for



the four monitoring wells which were previously sampled. The TestAmerica data packages for groundwater are included in Appendix E.4 and Appendix E.5.

Contaminants of concern (COCs) in groundwater include benzene, ethylbenzene, 1,2,4trimethylbenzene, and xylenes. In the four monitoring wells, the COC concentrations were generally lowest in the 2018 sampling events compared to previous sampling events.



5.0 <u>CONCLUSIONS</u>

Overall, the SVE system has been effective at reducing historical concentrations onsite. During routine operation from March 30, 2015 through June 15, 2018, the SVE system recovered an estimated 8,065 lbs of hydrocarbons and BrightFields removed an additional 13.8 lbs (approximately 2 gallons) as separate phase product by hand bailing and absorbent sock. Soil gas concentrations have significantly decreased and groundwater concentrations have generally decreased from historical levels. Since startup, hydrocarbon recovery rate has decreased and the cumulative recovery is asymptotic, as shown in Chart 1.

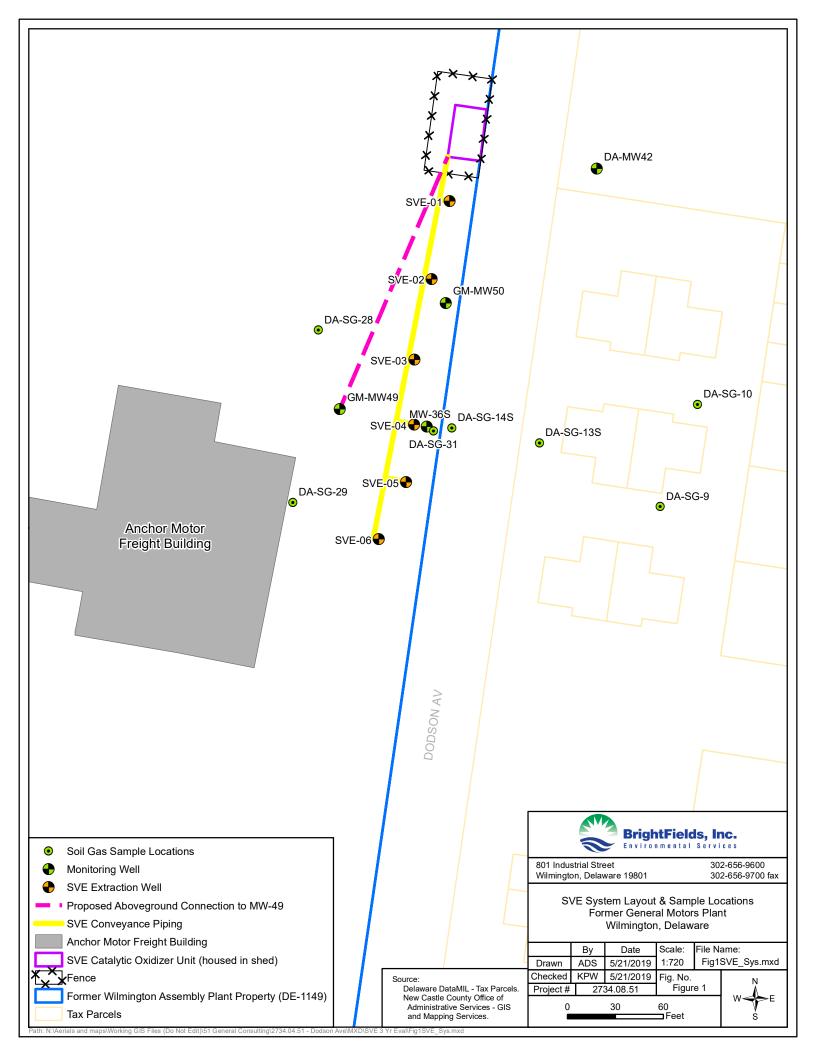
BrightFields evaluated pulsing the system and alternating wells to increase recovery and reduce the effects of preferential pathways. Although an increased recovery rate was observed temporarily, it made a small contribution to the overall cumulative mass recovery. During the data review, there was some correlation between energy demand and hours of operation. However, based on the asymptotic recovery observed, BrightFields does not expect that continuing to operate the SVE system will result in significant mass recovery. No significant correlation was observed between energy demand and daily recovery rate, energy demand and influent PID concentration, or energy demand and groundwater elevation. No significant correlation was observed between daily recovery rate and groundwater elevation.

During the pilot test on GM-MW49, no influence was observed. BrightFields concludes that the ROI at GM-MW49 is less than 49 feet. VOCs were not detected during laboratory analysis of the influent air samples, indicating no recovery from GM-MW49. Free product was not observed in GM-MW49, despite isolating the well during the pilot test. BrightFields concludes that soils in the source area may be too tight to effectively draw vapors into the SVE system. Connecting GM-MW49 to the SVE system is not likely to result in LNAPL mobilization. Therefore, expansion of the SVE system will not result in any remedial benefit.

Based on asymptotic recovery with the current setup, energy use of the system while being operated, and infeasibility of expansion (due to tight soils in and around GM-MW49), BrightFields recommends that the SVE system remain turned off. The system should be kept in place until a Long Term Stewardship Plan is developed to address contamination in the source area.



FIGURE





TABLES

TABLE 1 Grab Air Sample Analytical Results - Expanded Operation Former General Motors Plant - OU4 Wilmington, Delaware

| Sample Date | July | July 6, 2018 | | July 9, 2018 | | 1, 2018 | July 18, 2018 | | |
|--|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--|
| Sample Identification | DA-EFF-070618 | DA-INF-070618 | DA-EFF-070918 | DA-INF-070918 | DA-EFF-071118 | DA-INF-071118 | DA-EFF-071818 | DA-INF-071818 | |
| Week Number of Pilot Study | We | Week #0 | | Week #1 | | | Week #2 | | |
| Volatiles (by EPA 18 mod/ EPA 25 mod) | ppm(v) | |
| Benzene | ND | |
| C2-4 Hydrocarbons as Hexane | ND | |
| >C4-10 Hydrocarbons as Hexane | ND | |
| Ethylbenzene | ND | |
| Methane | 3 J | 3 J | 3 J | 3 J | 3 J | 3 J | 8 | 4 J | |
| Toluene | ND | |
| Xylene (Total) | ND | |

Notes:

ND - Not Detected.

J - Estimated value is greater than or equal to the Method Detection Limit (MDL) and less than the Limit of Quantitation (LOQ).

ppm(v) - parts per million by volume.

Note that methane is not considered a Volatile Organic Compound (VOC) per Delaware Regulation 1102, and therefore is not included in the sum of total VOCs detected in the air bag laboratory analysis.

TABLE 1 Grab Air Sample Analytical Results - Expanded Operation Former General Motors Plant - OU4 Wilmington, Delaware

| Sample Date | Ju | 5, 2018 | July 30, 2018 | | | August 9, 2018 | | | | | | |
|--|------------------------|----------------|-----------------------------|---|-------------|----------------|---------------|---|---------------|-----|--------------------------|----|
| Sample Identification | DA-EFF-072618 | | DA-EFF-072618 DA-INF-072618 | | DA-EFF-0730 | 018 | DA-INF-073018 | | DA-EFF-080918 | | DA-INF-0809 ² | 18 |
| Week Number of Pilot Study | | Wee | k #3 | | | Wee | k #4 | | ١ | Nee | k #5 | |
| Volatiles (by EPA 18 mod/ EPA 25 mod) | EPA 18 mod/ EPA ppm(v) | | ppm(v) | | ppm(v) | | ppm(v) | | ppm(v) | | ppm(v) | |
| Benzene | ND | | ND | | ND | | ND | | ND | | ND | |
| C2-4 Hydrocarbons as Hexane | ND | | ND | | ND | | ND | | ND | | ND | |
| >C4-10 Hydrocarbons as Hexane | ND | | ND | | ND | | ND | | ND | | ND | |
| Ethylbenzene | ND | | ND | | ND | | ND | | ND | | ND | |
| Methane | 3 | J | 4 | J | 3 | J | 3 | J | 3 | J | 3 | J |
| Toluene | ND | | ND | | ND | | ND | | ND | | ND | |
| Xylene (Total) | ND | | ND | | ND | | ND | | ND | | ND | |

Notes:

ND - Not Detected.

J - Estimated value is greater than or equal to the Method Detection Limit (MDL) and less than the Limit of Quantitation (LOQ).

ppm(v) - parts per million by volume.

Note that methane is not considered a Volatile Organic Compound (VOC) per Delaware Regulation 1102, and therefore is not included in the sum of total VOCs detected in the air bag laboratory analysis.

TABLE 2 PID Headspace and Groundwater Elevation Data - Expanded Operation Former General Motors Plant - OU4 Wilmington, Delaware

| Well ID | | GM-MW49 | |
|--------------------------------------|---------------------|--|------------------------|
| GROUND SURFACE ELEVATION (ft NAVD88) | | 80.82 | |
| TOP OF PVC CASING (ft NAVD88) | | 80.51 | |
| WELL DIAMETER (inches) | | 2 | |
| TOTAL DEPTH (ft bgs) | | 25 | |
| SCREEN INTERVAL (ft to ft bgs) | | 10.0 to 25.0 | |
| SCREEN INTERVAL (ft to ft NAVD88) | | 70.51 to 55.51 | |
| Measurement Date | Depth to Water (ft) | Groundwater Elevation (ft. NAVD88) | PID Headspace (ppm) |
| July 5, 2018 (Week #0) | 13.92 | 66.59 | 1,295 |
| July 9, 2018 (Week #1) | 13.91 | 66.60 | 39.9 |
| July 18, 2018 (Week #2) | 14.04 | 66.47 | 56.9 |
| July 24, 2018 (Week #3) | 13.87 | 66.64 | 98.7 |
| July 30, 2018 (Week #4) | 13.75 | 66.76 | 89.2 |
| August 2, 2018 (Week #4) | 13.77 | 66.74 | 367.9 |
| August 9, 2018 (Week #5) | 13.72 | 66.79 | 212.4 |

Notes:

bgs - below ground surface.

NAVD88 - North American Vertical Datum of 1988.

TABLE 3 **PID Headspace Data - Routine Operation** Former General Motors Plant - OU4 Wilmington, Delaware

| | | | Viiiiiigto | | | | | |
|--------------------|---------|---------|------------|----------|----------|----------|----------|----------|
| Monitoring Well ID | GM-MW49 | GM-MW50 | GM-SVE01 | GM-SVE02 | GM-SVE03 | GM-SVE04 | GM-SVE05 | GM-SVE06 |
| September 22, 2015 | NM | NM | 50.3 | 111.4 | 1,898 | NM | 26.5 | 1,041 |
| October 6, 2015 | 1,362 | 118.8 | NM | NM | NM | NM | NM | NM |
| October 13, 2015 | 879.9 | NM | NM | NM | NM | NM | NM | NM |
| October 14, 2015 | 512.5 | 455.4 | NM | NM | NM | NM | NM | NM |
| October 22, 2015 | NM | NM | NM | NM | 427.0 | NM | NM | NM |
| October 29, 2015 | 520.6 | 844.0 | NM | NM | NM | NM | NM | NM |
| November 18, 2015 | 37.1 | 663.2 | NM | NM | NM | NM | NM | NM |
| November 25, 2015 | NM | NM | NM | NM | 847.7 | NM | NM | NM |
| December 28, 2015 | 274.8 | 643.4 | 5.5 | 354.8 | 1,414 | 8.8 | 32.1 | 293.0 |
| December 29, 2015 | NM | NM | NM | NM | 896.8 | NM | NM | NM |
| January 12, 2016 | NM | NM | NM | NM | 199.5 | NM | NM | NM |
| February 11, 2016 | NM | NM | 0.4 | 2.1 | 595.6 | 0.0 | 6.3 | 4.9 |
| February 18, 2016 | NM | NM | 0.1 | 8.3 | 388.7 | 0.0 | 2.1 | 13.0 |
| February 25, 2016 | NM | NM | 12.5 | 4.1 | 638.1 | 0.5 | 541.2 | 18.3 |
| March 2, 2016 | 9.3 | 405.5 | NM | NM | 0.1 | NM | NM | NM |
| March 11, 2016 | 22.5 | 613.6 | NM | NM | 249.7 | NM | NM | NM |
| March 17, 2016 | 35.4 | 694.1 | NM | NM | 0.9 | NM | NM | NM |
| March 22, 2016 | 8.2 | 397.1 | NM | NM | 0.0 | NM | NM | NM |
| March 31, 2016 | 4.7 | 459.2 | NM | NM | 0.5 | NM | NM | NM |
| April 7, 2016 | 20.9 | 423.0 | NM | NM | 63.0 | NM | NM | NM |
| April 12, 2016 | 354.7 | 425.7 | NM | NM | 0.8 | NM | NM | NM |
| May 10, 2016 | NM | NM | 0.0 | 17.7 | 0.4 | 0.0 | 343.1 | 6.1 |
| May 17, 2016 | 1,343 | 696.7 | NM | NM | 2.1 | NM | NM | NM |
| May 24, 2016 | 1,254 | 700.9 | NM | NM | 6.4 | NM | NM | NM |
| May 31, 2016 | 1,510 | 717.0 | NM | NM | 101.7 | NM | NM | NM |
| June 9, 2016 | 2,146 | 1,439 | NM | NM | 0.0 | NM | NM | NM |
| June 16, 2016 | 951.0 | 450.6 | NM | NM | 0.0 | NM | NM | NM |

Notes:

NM - Not Measured All readings in parts per million (ppm)

TABLE 3 **PID Headspace Data - Routine Operation** Former General Motors Plant - OU4 Wilmington, Delaware

| Monitoring Well ID | GM-MW49 | GM-MW50 | GM-SVE01 | GM-SVE02 | GM-SVE03 | GM-SVE04 | GM-SVE05 | GM-SVE06 |
|--------------------|---------|---------|----------|----------|----------|----------|----------|----------|
| June 24, 2016 | 972.6 | 535.5 | NM | NM | 16.5 | NM | NM | NM |
| June 29, 2016 | 829.0 | 424.9 | NM | NM | 0.2 | NM | NM | NM |
| August 9, 2016 | 1,011 | 359.5 | 0.0 | 0.3 | 1,696 | 58.8 | 193.1 | 3.6 |
| September 16, 2016 | 226.0 | 301.4 | 0.0 | 0.0 | 433.5 | 2.5 | 140.6 | 0.0 |
| October 5, 2016 | 1.1 | 281.0 | 0.0 | 0.8 | 397.9 | 0.0 | 11.4 | 0.2 |
| December 2, 2016 | 0.0 | 952.5 | 0.0 | 1,350 | 2,036 | 0.0 | 1,751 | 0.0 |
| December 21, 2016 | 0.0 | 1,697 | 0.0 | 670.6 | 1,563 | 102.7 | 1,189 | 0.0 |
| January 12, 2017 | 0.3 | 3,043 | 0.0 | 472.5 | 937.8 | 0.0 | 1,975 | 0.0 |
| February 22, 2017 | 0.4 | 1,702 | 0.0 | 5.0 | 430.7 | 0.0 | 332.9 | 0.0 |
| March 30, 2017 | 0.1 | 7.1 | 0.0 | 6.3 | 289.6 | 0.0 | 95.8 | 0.0 |
| April 13, 2017 | 0.4 | 40.2 | 0.0 | 4.2 | 10.3 | 0.0 | 266.5 | 0.0 |
| May 16, 2017 | 17.4 | 210.0 | 0.1 | 7.7 | 0.2 | 0.1 | 31.4 | 0.0 |
| June 20, 2017 | 656.6 | 47.4 | 0.1 | 5.1 | 4.1 | 33.6 | 391.6 | 3.5 |
| July 25, 2017 | 37.9 | 7.8 | 1.4 | 1.2 | 1.0 | 104.0 | 379.0 | 11.2 |
| August 22, 2017 | 44.8 | 445.8 | 0.2 | 7.4 | 666.6 | 28.1 | 3,030 | 18.5 |
| September 25, 2017 | 21.8 | 1.4 | 0.7 | 2.4 | 146.3 | 5.8 | 357 | 1.5 |
| October 25, 2017 | 25.6 | 15,000 | 0.2 | 15,000 | 15,000 | 28.7 | 15,000 | 117.8 |
| November 22, 2017 | 15,000 | 385 | 0.9 | 15,000 | 15,000 | 1,132 | 15,000 | 624 |
| December 28, 2017 | 32.8 | 1,072 | 4.6 | 305.8 | 15,000 | 37.6 | 387.1 | 105.5 |
| January 24, 2018 | 3.0 | 819.3 | 0.0 | 276 | 2.6 | 0.1 | 511.7 | 2.2 |
| January 31, 2018 | 15.0 | 7.0 | 0.0 | 633.2 | 1,260 | 5.0 | 911.9 | 2.9 |
| February 15, 2018 | 177.6 | 3,272 | 0.0 | 15,000 | 15,000 | 650.6 | 15,000 | 31.6 |
| March 27, 2018 | 15.9 | 382.6 | 0.6 | 232.6 | 278.2 | 10.5 | 156.6 | 0.9 |
| April 26, 2018 | 38.2 | 143.2 | 0.0 | 72.7 | 242.6 | 2.8 | 61.6 | 0.3 |
| May 3, 2018 | 60.0 | 467.6 | 0.4 | 276.6 | 142.1 | 13.8 | 523.3 | 7.1 |
| May 23, 2018 | 168.6 | 1,906 | 257.8 | 356.8 | 1,307 | 877.8 | 24.0 | 46.3 |

Notes: NM - Not Measured

All readings in parts per million (ppm)

| Sample Location | | EPA Regional Screening Level Resident Air (10 ⁻⁶ or HI=1) | HSCA Screening Level for Soil Gas | | | DA-SG-9 | | | |
|------------------------------|---------------------------|---|--|--------------------------|--------------|---------------|---------------|---------------|-------------------|
| Sample Date | | | May 2018 | February 2018 | 10/25/2012 | 9/11/2013 | 7/2/2018 | 8/27/2018 | 12/19/2018 |
| Sample Identification | | µg/m³ | μg/m ³ | DA-SG09-G001 | DA-SG09-G002 | SVE-SG09-G001 | SVE-SG09-G002 | SVE-SG09-G003 | |
| Sample Depth | | | | | Shallow | Shallow | Shallow | Shallow | Shallow |
| TO-15 Analytes | Carcinogen (yes or no) | CAS Number | Attenuation factor of 0.1 for shallow soil gas | No Attenuation Factor | µg/m³ | µg/m³ | μg/m³ | μg/m³ | μg/m ³ |
| Benzene | Yes | 71-43-2 | 3.6 | 12 | 3.8 | 6.6 | 4 l | 0.6 | 0.4 J |
| Ethylbenzene | Yes | 100-41-4 | 11.0 | 36 | 58 | 2.2 | 5.0 l | U 0.9 ر | 0.3 U |
| n-Hexane | No | 110-54-3 | 7,300 | 2,400 | 13 | 36 | 4 l | 4 ر | 0.8 |
| Toluene | No | 108-88-3 | 52,000 | 17,000 | 390 | 3.0 | 380 | 2 | 0.4 J |
| 1,2,4-Trimethylbenzene | No | 95-63-6 | 630 | 210 | 250 | 2.5 | 6 L | ן 1 U | 0.4 U |
| m,p-Xylene | No | 179601-23-1 | 1,000 | 330 | 210 | 3.2 | 13 l | ل 2 U | 0.3 J |
| Xylene, o- | No | 95-47-6 | 1,000 | 330 | 88 | 0.89 | 5 L | ر 0.9 U | 0.3 U |
| Xylene (total) | No | 1330-20-7 | 1,000 | 330 | NR | 4.1 | 18 l | J NR | 0.6 U |
| TICs (total concentration)** | nca | nca | nca | nca | 11,700 | 511 | NR | NR | NR |

Qualifiers

Bolded - Exceeds United States Environmental Protection Agency (EPA) regional screening level (carcinogenic

risk = 10^{-6} or hazard index (HI) = 1).

Shaded - Exceeds Hazardous Substance Cleanup Act (HSCA) Screening Level.

* - Laboratory control sample (LCS) or laboratory control sample duplicate (LCSD) is outside acceptance limits.

** Concentration reported in parts per billion/volume (ppbv), this is a total concentration of several tentatively identified compounds (TICs).

Sampling nomenclature is as follows: DA=Dodson Ave.; AA=Ambient Air; SVE=Soil Vapor Extraction; G00X=Sample Round.

D - Sample results are obtained from a dilution; the surrogate or matrix spike recoveries reported are calculated from diluted samples.

E - Result exceeded calibration range.

J - Estimated value; the result is ≥ the Method Detection Limit (MDL) and < the Reporting

Limit (RL).

U - Compound was not detected above the RL.

nca - No criteria available.

NR - Not Reported.

| ^{D1} - 27x Dilution | D4 - 153.9x Dilution |
|------------------------------|-------------------------------|
| D2 - 137x Dilution | ^{D5} - 897x Dilution |
| ^{D3} - 50x Dilution | D6 - 5,100x Dilution |

| Sample Location | | EPA Regional Screening Level Resident Air (10 ⁻⁶ or HI=1) | HSCA Screening Level for Soil Gas | | | DA-SG-10 | | | | |
|------------------------------|---------------------------|---|--|--------------------------|--------------|---------------|---------------|---------------|------------|--|
| Sample Date | | | May 2018 | February 2018 | 10/24/2012 | 9/11/2013 | 7/2/2018 | 8/27/2018 | 12/19/2018 | |
| Sample Identification | | μg/m ³ | μg/m ³ | DA-SG-10-G001 | DA-SG10-G002 | SVE-SG10-G001 | SVE-SG10-G002 | SVE-SG10-G003 | | |
| Sample Depth | | | | | Shallow | Shallow | Shallow | Shallow | Shallow | |
| TO-15 Analytes | Carcinogen (yes or no) | CAS Number | Attenuation factor of 0.1 for shallow soil gas | No Attenuation Factor | µg/m³ | µg/m³ | µg/m³ | µg/m³ | µg/m³ | |
| Benzene | Yes | 71-43-2 | 3.6 | 12 | 15 | 18 | 4 U | 0.6 U | 0.2 J | |
| Ethylbenzene | Yes | 100-41-4 | 11.0 | 36 | 8.7 U | 0.87 U | 6 U | 0.9 U | 0.3 U | |
| n-Hexane | No | 110-54-3 | 7,300 | 2,400 | 7.0 U | 0.70 U | 5 U | 0.7 U | 0.9 | |
| Toluene | No | 108-88-3 | 52,000 | 17,000 | 1,000 | 4.3 | 510 | 0.8 | 0.5 J | |
| 1,2,4-Trimethylbenzene | No | 95-63-6 | 630 | 210 | 9.8 U | 0.98 U | 7 U | 1 U | 0.4 U | |
| m,p-Xylene | No | 179601-23-1 | 1,000 | 330 | 22 U | 2.2 U | 15 U | 2 U | 0.3 U | |
| Xylene, o- | No | 95-47-6 | 1,000 | 330 | 8.7 U | 0.87 U | 6 U | 0.9 U | 0.3 U | |
| Xylene (total) | No | 1330-20-7 | 1,000 | 330 | NR | 0.97 | 21 U | NR | 0.6 U | |
| TICs (total concentration)** | nca | nca | nca | nca | 12,700 | 133 | NR | NR | NR | |

Qualifiers

Bolded - Exceeds United States Environmental Protection Agency (EPA) regional screening level (carcinogenic

risk = 10^{-6} or hazard index (HI) = 1).

Shaded - Exceeds Hazardous Substance Cleanup Act (HSCA) Screening Level.

* - Laboratory control sample (LCS) or laboratory control sample duplicate (LCSD) is outside acceptance limits.

** Concentration reported in parts per billion/volume (ppbv), this is a total concentration of several tentatively identified compounds (TICs).

Sampling nomenclature is as follows: DA=Dodson Ave.; AA=Ambient Air; SVE=Soil Vapor Extraction; G00X=Sample Round.

D - Sample results are obtained from a dilution; the surrogate or matrix spike recoveries reported are calculated from diluted samples.

E - Result exceeded calibration range.

J - Estimated value; the result is ≥ the Method Detection Limit (MDL) and < the Reporting

Limit (RL).

U - Compound was not detected above the RL.

nca - No criteria available.

NR - Not Reported.

| ^{D1} - 27x Dilution | D4 - 153.9x Dilution |
|------------------------------|-------------------------------|
| D2 - 137x Dilution | ^{D5} - 897x Dilution |
| ^{D3} - 50x Dilution | D6 - 5,100x Dilution |

| Sample Location | | | EPA Regional Screening Level Resident Air (10 ⁻⁶ or HI=1) | HSCA Screening Level for Soil Gas | | | | | | DA-SG-13S | | | | | | |
|------------------------------|---------------------------|-------------|---|--------------------------------------|--------------------|---------------|--|---------|---------------|----------------|----------------|---|-------------------|----------------|------------|--|
| Sample Date | | | May 2018 | February 2018 | 10/24/2012 3/1/201 | | | 2013 | | 9/12/2013 | 7/2/2018 | 8 | 8/27/2018 | | 12/19/2018 | |
| Sample Identification | | | μɡ/m³ μɡ/m ^³ | | DA-SG-13S-G001 | DA-SG-13S-G00 | DA-SG-13S-G002 DA-SG-13S-G102 (Duplicate) | | DA-SG13S-G003 | SVE-SG13S-G001 | SVE-SG13S-G002 | | 2 | SVE-SG13S-G003 | | |
| Sample Depth | | | | | Shallow | Shallow | | Shallow | Shallow | | Shallow | | Shallow | | Shallow | |
| TO-15 Analytes | Carcinogen (yes or no) | CAS Number | Attenuation factor of 0.1 for shallow soil gas | No Attenuation Factor | µg/m³ | µg/m³ | | μg/m³ | | μg/m³ | µg/m³ | | µg/m ³ | | µg/m³ | |
| Benzene | Yes | 71-43-2 | 3.6 | 12 | 2.8 U | 32 | U | 38 | U | 15 |) 18 เ | J | 0.6 | U | 0.6 | |
| Ethylbenzene | Yes | 100-41-4 | 11.0 | 36 | 3.9 U | 44 | U | 52 | U | 21 | ม 24 เ | J | 0.9 | U | 0.3 U | |
| n-Hexane | No | 110-54-3 | 7,300 | 2,400 | 28 | 1,100 | | 1,100 | | 660 | 20 l | J | 0.7 | U | 6 | |
| Toluene | No | 108-88-3 | 52,000 | 17,000 | 390 | 38 | U | 45 | U | 18 | J 2,300 | | 2 | | 0.4 J | |
| 1,2,4-Trimethylbenzene | No | 95-63-6 | 630 | 210 | 4.4 U | 49 | U | 59 | U | 24 | J 28 l | J | 4 | | 0.4 U | |
| m,p-Xylene | No | 179601-23-1 | 1,000 | 330 | 9.6 U | 110 | U | 130 | U | 52 | J 61 l | J | 2 | U | 0.3 J | |
| Xylene, o- | No | 95-47-6 | 1,000 | 330 | 3.9 U | 44 | U | 52 | U | 21 1 | J 24 l | J | 0.9 | U | 0.3 U | |
| Xylene (total) | No | 1330-20-7 | 1,000 | 330 | NR | 44 | U | 52 | U | 21 | J 85 U | J | NR | | 0.6 U | |
| TICs (total concentration)** | nca | nca | nca | nca | 4,760 | 18,500 | | 18,700 | | 7,280 | NR | | NR | | NR | |

Qualifiers

Bolded - Exceeds United States Environmental Protection Agency (EPA) regional screening level (carcinogenic

risk = 10^{-6} or hazard index (HI) = 1).

Shaded - Exceeds Hazardous Substance Cleanup Act (HSCA) Screening Level.

* - Laboratory control sample (LCS) or laboratory control sample duplicate (LCSD) is outside acceptance limits.

** Concentration reported in parts per billion/volume (ppbv), this is a total concentration of several tentatively identified compounds (TICs).

Sampling nomenclature is as follows: DA=Dodson Ave.; AA=Ambient Air; SVE=Soil Vapor Extraction; G00X=Sample Round.

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E - Result exceeded calibration range.

J - Estimated value; the result is ≥ the Method Detection Limit (MDL) and < the Reporting Limit (RL).

U - Compound was not detected above the RL.

nca - No criteria available.

NR - Not Reported.

| ^{D1} - 27x Dilution | ^{D4} - 153.9x Dilution |
|------------------------------|---------------------------------|
| D2 - 137x Dilution | ^{D5} - 897x Dilution |

^{D3} - 50x Dilution ^{D6} - 5,100x Dilution

| Sample Location | | | EPA Regional Screening Level Resident Air (10 ⁻⁶ or HI=1) | HSCA Screening Level for Soil Gas | | | | | | | | | | |
|--|---------------------------|-------------|---|--------------------------------------|----------------|----------------|------------------------|-------------------|--|--|--|--|--|--|
| Sample Date Sample Identification Sample Depth | | | May 2018 | February 2018 | 10/24/2012 | 9/12/2013 | 9/12/2013 7/2/2018 8/2 | | | | | | | |
| | | | µg/m³ | µg/m³ | DA-SG-14S-G001 | DA-SG-14S-G002 | SVE-SG-14S-G001 | SVE-SG-14S-G002 | | | | | | |
| | | | | | Shallow | Shallow | Shallow | Shallow | | | | | | |
| TO-15 Analytes | Carcinogen (yes or no) | CAS Number | Attenuation factor of 0.1 for shallow soil gas | No Attenuation Factor | µg/m³ | μg/m³ | µg/m³ | μg/m ³ | | | | | | |
| Benzene | Yes | 71-43-2 | 3.6 | 12 | 450 | 470 | 63 | 230 | | | | | | |
| Ethylbenzene | Yes | 100-41-4 | 11.0 | 36 | 2,200 | 3,000 | 220 | 950 | | | | | | |
| n-Hexane | No | 110-54-3 | 7,300 | 2,400 | 55,000 | 50,000 | 4,500 | 12,000 | | | | | | |
| Toluene | No | 108-88-3 | 52,000 | 17,000 | 1,300 | 360 l | J 1,200 | 75 U | | | | | | |
| 1,2,4-Trimethylbenzene | No | 95-63-6 | 630 | 210 | 2,800 | 4,200 | 340 | 1,500 | | | | | | |
| m,p-Xylene | No | 179601-23-1 | 1,000 | 330 | 3,200 | 2,000 | 570 | 1,700 | | | | | | |
| Xylene, o- | No | 95-47-6 | 1,000 | 330 | 1,100 | 420 U | J 260 | 960 | | | | | | |
| Xylene (total) | No | 1330-20-7 | 1,000 | 330 | NR | 2,300 | 820 | NR | | | | | | |
| TICs (total concentration)** | nca | nca | nca | nca | 149,600 | 107,000 | NR | NR | | | | | | |

Qualifiers

Bolded - Exceeds United States Environmental Protection Agency (EPA) regional screening level (carcinogenic risk = 10^{-6} or hazard index (HI) = 1).

Shaded - Exceeds Hazardous Substance Cleanup Act (HSCA) Screening Level.

* - Laboratory control sample (LCS) or laboratory control sample duplicate (LCSD) is outside acceptance limits.

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nca - No criteria available.

NR - Not Reported.

D1 - 27x Dilution

^{D4} - 153.9x Dilution

^{D2} - 137x Dilution ^{D3} - 50x Dilution

- ^{D5}- 897x Dilution
- D6 5,100x Dilution

| Sample Location Sample Date Sample Identification | | | EPA Regional Screening Level Resident Air (10 ⁻⁶ or HI=1) | HSCA Screening Level for Soil Gas | | | ı | DA-S | G-14S | | | |
|---|---------------------------|-------------|---|--------------------------------------|-------------------------------|---|-------------------------------------|------|-------------------------------|-----|---------------------------------------|----|
| | | | May 2018 | February 2018 | 12/19/2018 | | 12/19/2018 | | 12/19/2018 | | 12/19/2018 | |
| | | | μg/m ³ μg/m ³ | | SVE-SG-14S-G003 ^{D1} | | SVE-SG-14S-G00 (Secondary Analys | | SVE-SG-14S-G003 ^{D2} | | SVE-SG-14S-G003 (Secondary Analysi | |
| Sample Depth | | | | | Shallow | | Shallow | | Shallow | | Shallow | |
| TO-15 Analytes | Carcinogen (yes or no) | CAS Number | Attenuation factor of 0.1 for shallow soil gas | No Attenuation Factor | μg/m³ | | μg/m ³ | | μg/m³ | | µg/m³ | |
| Benzene | Yes | 71-43-2 | 3.6 | 12 | 140 | | NR | | NR | | 130 | D |
| Ethylbenzene | Yes | 100-41-4 | 11.0 | 36 | 360 | | NR | | NR | | 370 | D |
| n-Hexane | No | 110-54-3 | 7,300 | 2,400 | NR | | 9,100 | Е | 11,000 I | D * | NR | |
| Toluene | No | 108-88-3 | 52,000 | 17,000 | 7 | U | NR | | NR | | 36 | U |
| 1,2,4-Trimethylbenzene | No | 95-63-6 | 630 | 210 | 340 | | NR | | NR | | 360 | D |
| m,p-Xylene | No | 179601-23-1 | 1,000 | 330 | 270 | | NR | | NR | | 280 | JD |
| Xylene, o- | No | 95-47-6 | 1,000 | 330 | 89 | | NR | | NR | | 97 | JD |
| Xylene (total) | No | 1330-20-7 | 1,000 | 330 | 360 | | NR | | NR | | 380 | JD |
| TICs (total concentration)** | nca | nca | nca | nca | NR | | NR | | NR | | NR | |

Qualifiers

Bolded - Exceeds United States Environmental Protection Agency (EPA) regional screening level (carcinogenic

risk = 10^{-6} or hazard index (HI) = 1).

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Limit (RL).

U - Compound was not detected above the RL.

nca - No criteria available.

NR - Not Reported.

| D1 - 27x Dilution | |
|-------------------|--|
|-------------------|--|

| D4 - 153.9x Dilution |
|-------------------------------|
| ^{D5} - 897x Dilution |

^{D2} - 137x Dilution ^{D3} - 50x Dilution

D6 - 5,100x Dilution

| Sample Location Sample Date Sample Identification Sample Depth | | | EPA Regional Screening Level Resident Air (10 ⁻⁶ or HI=1) | HSCA Screening Level for Soil Gas | | | | | | | | | | |
|---|---------------------------|-------------|---|--------------------------------------|--------------|--------------|----|--------------|---------|----------------------------|------|--|--|--|
| | | | May 2018 | February 2018 | 9/12/2013 | 7/2/2018 | | 4 | 8/27/ | 3/27/2018 | | | | |
| | | | µg/m³ | µg/m³ | DA-SG28-G001 | SVE-SG28-G00 |)1 | SVE-SG28-G00 | 2 | SVE-SG28-G1 (Duplicate) | | | | |
| | | | | | Shallow | Shallow | | Shallow | Shallow | | | | | |
| TO-15 Analytes | Carcinogen (yes or no) | CAS Number | Attenuation factor of 0.1 for shallow soil gas | No Attenuation Factor | µg/m³ | µg/m³ | | µg/m³ | | µg/m³ | | | | |
| Benzene | Yes | 71-43-2 | 3.6 | 12 | 140,000 | 4,300 | | 8,500 | | 7,900 |) | | | |
| Ethylbenzene | Yes | 100-41-4 | 11.0 | 36 | 13,000 | 97 | | 360 | | 320 |) | | | |
| n-Hexane | No | 110-54-3 | 7,300 | 2,400 | 200,000 | 1,500 | | 5,300 | | 5,000 |) | | | |
| Toluene | No | 108-88-3 | 52,000 | 17,000 | 3,000 | 1,400 | | 310 | | 290 |) | | | |
| 1,2,4-Trimethylbenzene | No | 95-63-6 | 630 | 210 | 7,100 | 94 | U | 270 | U | 270 | υ | | | |
| m,p-Xylene | No | 179601-23-1 | 1,000 | 330 | 44,000 | 360 | | 1,100 | | 1,000 |) | | | |
| Xylene, o- | No | 95-47-6 | 1,000 | 330 | 6,600 | 83 | U | 230 | U | 230 | ้) บ | | | |
| Xylene (total) | No | 1330-20-7 | 1,000 | 330 | 51,000 | 360 | | NR | | NR | ٢ | | | |
| TICs (total concentration)** | nca | nca | nca | nca | 1,160,000 | NR | | NR | | NR | र | | | |

Qualifiers

Bolded - Exceeds United States Environmental Protection Agency (EPA) regional screening level (carcinogenic risk = 10^{-6} or hazard index (HI) = 1).

Shaded - Exceeds Hazardous Substance Cleanup Act (HSCA) Screening Level.

* - Laboratory control sample (LCS) or laboratory control sample duplicate (LCSD) is outside acceptance limits.

** Concentration reported in parts per billion/volume (ppbv), this is a total concentration of several tentatively identified compounds (TICs).

Sampling nomenclature is as follows: DA=Dodson Ave.; AA=Ambient Air; SVE=Soil Vapor Extraction; G00X=Sample Round.

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E - Result exceeded calibration range.

J - Estimated value; the result is ≥ the Method Detection Limit (MDL) and < the Reporting Limit (RL).

U - Compound was not detected above the RL.

nca - No criteria available.

NR - Not Reported.

D1 - 27x Dilution

D2 - 137x Dilution

D3 - 50x Dilution

- ^{D4} 153.9x Dilution ^{D5}- 897x Dilution
- D6 5,100x Dilution

| Sample Location | | | EPA Regional Screening Level Resident Air (10 ⁻⁶ or HI=1) | HSCA Screening Level for Soil Gas | | | | DA-SG28 12/19/2018 | | | | | | | |
|------------------------------|---------------------------|-------------|---|--------------------------------------|--------------|---|---------|---------------------------------|---|--|---|---------------------------------|----|--|--|
| | | | May 2018 µg/m ³ | February 2018 µg/m ³ | | | | | | | | | | | |
| Sample Identification | | | µg/m | µg/m | SVE-SG28-G00 | SVE-SG28-G003 SVE-SG28-G103 ^{D3} (Duplicate) | | (Duplicate / Secon Analysis) | | SVE-SG28-G103 ^{D4} (Duplicate) | | Duplicate / Second Analysis) | | | |
| Sample Depth | | | | | Shallow | | Shallow | Shallow | | Shallow | | Shallow | | | |
| TO-15 Analytes | Carcinogen (yes or no) | CAS Number | Attenuation factor of 0.1 for shallow soil gas | No Attenuation Factor | µg/m³ | µg/m³ µg/m³ | | µg/m³ | | µg/m³ | | µg/m³ | | | |
| Benzene | Yes | 71-43-2 | 3.6 | 12 | 1,600 | D | 1,400 | NR | | NR | | 1,700 | D | | |
| Ethylbenzene | Yes | 100-41-4 | 11.0 | 36 | 49 | U | 32 J | NR | | NR | | 49 | U | | |
| n-Hexane | No | 110-54-3 | 7,300 | 2,400 | 8,000 | D | NR | 7,400 | Е | 8,700 I | D | NR | | | |
| Toluene | No | 108-88-3 | 52,000 | 17,000 | 43 | JD | 43 | NR | | NR | | 44 、 | JD | | |
| 1,2,4-Trimethylbenzene | No | 95-63-6 | 630 | 210 | 60 | U | 24 J | NR | | NR | | 61 | U | | |
| m,p-Xylene | No | 179601-23-1 | 1,000 | 330 | 79 | JD | 91 J | NR | | NR | | 84 、 | JD | | |
| Xylene, o- | No | 95-47-6 | 1,000 | 330 | 47 | U | 18 J | NR | | NR | | 47 | U | | |
| Xylene (total) | No | 1330-20-7 | 1,000 | 330 | 94 | U | 110 J | NR | | NR | | 94 | U | | |
| TICs (total concentration)** | nca | nca | nca | nca | NR | | NR | NR | | NR | | NR | | | |

Qualifiers

Bolded - Exceeds United States Environmental Protection Agency (EPA) regional screening level (carcinogenic

risk = 10^{-6} or hazard index (HI) = 1).

Shaded - Exceeds Hazardous Substance Cleanup Act (HSCA) Screening Level.

* - Laboratory control sample (LCS) or laboratory control sample duplicate (LCSD) is outside acceptance limits.

** Concentration reported in parts per billion/volume (ppbv), this is a total concentration of several tentatively identified compounds (TICs).

Sampling nomenclature is as follows: DA=Dodson Ave.; AA=Ambient Air; SVE=Soil Vapor Extraction; G00X=Sample Round.

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E - Result exceeded calibration range.

J - Estimated value; the result is ≥ the Method Detection Limit (MDL) and < the Reporting

Limit (RL).

U - Compound was not detected above the RL.

nca - No criteria available.

NR - Not Reported.

| ^{D1} - 27x Dilution | ^{D4} - 153.9x Dilution |
|------------------------------|---------------------------------|
| D2 - 137x Dilution | ^{D5} - 897x Dilution |
| ^{D3} - 50x Dilution | D6 - 5,100x Dilution |

| Sample Location | | | EPA Regional Screening Level Resident Air (10 ⁻⁶ or HI=1) | HSCA Screening Level for Soil Gas | DA-SG29 | | | | | | | | | |
|------------------------------|---------------------------|-------------|---|--------------------------------------|--------------------|-------|--------------|-----------|---------------|---|--------------|----|--|--|
| Sample Date | | | May 2018 | February 2018 | 9/12/2013 7/2/2018 | | 8/27/2018 | 8/27/2018 | | | | | | |
| Sample Identification | | | µg/m³ | µg/m³ | DA-SG29-G001 | | SVE-SG29-G00 |)1 | SVE-SG29-G002 | 2 | SVE-SG29-G00 | 03 | | |
| Sample Depth | | | | Shallow Shallow Shallow Shallow | | | Shallow | | | | | | | |
| TO-15 Analytes | Carcinogen (yes or no) | CAS Number | Attenuation factor of 0.1 for shallow soil gas | No Attenuation Factor | µg/m³ | μg/m³ | | | µg/m³ | | µg/m³ | | | |
| Benzene | Yes | 71-43-2 | 3.6 | 12 | 0.84 | | 0.6 | U | 0.6 | U | 0.2 | U | | |
| Ethylbenzene | Yes | 100-41-4 | 11.0 | 36 | 0.87 | U | 0.9 | U | 0.9 | U | 0.3 | U | | |
| n-Hexane | No | 110-54-3 | 7,300 | 2,400 | 3.7 | | 0.7 | U | 2 | | 1 | | | |
| Toluene | No | 108-88-3 | 52,000 | 17,000 | 2.3 | | 4 | | 0.9 | | 0.3 | U | | |
| 1,2,4-Trimethylbenzene | No | 95-63-6 | 630 | 210 | 0.98 | U | 1 | U | 1 | U | 0.4 | U | | |
| m,p-Xylene | No | 179601-23-1 | 1,000 | 330 | 2.2 | U | 2 | U | 2 | U | 0.3 | U | | |
| Xylene, o- | No | 95-47-6 | 1,000 | 330 | 1.2 | | 0.9 | U | 0.9 | U | 0.3 | U | | |
| Xylene (total) | No | 1330-20-7 | 1,000 | 330 | 2.8 | | 3 | | NR | | 0.6 | U | | |
| TICs (total concentration)** | nca | nca | nca | nca | 34.5 | | NR | | NR | | NR | | | |

Qualifiers

Bolded - Exceeds United States Environmental Protection Agency (EPA) regional screening level (carcinogenic risk = 10^{-6} or hazard index (HI) = 1).

Shaded - Exceeds Hazardous Substance Cleanup Act (HSCA) Screening Level.

* - Laboratory control sample (LCS) or laboratory control sample duplicate (LCSD) is outside acceptance limits.

** Concentration reported in parts per billion/volume (ppbv), this is a total concentration of several tentatively identified compounds (TICs).

Sampling nomenclature is as follows: DA=Dodson Ave.; AA=Ambient Air; SVE=Soil Vapor Extraction; G00X=Sample Round.

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E - Result exceeded calibration range.

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nca - No criteria available.

NR - Not Reported.

- D1 27x Dilution
- D2 137x Dilution
- ^{D3} 50x Dilution

- ^{D4} 153.9x Dilution ^{D5}- 897x Dilution
- D6 5,100x Dilution

| Sample Location | Location EPA Regional Screening Level Resident Air HSCA Screening (10 ⁻⁶ or HI=1) Level for Soil Gas | | | | | | | DA-S | 6G31 | | | |
|------------------------------|--|-------------|--|--------------------------|-------------------|-----------------|-----------------------------------|--------------|-----------------|---|------------|----|
| Sample Date | | | May 2018 | February 2018 | 12/19/2018 | 12/19/2018 | | | 12/19/2018 | | 12/19/2018 | |
| ample Identification | | | µg/m³ µg/m³ | | SVE-SG31-G00 | 1 ^{D5} | SVE-SG31-G001 (Secondary Analy | SVE-SG31-G00 | 1 ^{D6} | SVE-SG31-G001 ^{D6} (Secondary Analysis) | | |
| Sample Depth | | | | | Shallow | | Shallow | | Shallow | | Shallow | |
| TO-15 Analytes | Carcinogen (yes or no) | CAS Number | Attenuation factor of 0.1 for shallow soil gas | No Attenuation Factor | μg/m ³ | μg/m³ | | | µg/m3 | | µg/m3 | |
| Benzene | Yes | 71-43-2 | 3.6 | 12 | 10,000 | | NR | | NR | | 7,000 | D |
| Ethylbenzene | Yes | 100-41-4 | 11.0 | 36 | 3,800 | | NR | | NR | | 3,100 | JD |
| n-Hexane | No | 110-54-3 | 7,300 | 2,400 | NR | | 370,000 | Е | 240,000 | D | NR | |
| Toluene | No | 108-88-3 | 52,000 | 17,000 | 580 | J | NR | | NR | | 1,300 | U |
| 1,2,4-Trimethylbenzene | No | 95-63-6 | 630 | 210 | 1,400 | | NR | | NR | | 2,000 | U |
| m,p-Xylene | No | 179601-23-1 | 1,000 | 330 | 2,800 | | NR | | NR | | 2,600 | JD |
| Xylene, o- | No | 95-47-6 | 1,000 | 330 | 280 | U | NR | | NR | | 1,600 | U |
| Xylene (total) | No | 1330-20-7 | 1,000 | 330 | 2,800 | | NR | | NR | | 3,100 | U |
| TICs (total concentration)** | nca | nca | nca | nca | NR | | NR | | NR | | NR | |

Qualifiers

Bolded - Exceeds United States Environmental Protection Agency (EPA) regional screening level (carcinogenic

risk = 10^{-6} or hazard index (HI) = 1).

Shaded - Exceeds Hazardous Substance Cleanup Act (HSCA) Screening Level.

* - Laboratory control sample (LCS) or laboratory control sample duplicate (LCSD) is outside acceptance limits.

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Limit (RL).

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nca - No criteria available.

NR - Not Reported.

- ^{D1} 27x Dilution ^{D2} - 137x Dilution
- ^{D4} 153.9x Dilution ^{D5}- 897x Dilution
- D3 50x Dilution

D6 - 5,100x Dilution

| Sample Location | ple Date | | EPA Regional Screening Level Resident Air (10 ⁻⁶ or HI=1) | HSCA Screening Level for Soil Gas | | | | | Ambient Air | | |
|------------------------------|---------------------------|-------------|---|--------------------------------------|--------------|------------|-------------------------------------|---|--------------|--------------|--------------|
| Sample Date | | | May 2018 | February 2018 | 10/24/2012 | 10/24/2012 | | | 3/1/2013 | 9/10/2013 | 9/11/2013 |
| Sample Identification | | | µg/m ³ µg/m ³ | | DA-AA-2-G001 | | DA-AA-4-G001 | | DA-AA-6-G001 | DA-AA08-G001 | DA-AA09-G001 |
| ample Depth | | | | | Ambient Air | | Ambient Air | | Ambient Air | Ambient Air | Ambient Air |
| TO-15 Analytes | Carcinogen (yes or no) | CAS Number | Attenuation factor of 0.1 for shallow soil gas | No Attenuation Factor | μg/m³ | | µg/m ³ µg/m ³ | | µg/m³ | µg/m³ | μg/m³ |
| Benzene | Yes | 71-43-2 | 3.6 | 12 | 2.5 | | 0.64 | U | 0.64 U | 0.64 U | 0.64 U |
| Ethylbenzene | Yes | 100-41-4 | 11.0 | 36 | 0.87 | U | 0.87 | U | 0.87 U | 0.87 U | 0.87 U |
| n-Hexane | No | 110-54-3 | 7,300 | 2,400 | 2.1 | | 2.8 | | 0.70 U | 0.70 U | 0.70 U |
| Toluene | No | 108-88-3 | 52,000 | 17,000 | 5.9 | | 1.7 | | 0.75 U | 3.3 | 2.1 |
| 1,2,4-Trimethylbenzene | No | 95-63-6 | 630 | 210 | 0.98 | U | 0.98 | U | 0.98 U | 0.98 U | 0.98 U |
| m,p-Xylene | No | 179601-23-1 | 1,000 | 330 | 2.4 | | 2.2 | U | 2.2 U | 2.2 U | 2.2 U |
| Xylene, o- | No | 95-47-6 | 1,000 | 330 | 0.95 | | 0.87 | U | 0.87 U | 0.87 U | 0.87 U |
| Xylene (total) | No | 1330-20-7 | 1,000 | 330 | NR | | NR | | 0.87 U | 0.87 U | 0.87 U |
| TICs (total concentration)** | nca | nca | nca | nca | 7.7 | | 40.5 | | 19.8 | 10.5 | ND |

Qualifiers

Bolded - Exceeds United States Environmental Protection Agency (EPA) regional screening level (carcinogenic

risk = 10^{-6} or hazard index (HI) = 1).

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Vapor Extraction; G00X=Sample Round.

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Limit (RL).

U - Compound was not detected above the RL.

nca - No criteria available.

NR - Not Reported.

| ^{D1} - 27x Dilution | D4 - 153.9x Dilution |
|------------------------------|-------------------------------|
| D2 - 137x Dilution | ^{D5} - 897x Dilution |
| ^{D3} - 50x Dilution | D6 - 5,100x Dilution |

| Sample Location | | | EPA Regional Screening Level Resident Air (10 ⁻⁶ or HI=1) | HSCA Screening Level for Soil Gas | | | | | Ambient Air | | | | | |
|------------------------------|---------------------------|-------------|---|--------------------------------------|--------------|---|--------------|---|---------------|---|---------------|---------------|-------|-------|
| Sample Date | | | May 2018 | February 2018 | 9/12/2013 | | 9/13/2013 | | 7/2/2018 | | 8/27/2018 | 12/19/2018 | | |
| Sample Identification | ple Identification | | µg/m³ | μg/m ³ | DA-AA10-G001 | | DA-AA11-G001 | | SVE-AA01-G001 | | SVE-AA01-G002 | SVE-AA01-G003 | | |
| ample Depth | | | | | Ambient Air | | Ambient Air | | Ambient Air | | Ambient Air | Ambient Air | | |
| TO-15 Analytes | Carcinogen (yes or no) | CAS Number | Attenuation factor of 0.1 for shallow soil gas | No Attenuation Factor | µg/m³ | | µg/m³ | | µg/m³ | | µg/m³ | | µg/m³ | µg/m³ |
| Benzene | Yes | 71-43-2 | 3.6 | 12 | 0.64 l | U | 0.64 | | 11 | U | 0.6 U | 0.6 | | |
| Ethylbenzene | Yes | 100-41-4 | 11.0 | 36 | 0.87 L | U | 0.87 | U | 15 | U | 0.9 U | 0.3 U | | |
| n-Hexane | No | 110-54-3 | 7,300 | 2,400 | 0.75 | | 2.0 | | 12 | U | 1 | 0.6 J | | |
| Toluene | No | 108-88-3 | 52,000 | 17,000 | 1.9 | | 12 | | 13 | U | 0.8 | 0.8 | | |
| 1,2,4-Trimethylbenzene | No | 95-63-6 | 630 | 210 | 0.98 L | U | 0.98 | U | 17 | U | 1 U | 0.4 U | | |
| m,p-Xylene | No | 179601-23-1 | 1,000 | 330 | 2.2 L | U | 2.2 | U | 37 | U | 2 U | 0.4 J | | |
| Xylene, o- | No | 95-47-6 | 1,000 | 330 | 0.87 L | U | 0.87 | U | 15 | U | 0.9 U | 0.3 U | | |
| Xylene (total) | No | 1330-20-7 | 1,000 | 330 | 0.87 L | U | 2.0 | | 52 | U | NR | 0.6 U | | |
| TICs (total concentration)** | nca | nca | nca | nca | 53.1 | | 52.5 | | NR | | NR | NR | | |

Qualifiers

Bolded - Exceeds United States Environmental Protection Agency (EPA) regional screening level (carcinogenic

risk = 10^{-6} or hazard index (HI) = 1).

Shaded - Exceeds Hazardous Substance Cleanup Act (HSCA) Screening Level.

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** Concentration reported in parts per billion/volume (ppbv), this is a total concentration of several tentatively identified compounds (TICs).

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E - Result exceeded calibration range.

J - Estimated value; the result is ≥ the Method Detection Limit (MDL) and < the Reporting

Limit (RL).

U - Compound was not detected above the RL.

nca - No criteria available.

NR - Not Reported.

| ^{D1} - 27x Dilution | D4 - 153.9x Dilution |
|------------------------------|-------------------------------|
| D2 - 137x Dilution | ^{D5} - 897x Dilution |
| ^{D3} - 50x Dilution | D6 - 5,100x Dilution |

| Well ID | | | | | | DA-MW36S | | |
|---|--------------------------------|---------------|---|---------------|---|-------------|---------------|---------------|
| Screen Depth (ft - ft bgs) | Delaware HSCA Screening Levels | | | 1 | | 13.0 - 23.0 | | |
| Sample ID | (Updated February 2018) | DA-MW36S-W001 | | DA-MW36S-W002 | | MW-36S^ | DA-MW36S-W003 | DA-MW36S-W004 |
| Sample Date | | 9/18/2013 | | 10/14/2015 | | 11/4/2017 | 8/28/2018 | 12/18/2018 |
| Units | μg/L | µg/L | | µg/L | | µg/L | µg/L | µg/L |
| Matrix | Groundwater | Groundwater | | Groundwater | | Groundwater | Groundwater | Groundwater |
| Analyte | | | | | | | | |
| TCL VOLATILE ORGANIC COMPOUNDS | | | | | | 1 | | |
| 1,2,4-Trimethylbenzene | 5.6 | 300 | | 2.3 | | 270 | 53 | 11 |
| 1,2-Dichlorobenzene | 30 | 1.1 | | 0.44 | | 2.0 U | | 0.43 U |
| 1,2-Dichloroethane | 0.17 | 10 | | 15.0 | | 30 | 0.43 U | 0.73 J |
| 1,3,5-Trimethylbenzene | 6 | NA | | NA | | NA | 18 | 4.4 |
| 1,3-Dichlorobenzene | nca | 0.7 | | 0.66 | | 2.0 U | | 0.34 U |
| 1,4-Dichlorobenzene | 0.48 | 1.2 | U | 0.66 | | 2.0 U | 0.76 U | 0.76 U |
| 2-Butanone (MEK) | 560 | 44 | | 4.4 | U | 20 | 14 | 5.9 |
| 2-Hexanone | 3.8 | 19 | | 1.4 | | 10 U | - | 23 |
| 4-Methyl-2-pentanone (MIBK) | 630 | 5.0 | | 1.3 | | 17 | 30 | 19 |
| Acetone | 1,400 | 13 | U | 2.1 | U | 58 | 28 | 12 |
| Benzene | 0.46 | 800 | | 500 | | 750 | 52 | 32 |
| Chlorobenzene | 7.8 | 0.55 | U | 0.48 | U | 2.0 U | 0.38 U | 0.38 U |
| Cyclohexane | 1,300 | 280 | | 39.0 | | 250 | 33 | 10 |
| Ethylbenzene | 1.5 | 480 | | 3.5 | | 510 | 70 | 20 |
| lsopropylbenzene | 45 | 15 | | 14.0 | | 16 | 2.9 | 0.85 J |
| Methylcyclohexane | nca | 73 | * | 16.0 | | 87 | 14 | 5.0 |
| Methylene Chloride | 5 | 0.9 | U | 0.42 | U | 2.0 U | 0.32 U | 0.32 U |
| Styrene | 100 | 0.60 | U | 0.34 | U | 2.0 U | 0.42 U | 0.42 U |
| Tetrachloroethene | 1 | 0.50 | U | 0.24 | U | 2.0 U | 0.25 U | 0.25 U |
| Toluene | 110 | 440 | | 2.7 | | 78 | 9.9 | 4.9 |
| Xylenes, Total | 19 | 1,700 | | 10.0 | | 780 | 190 | 21 |
| Total Estimated Conc. (TICs) | nca | 1,650 | | 1,020 | | NA | 270 | 110 |
| No other VOCs were detected above the laboratory method detection | ction limits. | - | | | | | · · · · | |
| TCL SEMI-VOLATILE ORGANIC COMPOUNDS | | | | | | | | |
| 2,4-Dimethylphenol | 1.8 | 3.5 | U | 0.91 | U | 33 | 0.24 U | 3.8 J |
| 2-Methylnaphthalene | 3.6 | 180 | | 0.88 | U | 120 | 9.2 J | 3.3 J |
| 2-Methylphenol | 93 | 1.8 | U | 1.3 | U | 18 J | 2.7 J | 7.8 J |
| 4-Methylphenol | 190 | 2.4 | J | 0.87 | U | 10 J | 38 | 26 |
| Acenaphthene | 53 | 2.8 | U | 0.88 | U | 2.6 J | 1.1 U | 1.1 U |
| Acetophenone | 190 | 28 | | 1.0 | U | 48 | 6.5 J | 17 |
| Anthracene | 180 | 2.9 | U | 0.57 | U | 20 U | 0.63 U | 0.63 U |
| Bis(2-ethylhexyl) phthalate | 5.6 | 2.0 | U | 8.7 | В | 4.0 U | 1.7 U | 3.2 |
| Caprolactam | 990 | 2.6 | | 1.1 | U | 20 U | 120 | 0.68 U |
| Carbazole | nca | 3.3 | | 0.85 | | 20 U | | 0.68 U |
| Dibenzofuran | 0.79 | 3.8 | | 0.85 | | 3.6 J | | 1.1 U |
| Diethyl phthalate | 1,500 | 3.0 | | 1 | U | 20 U | | 0.98 U |
| Fluorene | 29 | 4.0 | | 0.80 | U | 5.3 J | 0.91 U | 0.91 U |
| Naphthalene | 0.17 | 240 | | 10.0 | | 180 | 12 | 4.4 J |
| Phenanthrene | 12 | 3.4 | J | 0.65 | | 3.1 J | 0.58 U | 0.58 U |
| Phenol | 580 | 0.83 | | | | 20 U | | 3.3 J |
| Pyrene | 12 | 3.0 | | 0.83 | | 20 U | | 1.6 U |
| Total Estimated Conc. (TICs) | nca | 3,630 | | 663 | | NA | 1,310 | 1,370 |
| No other SVOCs were detected above the laboratory method det | | -,••• | | | | | -, | -, |

Notes:

Shaded - Concentration exceeds February 2018 HSCA Screening Level.

Bold - Elevated TICs identified in sample (concentration greater than 10 µg/L).

NA - Not analyzed. nca - No criteria available. B - Compound was found in the blank and sample.

d - Duplicate sample.

D - Sample results are obtained from a dilution; the surrogate or matrix spike recoveries reported are calculated from diluted samples.

F1 - Matrix Spike and/or Matrix Spike Duplicate is outside acceptance limits.

H - Sample was prepped or analyzed beyond the specified holding time.

J - The result is less than the reporting limit, but greater than or equal to the method detection limit and the concentration is an approximate value. SVOCs - Semivolatile Organic Compounds.

TCL - Target Compound List.

TIC - Tentatively Identified Compounds. U - Indicates the analyte was analyzed for but not detected.

UJ - Not detected; associated reporting limit is estimated.

^ - Sample was collected during an investigation conducted by GHD in November 2017.

* - Recovery or relative percent difference exceeds control limits.

| Well ID | | | | | DA-M | W42 | | |
|---|--------------------------------|--------------|--------------|----|--------------|--------------|--------------|--------------|
| Screen Depth (ft - ft bgs) | Delaware HSCA Screening Levels | | | | 13.0 - | 23.0 | | |
| Sample ID | (Updated February 2018) | DA-MW42-W001 | DA-MW42-W002 | | DA-MW42-W003 | DA-MW42-W004 | DA-MW42-W005 | DA-MW42-W006 |
| Sample Date | | 3/26/2013 | 6/28/2013 | | 9/18/2013 | 10/13/2015 | 8/28/2018 | 12/18/2018 |
| Units | μg/L | μg/L | µg/L | | μg/L | μg/L | µg/L | μg/L |
| Matrix | Groundwater | Groundwater | Groundwater | | Groundwater | Groundwater | Groundwater | Groundwater |
| Analyte | | | | | | | | |
| TCL VOLATILE ORGANIC COMPOUNDS | | | | | | | | |
| 1,2,4-Trimethylbenzene | 5.6 | 730 | 570 | | 750 | 1,300 | 680 | 710 |
| 1.2-Dichlorobenzene | 30 | 1.1 U | 0.42 | | 0.42 U | 2.2 U | 0.86 U | 0.86 U |
| 1,2-Dichloroethane | 0.17 | 0.95 U | 0.38 | | 0.38 U | 2.5 U | 0.86 U | 0.86 U |
| 1,3,5-Trimethylbenzene | 6 | NA | NA | | NA | NA | 230 | 190 |
| 1,3-Dichlorobenzene | nca | 0.7 U | 0.28 | U | 0.28 U | 3.3 U | 0.68 U | 0.68 U |
| 1.4-Dichlorobenzene | 0.48 | 1.2 U | 0.46 | | 0.46 U | 3.3 U | 1.5 U | 1.5 U |
| 2-Butanone (MEK) | 560 | 12 J | 5.1 | J | 16 | 22.0 U | 31 | 12 |
| 2-Hexanone | 3.8 | 2.5 U | | - | 1.0 U | 7.2 U | 26 | 6.1 J |
| 4-Methyl-2-pentanone (MIBK) | 630 | 5.0 U | 2.0 | | 2.0 U | 6.3 U | 5.5 U | 5.5 U |
| Acetone | 1,400 | 13 U | 26 | | 5.4 U | 11.0 U | 88 | 23 |
| Benzene | 0.46 | 0.40 U | 0.91 | J | 0.16 U | 5.0 J | 2.6 | 0.86 U |
| Chlorobenzene | 7.8 | 0.55 U | 0.22 | U | 0.22 U | 2.4 U | 0.75 U | 0.75 U |
| Cyclohexane | 1,300 | 310 | 91 | _ | 270 | 410 | 210 | 200 |
| Ethylbenzene | 1.5 | 750 | 490 | | 510 | 1,500 | 570 | 520 |
| Isopropylbenzene | 45 | 39 | 33 | | 36 | 62.0 | 45 | 34 |
| Methylcyclohexane | nca | 120 | 32 | | 110 | 150 | 84 | 80 |
| Methylene Chloride | 5 | 0.9 U | | | 0.36 U | 2.1 U | 0.63 U | 0.63 U |
| Styrene | 100 | 17 | 16 | | 0.24 U | 43.0 | 0.8 U | 16 |
| Tetrachloroethene | 1 | 0.50 U | 0.20 | | 0.20 U | 1.2 U | 0.5 U | 0.50 U |
| Toluene | 110 | 330 | 220 | | 210 | 680 | 240 | 160 |
| Xylenes, Total | 19 | 1,300 | 920 | | 1,300 | 3,600 | 1,600 | 1,600 |
| Total Estimated Conc. (TICs) | nca | 2,540 | 1,240 | | 1,190 | 5,950 | 1,990 | 1,960 |
| No other VOCs were detected above the laboratory method detection | | _, | -, | ļ] | ., | -, | ., | - , |
| TCL SEMI-VOLATILE ORGANIC COMPOUNDS | | | | | | | | |
| 2,4-Dimethylphenol | 1.8 | 3.4 U | 3.5 | U | 3.5 U | 1.8 U | 0.48 U | 2.7 J |
| 2-Methylnaphthalene | 3.6 | 22 | 20 | | 28 | 28 | 23 | 19 |
| 2-Methylphenol | 93 | 1.8 U | 1.8 | | 1.8 U | 2.6 U | 0.52 U | 0.26 U |
| 4-Methylphenol | 190 | 2.4 J | 1.6 | | 1.8 U | 1.7 U | 2.2 J | 1.1 J |
| Acenaphthene | 53 | 2.7 U | 2.8 | | 2.8 U | 1.8 U | 2.2 U | 1.1 U |
| Acetophenone | 190 | 2.7 U | 2.8 | | 2.8 U | 2.1 U | 35 | 0.79 U |
| Anthracene | 180 | 2.8 U | 2.9 | | 2.9 U | 1.1 U | 1.3 U | 0.63 U |
| Bis(2-ethylhexyl) phthalate | 5.6 | 2.0 U | - | U | 2 U | 12.0 B | 3.4 U | 1.7 U |
| Caprolactam | 990 | 2.5 U | 2.6 | U | 2.6 U | 2.1 U | 1.4 U | 0.68 U |
| Carbazole | nca | 3.2 U | 3.3 | | 3.3 U | 1.7 U | 1.4 U | 0.68 U |
| Dibenzofuran | 0.79 | 2.8 U | 2.9 | | 2.9 U | 1.7 U | 2.2 U | 1.1 U |
| Diethyl phthalate | 1,500 | 2.9 U | 3.0 | | 3.0 U | 2.0 U | 2.0 U | 0.98 U |
| Fluorene | 29 | 2.8 U | 2.9 | | 2.9 U | 1.6 U | 1.8 U | 0.91 U |
| Naphthalene | 0.17 | 170 | 170 | | 210 | 310 | 260 | 160 |
| Phenanthrene | 12 | 3.1 U | 3.2 | | 3.2 U | 1.3 U | 1.2 U | 0.58 U |
| Phenol | 580 | 0.82 U | 0.83 | | 0.83 U | 0.82 U | 0.58 U | 0.29 U |
| Pyrene | 12 | 2.9 U | 3.00 | U | 3 U | 1.7 U | 3.3 U | 1.6 U |
| Total Estimated Conc. (TICs) | nca | 3,070 | 4,060 | | 5,590 | 5,240 | 3,470 | 2,700 |
| No other SVOCs were detected above the laboratory method detected | | 0,010 | 4,000 | | 0,000 | 0,2-10 | 0,410 | 2,.00 |

Notes:

Shaded - Concentration exceeds February 2018 HSCA Screening Level.

Bold - Elevated TICs identified in sample (concentration greater than 10 µg/L).

NA - Not analyzed. nca - No criteria available.

B - Compound was found in the blank and sample.

d - Duplicate sample.

D - Sample results are obtained from a dilution; the surrogate or matrix spike recoveries reported are calculated from diluted samples.

F1 - Matrix Spike and/or Matrix Spike Duplicate is outside acceptance limits.

H - Sample was prepped or analyzed beyond the specified holding time.

J - The result is less than the reporting limit, but greater than or equal to the method detection limit and the concentration is an approximate value. SVOCs - Semivolatile Organic Compounds.

TCL - Target Compound List. TIC - Tentatively Identified Compounds.

U - Indicates the analyte was analyzed for but not detected.

UJ - Not detected; associated reporting limit is estimated.

A - Sample was collected during an investigation conducted by GHD in November 2017.
 * - Recovery or relative percent difference exceeds control limits.

| | | | Wilmington, D | Delaware | | | | | |
|--|--------------------------------|--------------|---------------|--------------|--------------|--------------|-------------|--------------|---------------|
| Well ID | | | DA-MW49 | | | | DA-M\ | W50 | |
| Screen Depth (ft - ft bgs) | Delaware HSCA Screening Levels | | 10.0 - 25.0 | | | | 10.0 - 3 | 25.0 | |
| Sample ID | (Updated February 2018) | GM-MW49-W001 | MW-49^ | DA-MW49-W002 | DA-MW49-W003 | GM-MW50-W001 | MW-50^ | DA-MW50-W002 | DA-MW50-W003 |
| Sample Date | | 10/14/2015 | 11/6/2017 | 8/28/2018 | 12/18/2018 | 10/14/2015 | 11/7/2017 | 8/28/2018 | 12/18/2018 |
| Units | μg/L | 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 | Groundwater |
| Analyte | | | | | | | | | |
| TCL VOLATILE ORGANIC COMPOUNDS | | • | • • • • • | | | | | | |
| 1,2,4-Trimethylbenzene | 5.6 | 470 | 430 | 460 | 440 | 65.0 | 130 | 23 | 35 |
| 1,2-Dichlorobenzene | 30 | 2.2 U | 10 U | 4.3 U | 2.2 U | 1.2 J | 5.0 U | 1.4 | 1.1 J |
| 1,2-Dichloroethane | 0.17 | 36.0 | 71 | 46 | 10 | 3.3 J | 24 | 0.43 U | 1.2 J |
| 1,3,5-Trimethylbenzene | 6 | NA | NA | 230 | 220 | NA | NA | 18 | 30 |
| 1,3-Dichlorobenzene | nca | 3.3 U | | 3.4 U | 1.7 U | 1.7 U | 5.0 U | 0.78 J | 0.68 U |
| 1,4-Dichlorobenzene | 0.48 | 3.3 U | | 7.6 U | 3.8 U | 1.7 U | 5.0 U | 1.1 | 1.5 U |
| 2-Butanone (MEK) | 560 | 74 | 50 U | 41 J | 22 J | 11 U | 25 U | 1.9 U | 3.7 U |
| 2-Hexanone | 3.8 | 7.2 U | | 29 U | 15 U | 3.6 U | 25 U | 2.9 U | 5.8 U |
| 4-Methyl-2-pentanone (MIBK) | 630 | 21 J | 25 | 23 U | 13 U | 3.2 U | 25 U | 2.3 U | 5.5 U |
| Acetone | 1,400 | 140 | 50 U | 76 | 32 | 5.4 U | 25 U | 5.0 U | 15 |
| Benzene | 0.46 | 1,500 | 1,200 | 590 | 480 | 110 | 450 | 84 | 79 |
| Chlorobenzene | 7.8 | 2.4 U | 10 U | 3.8 U | 1.9 U | 1.2 U | 5.0 U | 0.38 U | 0.75 U |
| Cyclohexane | 1,300 | 380 | 440 | 330 | 390 | 270 | 340 | 160 | 120 |
| Ethylbenzene | 1.5 | 710 | 700 | 470 | 590 | 640 | 690 | 230 | 350 |
| Isopropylbenzene | 45 | 37 | 42 | 470 | 51 | 37 | 51 | 30 | 25 |
| Methylcyclohexane | | 150 | 230 | 130 | 150 | 100 | 130 | 61 | 43 |
| | nca 5 | 2.1 U | | 3.2 U | 91 | 1.1 U | 5.0 U | 0.32 U | 0.63 U |
| Methylene Chloride | | 2.1 0 | | | | 1.1 0 | | | |
| Styrene | 100 | | 10 U 10 U | 13 | 2.1 U | | 5.0 U | 0.42 U | 3.1 0.50 U |
| | 1 | 1.2 U | | 2.5 U | 1.2 0 | 0.6 U | 5.0 U | 0.25 U | |
| | 110 | 2,700 | 2,200 | 1,300 | 1,200 | 760 | 630 | 110 | 170 |
| Xylenes, Total | 19 | 4,100 | 3,500 | 2,400 | 2,800 | 1,200 | 1,700 | 310 | 610 |
| Total Estimated Conc. (TICs) | nca | 6,380 | NA | 3,020 | 3,670 | 4,160 | NA | 1,390 | 1,520 |
| No other VOCs were detected above the laboratory method detection | i limits. | | | | | | | | |
| TCL SEMI-VOLATILE ORGANIC COMPOUNDS | | | | | | | | | |
| 2,4-Dimethylphenol | 1.8 | 0.9 U | | 0.24 U | 5.8 J | 4.5 J | 20 | 5.2 J | 2.4 J |
| 2-Methylnaphthalene | 3.6 | 43 | 42 J | 35 | 42 | 100 | 89 J | 87 | 99 |
| 2-Methylphenol | 93 | 1.3 U | | 12 | 9.8 J | 2.6 J | 6.4 J | 2.1 J | 0.26 U |
| 4-Methylphenol | 190 | 17 | 18 | 15 | 9.9 J | 3.9 J | 5.0 J | 1.7 J | 1.4 J |
| Acenaphthene | 53 | 0.88 U | | 1.1 U | 1.1 U | 2.1 J | 3.3 J | 2.7 J | 2.4 J |
| Acetophenone | 190 | 37 | 47 | 29 | 0.79 U | 25 | 37 | 0.79 U | 0.79 U |
| Anthracene | 180 | 0.57 U | | 0.63 U | 0.63 U | 0.57 U | 10 UJ | 0.63 U | 0.63 U |
| Bis(2-ethylhexyl) phthalate | 5.6 | 10.0 B | | 1.7 U | 1.7 U | | 2.0 U | 1.7 U | 1.7 U |
| Caprolactam | 990 | 1.1 U | | 0.68 U | 0.68 U | 1.1 U | 10 U | 0.68 U | 0.68 U |
| Carbazole | nca | 0.85 U | | 0.68 U | 0.68 U | 0.85 U | 1.5 J | 1.6 J | 1.3 J |
| Dibenzofuran | 0.79 | 0.85 U | | 1.1 U | 1.1 U | | 2.6 J | 1.7 J | 1.5 J |
| Diethyl phthalate | 1,500 | 1 U | | 0.98 U | 0.98 U | 1 U | 10 U | 0.98 U | 0.98 U |
| Fluorene | 29 | 0.80 U | | 0.91 U | 0.91 U | 2.8 J | 5.4 J | 3.2 J | 3.2 J |
| Naphthalene | 0.17 | 180 | 110 J | 120 | 160 | 180 | 130 J | 100 | 71 |
| Phenanthrene | 12 | 0.65 U | 10 U | 0.58 U | 0.58 U | 4.1 J | 9.3 J | 3.2 J | 3.6 J |
| Phenol | 580 | 10 | 9.8 J | 6.4 J | 4.5 J | 0.41 U | 10 U | 0.29 U | 0.29 U |
| Pyrene | 12 | 0.83 U | 10 U | 1.6 U | 1.6 U | 0.83 U | 10 U | 1.6 U | 1.6 U |
| Total Estimated Conc. (TICs) | nca | 3,350 | NA | 2,150 | 2,290 | 2,350 | NA | 841 | 1,230 |
| No other SVOCs were detected above the laboratory method detection | on limits. | | | | | | | | |

Notes:

Shaded - Concentration exceeds February 2018 HSCA Screening Level.

Bold - Elevated TICs identified in sample (concentration greater than 10 μ g/L).

NA - Not analyzed. nca - No criteria available.

B - Compound was found in the blank and sample.

d - Duplicate sample.
 D - Sample results are obtained from a dilution; the surrogate or matrix spike recoveries reported are calculated from diluted samples.

F1 - Matrix Spike and/or Matrix Spike Duplicate is outside acceptance limits.

H - Sample was prepped or analyzed beyond the specified holding time.

J - The result is less than the reporting limit, but greater than or equal to the method detection limit and the concentration is an approximate value. SVOCs - Semivolatile Organic Compounds.

TCL - Target Compound List.

TIC - Tentatively Identified Compounds.

U - Indicates the analyte was analyzed for but not detected.

UJ - Not detected; associated reporting limit is estimated.

A - Sample was collected during an investigation conducted by GHD in November 2017.
 * - Recovery or relative percent difference exceeds control limits.

| Well ID | | DA-SVE0 | 1 | | DA-S | | | DA-S' | /E06 |
|---|--------------------------------|---------------|---------------|---------------|---------------|----------------------------|----------------------------|---------------|---------------|
| | Delaware HSCA Screening Levels | 12.0 - 2 | | | 12.0 | | 12.0 - 20.0 | | |
| Screen Depth (ft - ft bgs) | (Updated February 2018) | DA-SVE01-W001 | DA-SVE01-W002 | DA-SVE03-W001 | DA-SVE03-W002 | DA-SVE03-W101 ^d | DA-SVE03-W102 ^d | DA-SVE06-W001 | |
| Sample ID | (opualed residury 2010) | 8/28/2018 | 12/18/2018 | 8/28/2018 | 12/18/2018 | 8/28/2018 | 12/18/2018 | 8/28/2018 | DA-SVE06-W002 |
| Sample Date | | | | | | | | | 12/18/2018 |
| Units | µg/L | 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 | Groundwater |
| Analyte TCL VOLATILE ORGANIC COMPOUNDS | | | | | | | | | |
| | 5.0 | 470 | 500 | 400 | 040 | 000 | 100 | 20 54 | 24 |
| 1,2,4-Trimethylbenzene | 5.6 | 170 | 500 | 160 | 210 | 200 | 190 | 32 F1 | 34 |
| 1,2-Dichlorobenzene | 30 | 2.2 | 10 | 0.86 U | 2.2 U | 0.86 U | 0.86 U | 0.43 U | 0.43 U |
| 1,2-Dichloroethane | 0.17 | 0.43 U | 2.2 J | 6.6 | 2.2 U | 8.1 | 1.8 J | 0.43 U | 0.43 U |
| 1,3,5-Trimethylbenzene | 6 | 50 | 130 | 69 | 70 | 90 | 61 | 27 F1 | 17 |
| 1,3-Dichlorobenzene | nca | 0.34 U | 1.7 U | 0.68 U | 1.7 U | 0.68 U | 0.68 U | 0.34 U | 0.34 U |
| 1,4-Dichlorobenzene | 0.48 | 0.76 U | 3.8 U | 1.5 U | 3.8 U | 1.5 U | 1.5 U | 0.76 U | 0.76 U |
| 2-Butanone (MEK) | 560 | 31 | 20 J | 14 | 9.3 U | 10 | 5.5 J | 1.9 U | 1.9 U |
| 2-Hexanone | 3.8 | 2.9 U | 15 U | 5.8 U | 15 U | 14 | 5.8 U | 2.9 U | 2.9 U |
| 4-Methyl-2-pentanone (MIBK) | 630 | 2.7 U | 14 U | 5.5 U | 14 U | 5.5 U | 5.5 U | 2.7 U | 2.7 U |
| Acetone | 1,400 | 76 | 68 | 39 | 25 U | 33 | 17 | 5.0 U | 10 |
| Benzene | 0.46 | 49 | 110 | 45 | 39 | 55 | 40 | 0.43 U | 0.43 U |
| Chlorobenzene | 7.8 | 0.63 J | 1.9 U | 0.75 U | 1.9 U | 0.75 U | 0.75 U | 0.38 U | 0.38 U |
| Cyclohexane | 1,300 | 70 | 160 | 90 | 98 | 130 | 86 | 110 F1 | 77 F1 |
| Ethylbenzene | 1.5 | 150 | 500 | 210 | 250 | 270 | 250 | 11 F1 | 11 |
| Isopropylbenzene | 45 | 9.4 | 27 | 12 | 11 | 15 | 9.9 | 14 F1 | 11 |
| Methylcyclohexane | nca | 26 | 55 | 30 | 40 | 41 | 30 | 200 | 120 |
| Methylene Chloride | 5 | 0.32 U | 1.6 U | 0.63 U | 1.6 U | 0.63 U | 0.63 U | 0.32 U F1 | 0.32 U F |
| Styrene | 100 | 0.42 U | 12 | 0.83 U | 2.1 U | 0.83 U | 0.83 U | 0.42 U | 0.42 U |
| Tetrachloroethene | 1 | 0.59 J | 1.3 J | 0.50 U | 1.2 U | 0.50 U | 0.50 U | 0.25 U | 0.25 U |
| Toluene | 110 | 110 | 420 | 380 | 580 | 580 H D | 580 | 0.38 U | 0.45 J |
| Xylenes, Total | 19 | 560 | 1,600 | 860 | 1,100 | 1,100 | 1,100 | 13 | 20 |
| Total Estimated Conc. (TICs) | nca | 768 | 2,070 | 1,180 | 1,440 | 1,640 | 1,300 | 701 | 630 |
| No other VOCs were detected above the laboratory method detection | on limits. | | | | | | | | |
| TCL SEMI-VOLATILE ORGANIC COMPOUNDS | | | | | | | | | |
| 2,4-Dimethylphenol | 1.8 | 0.24 U | 1.5 J | 0.24 U | 4.2 J | 0.24 U | 5.0 J | 0.24 U | 0.24 U |
| 2-Methylnaphthalene | 3.6 | 3.4 J | 15 | 25 | 16 | 20 | 17 | 8.6 J | 7.4 J |
| 2-Methylphenol | 93 | 0.26 U | 0.26 U | 19 | 21 | 18 | 21 | 0.26 U | 0.26 U |
| 4-Methylphenol | 190 | 0.24 U | 1.2 J | 130 | 53 | 120 | 50 | 0.24 U | 0.24 U |
| Acenaphthene | 53 | 1.1 U | 1.1 U | 1.1 U | 2.0 J | 1.1 U | 2.0 J | 1.1 U | 1.1 U |
| Acetophenone | 190 | 6.2 J | 13 | 0.79 U | 0.79 U | 0.79 U | 0.79 U | 29 | 0.79 U F |
| Anthracene | 180 | 0.63 U | 0.63 U | 0.63 U | 2.6 J | 0.63 U | 2.2 J | 0.63 U | 0.63 U |
| Bis(2-ethylhexyl) phthalate | 5.6 | 1.7 U | 1.7 U | 1.7 U | 1.7 U |
| Caprolactam | 990 | 0.68 U | 0.68 U | 0.68 U | 0.68 U F |
| Carbazole | nca | 0.68 U | 0.68 U | 0.68 U | 0.68 U |
| Dibenzofuran | 0.79 | 1.1 U | 1.1 U | 1.1 U | 1.1 U |
| Diethyl phthalate | 1,500 | 0.98 U | 0.98 U | 0.98 U | 0.98 U |
| Fluorene | 29 | 0.91 U | 2.5 J | 0.91 U | 0.91 U |
| Naphthalene | 0.17 | 42 | 100 | 62 | 32 | 49 | 35 | 5.3 J | 8.6 J |
| Phenanthrene | 12 | 0.58 U | 0.58 U | 0.58 U | 3.4 J | 0.58 U | 3.0 J | 0.58 U | 0.58 U |
| Phenol | 580 | 0.29 U | 0.29 U | 11 | 1.8 J | 9.5 J | 0.29 U | 0.29 U | 0.29 U |
| Pyrene | 12 | 1.6 U | 1.6 U | 1.6 U | 2.4 J | 1.6 U | 2.4 J | 1.6 U | 1.6 U |
| Total Estimated Conc. (TICs) | nca | 545 | 2,370 | 1,350 | 1,600 | 1,380 | 1,460 | 487 | 393 |
| No other SVOCs were detected above the laboratory method detected | | 0.0 | _, | ., | ., | ., | ., | | |

Notes:

Shaded - Concentration exceeds February 2018 HSCA Screening Level.

Bold - Elevated TICs identified in sample (concentration greater than 10 μ g/L).

NA - Not analyzed. Na - No criteria available. B - Compound was found in the blank and sample.

d - Duplicate sample.

D - Sample results are obtained from a dilution; the surrogate or matrix spike recoveries reported are calculated from diluted samples.

F1 - Matrix Spike and/or Matrix Spike Duplicate is outside acceptance limits.

H - Sample was prepped or analyzed beyond the specified holding time.

TCL - Target Compound List.

TIC - Tentatively Identified Compounds.

U - Indicates the analyte was analyzed for but not detected.

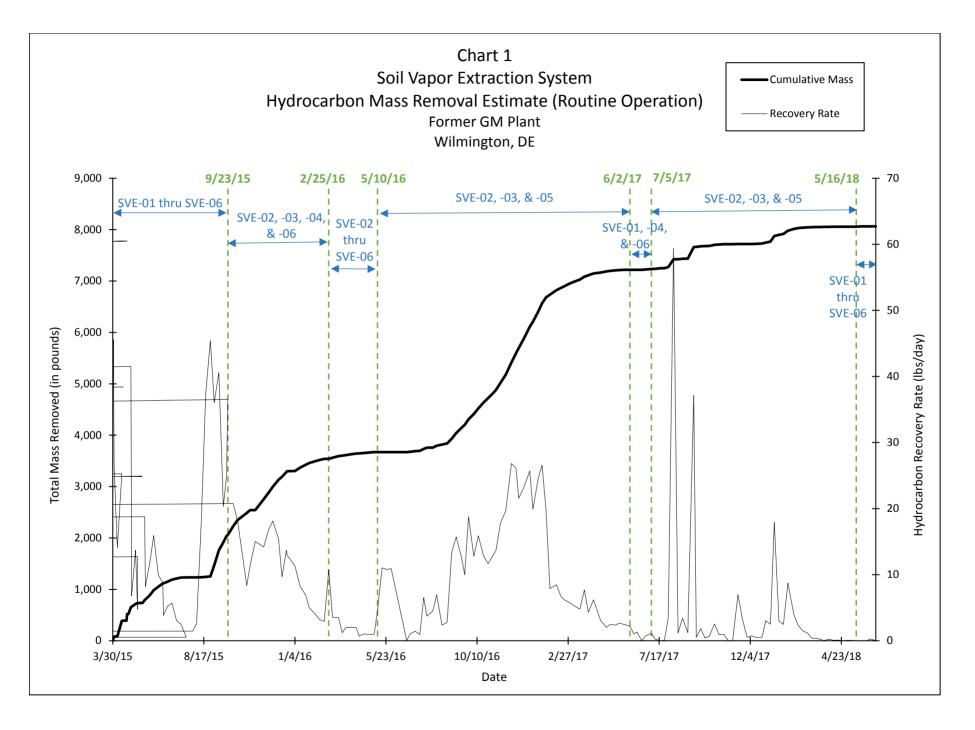
UJ - Not detected; associated reporting limit is estimated.

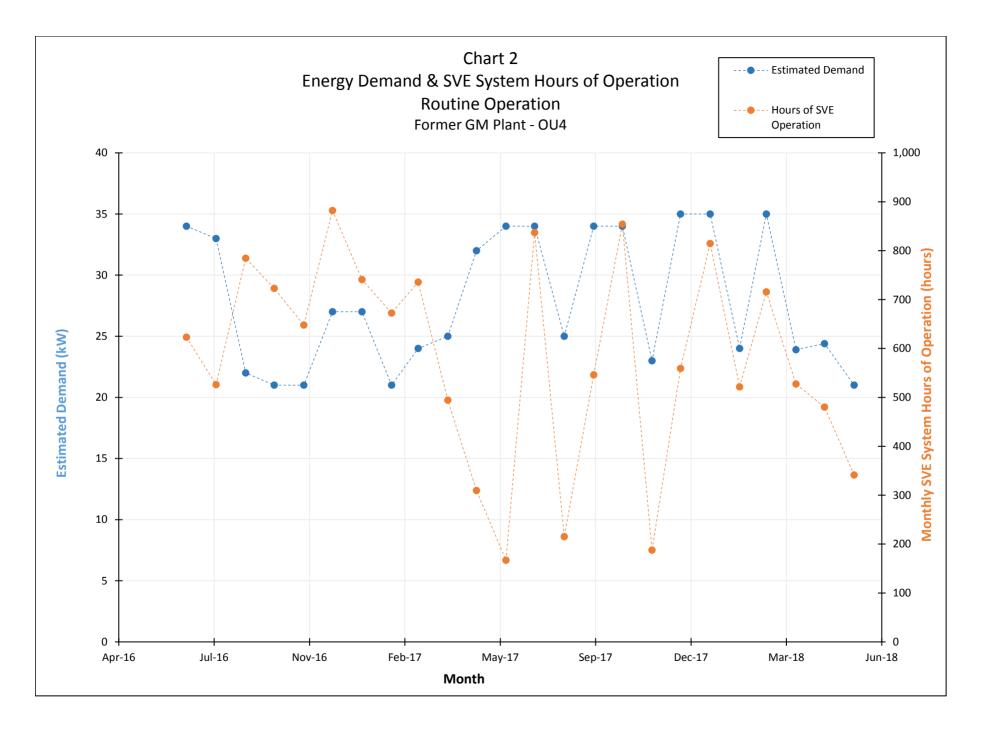
^ - Sample was collected during an investigation conducted by GHD in November 2017. * - Recovery or relative percent difference exceeds control limits.

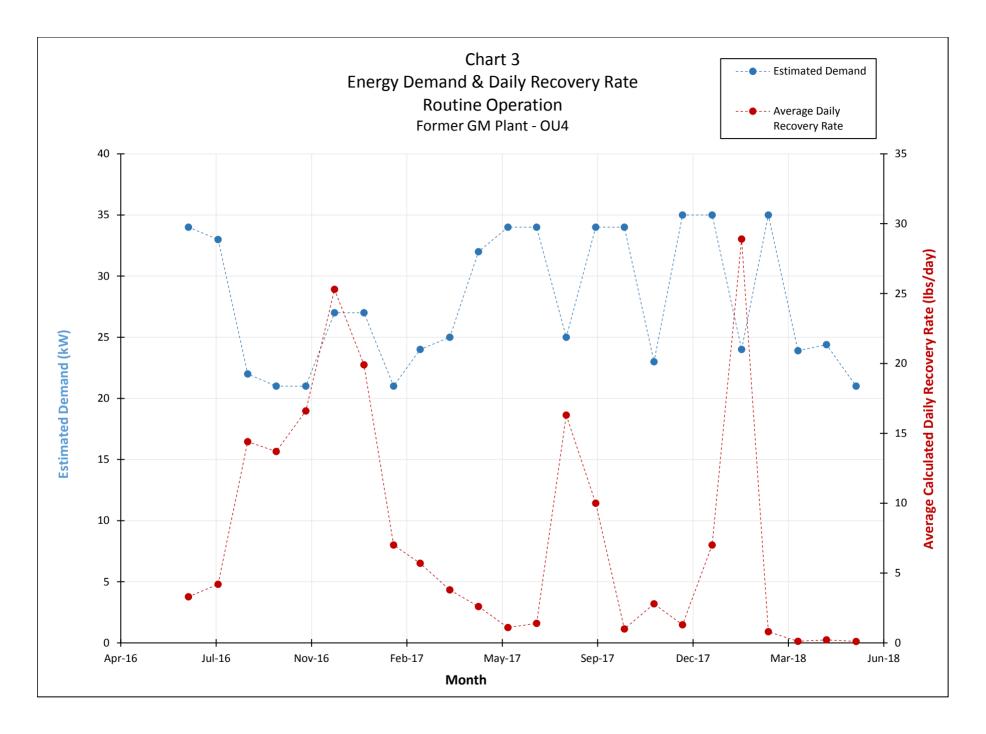
J - The result is less than the reporting limit, but greater than or equal to the method detection limit and the concentration is an approximate value. SVOCs - Semivolatile Organic Compounds.

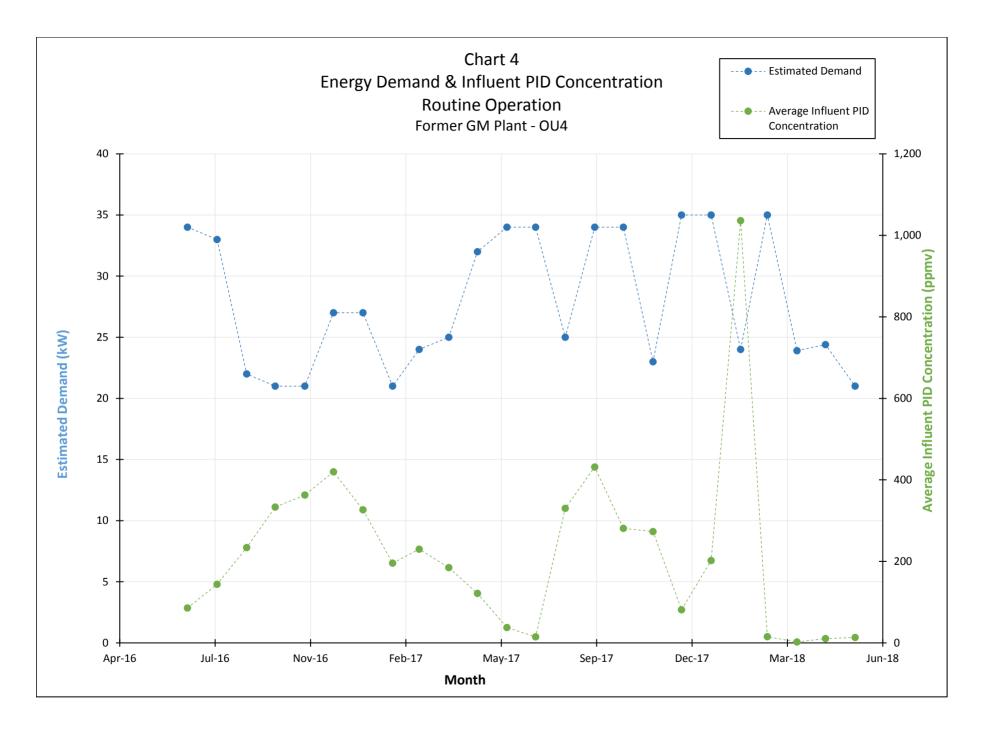


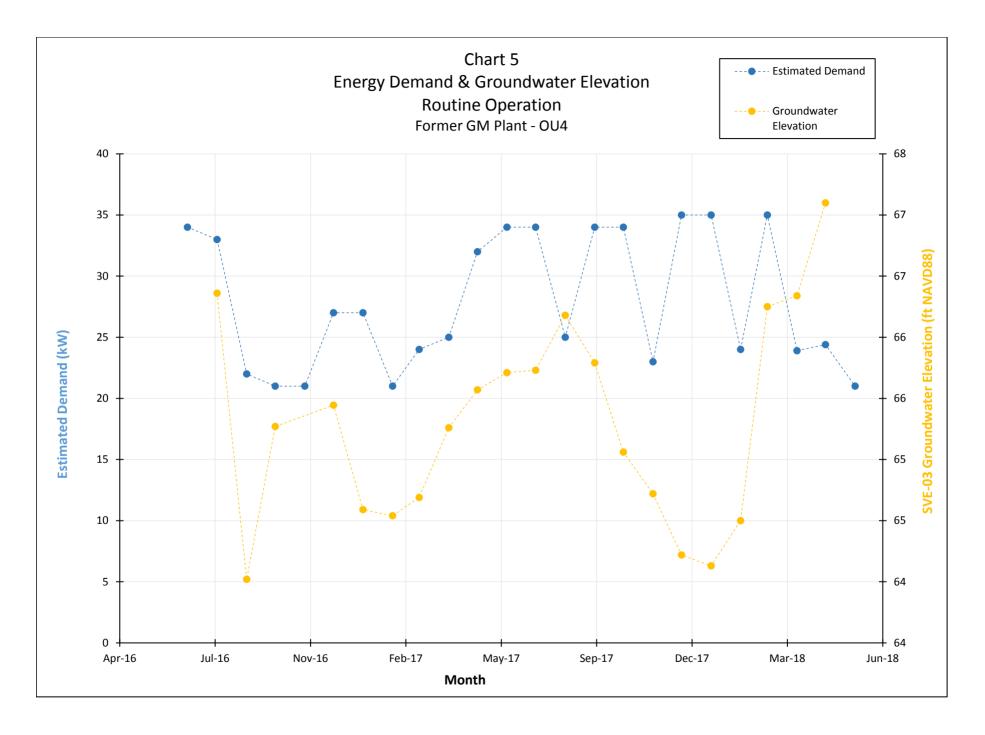
CHARTS

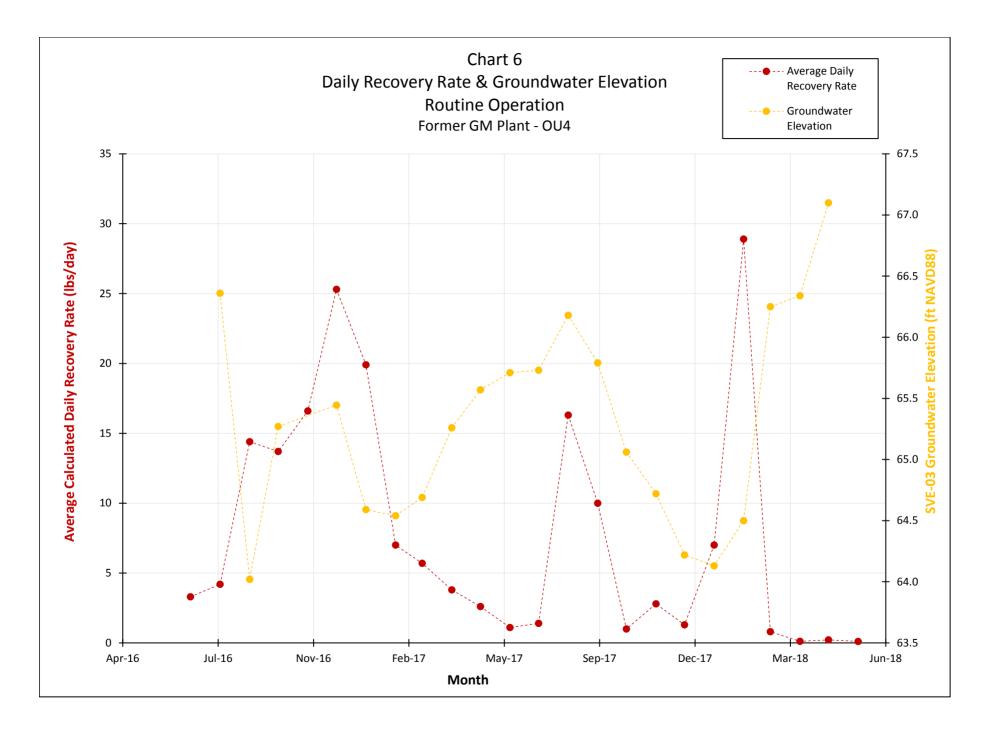














APPENDICES



APPENDIX A

Previous Investigation Field Documentation and Analytical Data Packages

September & October 2015



Appendix A.1 Geoprobe[®] Drilling Logs September & October 2015



GEOPROBE[®] DRILLING LOG BORING ID: GM-GP01

Project Name: Dodson Ave - OU4 Characterization Location: Former Wilmington Assembly Plant Weather Conditions: Cloudy, humid, 70's Drilling Method: Geoprobe Sample Interval (feet): Continuous Driller: Paul Wirrick Project No.: 2734.04.51 Drilling Date(s): 9/30/15 Drilling Contractor: Eichelbergers Type of Sample/Coring Device: Open-Tube Macrocore Depth Groundwater Encountered (feet, bgs): 15.5 Logged By: Victoria Bisbing

| Time | Tube | Sample Depth | Core Recovery | | PID Reading | Moisture | Soil Class | Soil Description |
|-----------|-------|-----------------|------------------|-----------------|----------------|--------------|----------------|---|
| | From | То | (feet) | From To | (ppm) | | | |
| 08:34 | 0 | 5 | 3.75 | 0.0 - 1.0 | 0.7 | Dry | Surf Cover | Asphalt. |
| | | | | 1.0 - 2.0 | 0.4 | Moist | | Brown to dark brown silt and fine sand, trace clay. |
| | | | | 2.0 - 3.5 | 0.3 | Moist | Silt & | Light brown to orange silt and fine sand, trace clay. |
| | | | | 3.5 - 3.75 | 0.2 | Moist | Sand | Light brown to gray silt and fine sand, trace clay. |
| | 5 | 10 | 4.5 | 5.0 - 6.5 | 0.2 | Moist | | Light brown to dark brown (mottled) silt and fine sand, trace clay. |
| | | | | 6.5 - 8.0 | 0.2 | Moist | M Sand | Brown to orange medium sand, some silt. |
| | | | | 8.0 - 9.5 | 0.2 | Moist | Clay | Gray clay, little medium sand, trace gravel. |
| | 10 | 15 | 4.5 | 10.0 - 10.25 | 0.2 | Moist | • | Gray clay, little medium sand, trace gravel. |
| | | | | 10.25 - 12.0 | 0.2 | Moist | Silt & Clay | Brown to gray to orange (mottled) silt and clay, some fine sand. |
| | | | | 12.0 - 14.5 | 0.2 | Moist | C Sand | Brown to orange to gray medium to coarse sand, some gravel, little lenses of clay |
| | 15 | 20 | 3.0 | 15.0 - 15.5 | 0.2 | Moist | Clay | Gray clay, little rounded gravel. |
| | | | | 15.5 - 17.0 | 0.4 | Wet | M Sand | Gray to brown medium sand, little rounded gravel. |
| | | | | 17.0 - 18.0 | 7.1 | Wet | C Sand | Orange medium to coarse sand, some rounded gravel. |
| Sampling | Data: | | Collected (| GM-GP01-S001 (M | S/MSD) fro | m 17 ft to 1 | 8 ft at 00.12 | |
| Sampled I | | | Kelly Powe | | | | 0 n al 03.12 | |
| Campieu I | -y. | | Interny i OWE | | | | | |

Modifiers:



GEOPROBE[®] DRILLING LOG BORING ID: GM-GP02

Project Name: Dodson Ave - OU4 Characterization Location: Former Wilmington Assembly Plant Weather Conditions: Cloudy, humid, 70's Drilling Method: Geoprobe Sample Interval (feet): Continuous Driller: Paul Wirrick Project No.: 2734.04.51 Drilling Date(s): 9/30/15 Drilling Contractor: Eichelbergers Type of Sample/Coring Device: Open-Tube Macrocore Depth Groundwater Encountered (feet, bgs): 14.5 Logged By: Victoria Bisbing

| Time | Plastic Tube | | Core Recovery | Depth (feet) | PID Reading | Moisture | Soil Class | Soil Description |
|-----------|-----------------|----|------------------|------------------|----------------|----------------|------------------|---|
| | From | To | (feet) | From To | (ppm) | | Ciass | |
| 09:00 | 0 | 5 | 4.5 | 0.0 - 0.75 | 0.2 | Dry | Surf Cover | Asphalt. |
| | | | | 0.75 - 4.5 | 0.2 | Moist | | Brown to light brown silt and fine sand, little clay, trace rounded gravel from 4.0 ft to 4.5 ft. |
| | 5 | 10 | 5.0 | 5.0 - 7.0 | 0.6 | Moist | Silt & Sand | Brown to light brown silt and fine sand, little clay. |
| | | | | 7.0 - 9.0 | 0.9 | Moist | | Brown to orange medium sand and silt, some rounded gravel (quartz fragments). |
| | | | | 9.0 - 10.0 | 1.0 | Moist | Clay | Gray clay, little medium sand, trace rounded gravel. |
| | 10 | 15 | 4.75 | 10.0 - 11.0 | 1.1 | Moist | Silt | Brown to orange silt, some fine sand. |
| | | | | 11.0 - 12.0 | 1.6 | Moist | Clay | Gray clay, little medium sand, trace rounded gravel. |
| | | | | 12.0 - 14.5 | 2.1 | Moist | | Orange medium to coarse sand, some rounded gravel. |
| | | | | 14.5 - 14.75 | 2.1 | Wet | C Sand | Orange medium to coarse sand, some rounded gravel. |
| | 15 | 20 | 2.0 | 15.0 - 16.5 | 14.3 | Wet | o ound | Brown to orange medium to coarse sand, some rounded gravel. |
| | | | | 16.5 - 17.0 | 19.9 | Wet | | Gray to brown to red medium to coarse sand, some rounded gravel, slight petroleum odor and visible discoloration of soil. |
| | 20 | 25 | 5.0 | 20.0 - 22.0 | 3.0 | Wet | | Brown fine to coarse sand and rounded gravel, trace silt. |
| | | | | 22.0 - 24.0 | 6.0 | Wet | Sand & Gravel | Brown coarse sand and rounded gravel. |
| | | | | 24.0 - 25.0 | 38.3 | Wet | | Brown coarse sand and rounded gravel, slight petroleum odor and visible discoloration of soil. |
| Sampling | Data: | | Collected C | GM-GP02-S001 fro | m 23 ft to 2 | 95 ft at 10.2 | 0 | |
| Sampled I | | | Kelly Powe | | 111 ZƏ IL IÜ Z | .5 it at 10.31 | 0. | |
| oumpieu i | Jy. | | INGIIY I OWE | 1 | | | | |

Modifiers:

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



GEOPROBE[®] DRILLING LOG BORING ID: GM-GP03

Project Name: Dodson Ave - OU4 Characterization Location: Former Wilmington Assembly Plant Weather Conditions: Cloudy, humid, 70's Drilling Method: Geoprobe Sample Interval (feet): Continuous Driller: Paul Wirrick Project No.: 2734.04.51 Drilling Date(s): 9/30/15 Drilling Contractor: Eichelbergers Type of Sample/Coring Device: Open-Tube Macrocore Depth Groundwater Encountered (feet, bgs): 14.5 Logged By: Victoria Bisbing

| Time | | Sample Depth | Core Recovery | Depth (feet) | PID Reading | Moisture | Soil Class | Soil Description |
|----------|---|-----------------|------------------|------------------|----------------|--------------|----------------|--|
| | From | То | (feet) | From To | (ppm) | | 01033 | |
| 09:25 | 0 | 5 | 3.0 | 0.0 - 1.0 | 1.1 | Dry | Surf Cover | Asphalt. |
| | | | | 1.0 - 3.0 | 0.4 | Moist | Silt & | Brown to orange silt and fine sand, some rounded gravel, trace clay. |
| | 5 | 10 | 5.0 | 5.0 - 7.5 | 3.3 | Moist | Sand | Brown to orange silt and fine sand, some rounded gravel, trace clay. |
| | | | | 7.5 - 10.0 | 10.7 | Moist | Silt & Clay | Light brown to gray to orange clay and silt, trace fine sand, slight chemical odor. |
| | 10 | 15 | 5.0 | 10.0 - 11.25 | 3.7 | Moist | Silt | Brown to orange silt, some medium sand, little fine sand, slight chemical odor. |
| | | | | 11.25 - 12.25 | 54.8 | Moist | Silt & Clay | Light brown to gray clay and silt, slight chemical odor. |
| | | | | 12.25 - 14.5 | 569.4 | Moist | C Sand | Orange to red to brown medium to coarse sand, some gravel (quartz fragments). |
| | | | | 14.5 - 15.0 | 569.4 | Wet | Coand | Orange to red to brown medium to coarse sand, some gravel (quartz fragments). |
| | 15 | 20 | 5.0 | 15.0 - 16.5 | 113.7 | Wet | Silt & Sand | Orange to red to brown medium sand and silt, petroleum odor. |
| | | | | 16.5 - 20.0 | 1,764 | Wet | Sand & | Brown to red coarse sand and rounded gravel, petroleum odor. Highest PID reading at 19.0 ft. |
| | 20 | 25 | 5.0 | 20.0 - 22.5 | 51.3 | Wet | Gravel | Brown coarse sand and rounded gravel, petroleum odor. |
| | | | | 22.5 - 23.5 | 40.1 | Wet | C Sand | Brown medium to coarse sand, some rounded gravel, petroleum odor. |
| | | | | 23.5 - 25.0 | 1.7 | Wet | M Sand | Light brown to gray to orange medium sand, trace clay at 24.5 ft to 25.0 ft. |
| Sampling | Data: | | Collected | GM-GP03-S001 fro | m 18 ft to 2 | 0 ft at 10∙0 | 6 | |
| Camping | Collected GM-GP03-S101 from 18 ft to 20 ft at | | | | | | | |
| Sampled | By: | | Kelly Powe | ſ | | | | |

Modifiers:



GEOPROBE[®] DRILLING LOG BORING ID: GM-GP04

Project Name: Dodson Ave - OU4 Characterization Location: Former Wilmington Assembly Plant Weather Conditions: Cloudy, humid, 70's Drilling Method: Geoprobe Sample Interval (feet): Continuous Driller: Paul Wirrick Project No.: 2734.04.51 Drilling Date(s): 9/30/15 Drilling Contractor: Eichelbergers Type of Sample/Coring Device: Open-Tube Macrocore Depth Groundwater Encountered (feet, bgs): 16.0 Logged By: Victoria Bisbing

| Time | Plastic Tube | Sample Depth | Core Recovery | Depth (feet) | PID Reading | Moisture | Soil Class | Soil Description |
|----------|-----------------|-----------------|------------------|------------------|----------------|--------------|------------------|---|
| | From | То | (feet) | From To | (ppm) | | Class | - |
| 10:40 | 0 | 5 | 4.75 | 0.0 - 0.5 | 0.3 | Dry | Surf Cover | Asphalt. |
| | | | | 0.5 - 0.75 | 0.3 | Dry | Clay | Gray clay. |
| | | | | 0.75 - 4.0 | 0.3 | Moist | | Brown silt and fine sand, trace clay. |
| | | | | 4.0 - 4.75 | 0.3 | Moist | | Brown to red medium sand and silt, little rounded gravel. |
| | 5 | 10 | 5.0 | 5.0 - 6.0 | 0.3 | Moist | Silt & Sand | Brown silt and fine sand, trace clay. |
| | | | | 6.0 - 7.0 | 0.3 | Moist | | Orange to red medium sand and silt, little rounded gravel. |
| | | | | 7.0 - 9.75 | 0.3 | Moist | | Red to orange medium sand and silt, little rounded gravel. |
| | | | | 9.75 - 10.0 | 0.3 | Moist | Clay | Gray and orange (mottled) stiff clay. |
| | 10 | 15 | 4.0 | 10.0 - 11.0 | 0.2 | Moist | Silt | Red silt, some fine to medium sand. |
| | | | | 11.0 - 11.5 | 0.2 | Moist | 3111 | Red silt, some fine to medium sand, soft. |
| | | | | 11.5 - 12.5 | 0.2 | Moist | Silt & Clay | Orange to gray (mottled) clay and silt, trace rounded gravel. |
| | | | | 12.5 - 14.0 | 0.2 | Moist | Sand & Gravel | Orange to black medium to coarse sand and rounded gravel. |
| | 15 | 20 | 4.0 | 15.0 - 16.0 | 0.2 | Moist | Silt & | Light brown silt and stiff clay. |
| | | | | 16.0 - 16.5 | 0.2 | Wet | Clay | Red to dark brown silt and clay (soft), trace fine sand. |
| | | | | 16.5 - 18.0 | 0.2 | Wet | Sand & Gravel | Orange medium to coarse sand and rounded gravel. |
| | | | | 18.0 - 19.0 | 0.2 | Moist | M Sand | Orange fine to medium sand. |
| Sampling | Data: | | Collected (| GM-GP04-S001 fro | m 15 ft to 1 | 7 ft at 11:1 | 0. | |

Sampled By: Modifiers:

| Wiedmon | 0. |
|---------|-------------|
| and: | 35% to 50 % |
| some: | 20% to 35% |
| little: | 10% to 20% |
| trace: | <10% |

Kelly Power



GEOPROBE[®] DRILLING LOG BORING ID: GM-GP05

Project Name: Dodson Ave - OU4 Characterization Location: Former Wilmington Assembly Plant Weather Conditions: Cloudy, humid, 70's Drilling Method: Geoprobe Sample Interval (feet): Continuous Driller: Paul Wirrick Project No.: 2734.04.51 Drilling Date(s): 9/30/15 Drilling Contractor: Eichelbergers Type of Sample/Coring Device: Open-Tube Macrocore Depth Groundwater Encountered (feet, bgs): 17.0 Logged By: Victoria Bisbing

| Time | | Sample Depth | Core Recovery | Depth (feet) | PID Reading | Moisture | Soil Class | Soil Description | | |
|---|------|-----------------|------------------|-----------------|----------------|--------------|------------------|---|--|--|
| | From | То | (feet) | From To | (ppm) | | Clubb | | | |
| 11:05 | 0 | 5 | 4.0 | 0.0 - 0.5 | 53.4 | Dry | Surf Cover | Asphalt. | | |
| | | | | 0.5 - 3.0 | 1.3 | Moist | Silt & Sand | Brown to orange silt and fine sand, some stiff clay. | | |
| | | | | 3.0 - 4.0 | 0.9 | Moist | | Light brown to gray silt and clay. | | |
| | 5 | 10 | 5.0 | 5.0 - 5.5 | 0.1 | Moist | | Light brown silt and clay, some medium sand. | | |
| | | | | 5.5 - 7.0 | 0.1 | Moist | Silt & Clay | Orange to red silt and clay, some medium sand. | | |
| | | | | 7.0 - 10.0 | 0.1 | Moist | | Brown to light brown silt and clay, some medium sand. | | |
| | 10 | 15 | 5.0 | 10.0 - 12.5 | 0.1 | Moist | | Light brown to red silt and clay, some medium sand. | | |
| | | | | 12.5 - 15.0 | 0.1 | Moist | Sand & Gravel | Brown to orange medium to coarse sand and rounded gravel. | | |
| | 15 | 20 | 4.75 | 15.0 - 16.5 | 0.1 | Moist | Silt & Sand | Brown silt and fine sand, some clay. | | |
| | | | | 16.5 - 17.0 | 0.1 | Moist | Sand & | Orange medium to coarse sand and rounded gravel. | | |
| | | | | 17.0 - 18.5 | 0.1 | Wet | Gravel | Orange medium to coarse sand and rounded gravel. | | |
| | | | | 18.5 - 19.75 | 0.1 | Wet | Silt & Clay | Orange to brown silt and clay, little medium sand. | | |
| Sampling Data: Collected GM-GP05-S001 from 16 ft to 18 ft at 11:40. | | | | | | | | | | |
| | | | | | 111 10 11 10 1 | o it at 11:4 | υ. | | | |
| Sampled | Бу: | | Kelly Powe | 1 | | | | | | |

Modifiers:

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



GEOPROBE[®] DRILLING LOG BORING ID: GM-GP06

Project Name: Dodson Ave - OU4 Characterization Location: Former Wilmington Assembly Plant Weather Conditions: Cloudy, humid, 70's Drilling Method: Geoprobe Sample Interval (feet): Continuous Driller: Paul Wirrick Project No.: 2734.04.51 Drilling Date(s): 9/30/15 Drilling Contractor: Eichelbergers Type of Sample/Coring Device: Open-Tube Macrocore Depth Groundwater Encountered (feet, bgs): 17.0 Logged By: Victoria Bisbing

| Time | | Sample Depth | Core Recovery | Depth (feet) | PID Reading | Moisture | Soil Class | Soil Description | | |
|---|------|-----------------|------------------|-----------------|----------------|-------------|----------------|---|--|--|
| | From | То | (feet) | From To | (ppm) | | Class | | | |
| 12:30 | 0 | 5 | 1.25 | 0.0 - 0.1 | 0.1 | Dry | Surf Cover | Brown vegetative matter (grass roots). | | |
| | | | | 0.1 - 1.0 | 0.1 | Moist | Silt | Brown silt, trace fine sand and vegetative material (grass roots). | | |
| | | | | 1.0 - 1.25 | 0.1 | Moist | Debris | Concrete fragments. | | |
| | 5 | 10 | 3.0 | 5.0 - 5.1 | 0.1 | Moist | | Concrete fragments. | | |
| | | | | 5.1 - 8.0 | 0.1 | Moist | | Red to orange medium sand and silt, some clay. | | |
| | 10 | 15 | 5.0 | 10.0 - 11.5 | 0.1 | Moist | | Red to orange medium sand and silt, some clay. | | |
| | | | | 11.5 - 14.5 | 0.1 | Moist | Silt & Sand | Light brown medium sand and silt, trace clay. | | |
| | | | | 14.5 - 15.0 | 0.1 | Moist | | Red to orange medium sand and silt, some rounded gravel. | | |
| | 15 | 20 | 5.0 | 15.0 - 16.0 | 0.0 | Moist | | Light brown to red medium sand and silt. | | |
| | | | | 16.0 - 16.5 | 0.0 | Moist | M Sand | Light brown medium sand, some silt and vegetative matter (roots). | | |
| | | | | 16.5 - 17.0 | 0.0 | Moist | Silt & | Red to orange medium sand and silt, trace rounded gravel. | | |
| | | | | 17.0 - 18.0 | 0.0 | Wet | Sand | Red to orange medium sand and silt, trace rounded gravel. | | |
| | | | | 18.0 - 19.5 | 0.0 | Wet | Clay | Orange to gray clay, some silt, little medium sand. | | |
| | | | | 19.5 - 20.0 | 0.0 | Wet | C Sand | Orange to red medium to coarse sand, black (possible staining) from 19.5 ft to 19.7 ft. | | |
| Sampling Data: Collected GM-GP06-S001 from 16 ft to 18 ft at 13:05. | | | | | | | | | | |
| Sampled I | | | | | | o n ar 13.0 | 0. | | | |
| Sampled | by. | | Kelly Powe | | | | | | | |

Modifiers:



GEOPROBE[®] DRILLING LOG BORING ID: GM-GP07

Project Name: Dodson Ave - OU4 Characterization Location: Former Wilmington Assembly Plant Weather Conditions: Cloudy, humid, 70's Drilling Method: Geoprobe Sample Interval (feet): Continuous Driller: Paul Wirrick Project No.: 2734.04.51 Drilling Date(s): 9/30/15 Drilling Contractor: Eichelbergers Type of Sample/Coring Device: Open-Tube Macrocore Depth Groundwater Encountered (feet, bgs): 15.0 Logged By: Victoria Bisbing

| Time | Plastic Tube | Sample Depth | Core Recovery | Depth (feet) | PID Reading | Moisture | Soil Class | Soil Description |
|-----------------------|-------------------|-----------------|------------------|------------------|----------------|------------------------|------------------|---|
| | From | То | (feet) | From To | (ppm) | | Ciass | |
| 13:00 | 0 | 5 | 3.5 | 0.0 - 0.1 | 0.0 | Dry | Surf Cover | Brown vegetative matter (grass roots). |
| | | | | 0.1 - 0.5 | 0.0 | Moist | Silt | Brown silt, some fine sand and vegetative material. |
| | | | | 0.5 - 1.5 | 0.0 | Dry | 0 | Brown silt, some fine sand and vegetative material. |
| | | | | 1.5 - 2.0 | 0.0 | Moist | Gravel | Broken gravel fragments. |
| | | | | 2.0 - 3.5 | 0.0 | Moist | Silt | Brown silt, some fine sand, little clay. |
| | 5 | 10 | 5.0 | 5.0 - 10.0 | 0.0 | Moist | | Orange to brown silt and medium sand, some clay, trace rounded gravel. |
| | 10 | 15 | 4.75 | 10.0 - 11.25 | 0.0 | Moist | Silt & Sand | Brown silt and medium sand, some clay. |
| | | | | 11.25 - 11.35 | 0.0 | Moist | | Brown silt and medium sand, some clay, little gravel (quartz fragments). |
| | | | | 11.35 - 13.25 | 0.0 | Moist | Clay | Orange to red to gray (mottled) clay, some silt and medium sand. |
| | | | | 13.25 - 15.0 | 649 | Moist | Sand & | Orange medium to coarse sand and rounded gravel (quartz fragments), petroleum odor, highest PID reading at 14.5 ft. |
| | 15 | 20 | 2 | 15.0 - 17.0 | 701 | Wet | Gravel | Orange medium to coarse sand and rounded gravel (quartz fragments), petroleum odor, highest PID reading at 16.5 ft. |
| | 20 | 25 | 5 | 20.0 - 21.5 | 50.9 | Wet | M Sand | Brown medium sand, little silt, petroleum odor. |
| | | | | 21.5 - 24.0 | 39.1 | Wet | Sand & Gravel | Brown coarse sand and rounded gravel, little silt, petroleum odor. |
| | | | | 24.0 - 25.0 | 20.0 | Wet | M Sand | Brown medium sand, little silt, slight petroleum odor. |
| Sampling | Data [.] | | Collected | GM-GP07-S001 fro | m 15 ft to 1 | 7 ft at 12⋅ <i>/</i> ′ | 3 | |
| Sampling Sampled I | | | Kelly Powe | | | 1 II.al 13.4 | υ. | |
| Campieu I | <i>с</i> у. | | INGIIY I OWE | 4 | | | | |

Modifiers:



GEOPROBE[®] DRILLING LOG BORING ID: GM-GP08

Project Name: Dodson Ave - OU4 Characterization Location: Former Wilmington Assembly Plant Weather Conditions: Cloudy, humid, 70's Drilling Method: Geoprobe Sample Interval (feet): Continuous Driller: Paul Wirrick Project No.: 2734.04.51 Drilling Date(s): 9/30/15 Drilling Contractor: Eichelbergers Type of Sample/Coring Device: Open-Tube Macrocore Depth Groundwater Encountered (feet, bgs): 16.5 Logged By: Victoria Bisbing

| Time | Plastic Tube | | Core Recovery | Depth (feet) | PID Reading | Moisture | Soil Class | Soil Description |
|-----------|-----------------|----|------------------|------------------|----------------|------------|------------------|--|
| | From | To | (feet) | From To | (ppm) | | Class | |
| 13:49 | 0 | 5 | 3.5 | 0.0 - 1.0 | 3.0 | Dry | Surf Cover | Asphalt. |
| | | | | 1.0 - 3.0 | 0.7 | Moist | Silt & Sand | Brown silt and fine sand, trace clay. |
| | | | | 3.0 - 3.5 | 0.9 | Moist | M Sand | Brown medium sand, little rounded gravel. |
| | 5 | 10 | 4.75 | 5.0 - 5.75 | 1.8 | Moist | Silt & Sand | Brown silt and fine sand, trace clay. |
| | | | | 5.75 - 8.75 | 3.3 | Moist | M Sand | Orange to red medium sand, some rounded gravel. |
| | | | | 8.75 - 9.75 | 3.1 | Moist | | Orange medium sand, some clay. |
| | 10 | 15 | 5.0 | 10.0 - 14.5 | 8.9 | Moist | Clay | Orange and gray (mottled) clay. |
| | | | | 14.5 - 15.0 | 2,150 | Moist | Sand & Gravel | Orange to gray medium sand and rounded gravel, petroleum odor. |
| | 15 | 20 | 5.0 | 15.0 - 16.5 | 54.8 | Moist | Silt & Clay | Light brown silt and clay, slight petroleum odor. |
| | | | | 16.5 - 17.5 | 1,321 | Wet | | Brown to purple (stained) medium sand, little rounded gravel, petroleum odor. |
| | | | | 17.5 - 18.5 | 1,445 | Wet | M Sand | Brown fine to medium sand, purple (stained) trace rounded gravel, petroleum. |
| | | | | 18.5 - 20.0 | 2,295 | Wet | | Brown medium to coarse sand, purple staining present, petroleum odor. |
| | 20 | 25 | 5 | 20.0 - 22.0 | 2,801 | Wet | | Brown coarse sand, some rounded gravel, brown/black petroleum product visible. |
| | | | | 22.0 - 23.0 | 238 | Wet | C Sand | Brown medium to coarse sand, petroleum odor. |
| | | | | 23.0 - 24.5 | 63.1 | Wet | | Brown coarse sand, some rounded gravel, petroleum odor. |
| | | | | 24.5 - 25.0 | 30.8 | Wet | F Sand | Brown fine sand, slight petroleum odor. |
| 0 | Data | | | | | | 0 | |
| Sampling | | | | GM-GP08-S001 fro | m 18 ft to 2 | tt at 14:4 | Ζ. | |
| Sampled I | ву: | | Kelly Powe | ir i | | | | |

Modifiers:

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



GEOPROBE[®] DRILLING LOG BORING ID: GM-GP09

Project Name: Dodson Ave - OU4 Characterization Location: Former Wilmington Assembly Plant Weather Conditions: Cloudy, humid, 70's Drilling Method: Geoprobe Sample Interval (feet): Continuous Driller: Paul Wirrick Project No.: 2734.04.51 Drilling Date(s): 9/30/15 Drilling Contractor: Eichelbergers Type of Sample/Coring Device: Open-Tube Macrocore Depth Groundwater Encountered (feet, bgs): 16.0 Logged By: Victoria Bisbing

| FromTo(feet)FromTo(ppm)Cover14:45053.50.0 - 0.56.7DrySurf CoverAsphalt.14:45053.50.0 - 0.56.7DrySurf CoverBrown silt and fine sand, little clay.14:45053.60.5 - 2.01.5MoistSilt & SandBrown silt and fine sand, little clay.5104.05.0 - 8.01.5MoistSand & GravelBrown to orange medium sand and rounded gravel.5104.05.0 - 8.01.3MoistSand & GravelBrown to orange medium sand and rounded gravel.68.0 - 9.01.7MoistSilt & SandSilt & SandOrange medium sand and silt, some clay. | Time | | Sample Depth | Core Recovery | Depth (feet) | PID Reading | Moisture | Soil Class | Soil Description | | |
|--|--|------|-----------------|------------------|---|------------------|---------------|----------------|--|--|--|
| 14:45 0 5 3.5 0.0 - 0.5 6.7 Dry Cover Aspnait. 14:45 0 5 3.5 0.0 - 0.5 6.7 Dry Cover Aspnait. 14:45 0 5 3.5 0.0 - 0.5 6.7 Dry Cover Aspnait. 14:45 0 5 2.0 1.5 Moist Silt & Sand & Gravel Brown silt and fine sand, little clay. 5 10 4.0 5.0 - 8.0 1.3 Moist Sand & Gravel Brown to orange medium sand and rounded gravel. 5 10 4.0 5.0 - 8.0 1.3 Moist Silt & Sand & Gravel Orange medium sand and silt, some clay. 10 15 5.0 10.0 - 14.0 1.0 Moist Sand & Gravel Brown medium to coarse sand and rounded gravel. 15 20 3.5 15.0 - 16.0 3.3 Moist Silt & Sand & Gravel Brown silt and medium sand. 15 20 3.5 15.0 - 16.0 3.3 Moist Silt & Gravel Brown silt and medium sand. 15 20 3.5 15.0 - 16 | | From | То | (feet) | From T | o (ppm) | | Chaot | | | |
| 10 1.5 1.5 Moist Sand Brown silt and fine sand, little clay. 5 10 4.0 5.0 - 8.0 1.3 Moist Sand & Gravel 5 10 4.0 5.0 - 8.0 1.3 Moist Brown to orange medium sand and rounded gravel. 5 10 4.0 5.0 - 8.0 1.3 Moist Silt & Gravel 10 15 5.0 10.0 - 14.0 1.0 Moist Silt & Clay 10 15 5.0 10.0 - 14.0 1.0 Moist Silt & Clay 15 20 3.5 15.0 - 16.0 3.3 Moist Silt & Sand & Gravel 15 20 3.5 15.0 - 16.0 3.3 Moist Silt & Sand & Gravel 16.0 - 18.5 9.7 Wet Sand & Gravel Orange to red medium to coarse sand and rounded gravel. | 14:45 | 0 | 5 | 3.5 | 0.0 - 0.5 | 6.7 | Dry | | Asphalt. | | |
| 5 10 4.0 5.0 - 8.0 1.3 Moist Sand & Gravel Brown to orange medium sand and rounded gravel. 10 15 5.0 10.0 - 14.0 1.0 Moist Silt & Clay Clay Light brown to orange to gray clay and silt, little fine sand 10 15 5.0 10.0 - 14.0 1.0 Moist Silt & Clay Light brown to orange to gray clay and silt, little fine sand 15 20 3.5 15.0 - 16.0 3.3 Moist Silt & Sand & Gravel Brown silt and medium sand. 15 20 3.5 15.0 - 16.0 3.3 Moist Sand & Gravel Gravel 16.0 - 18.5 9.7 Wet Sand & Gravel Orange to red medium to coarse sand and rounded gravel. | | | | | 0.5 - 2.0 | 1.5 | Moist | | Brown silt and fine sand, little clay. | | |
| 5 10 4.0 5.0 - 8.0 1.3 Moist Brown to orange medium sand and rounded gravel. 10 15 5.0 10.0 - 14.0 1.0 Moist Silt & Sand Orange medium sand and silt, some clay. 10 15 5.0 10.0 - 14.0 1.0 Moist Silt & Clay Light brown to orange to gray clay and silt, little fine sand 15 20 3.5 15.0 - 16.0 3.3 Moist Silt & Sand & Gravel Brown silt and medium sand. 15 20 3.5 15.0 - 16.0 3.3 Moist Sand & Gravel Brown silt and medium sand. 16.0 - 18.5 9.7 Wet Sand & Gravel Orange to red medium to coarse sand and rounded gravel. | | | | | Brown to orange medium sand and rounded gravel. | | | | | | |
| 10 15 5.0 10.0 - 14.0 1.0 Moist Sand Clay Light brown to orange medium sand and silt, some clay. 10 15 5.0 10.0 - 14.0 1.0 Moist Light brown to orange to gray clay and silt, little fine sand Clay 15 20 3.5 15.0 - 16.0 3.3 Moist Silt & Clay Brown medium to coarse sand and rounded gravel. 15 20 3.5 15.0 - 16.0 3.3 Moist Silt & Sand & Gravel Brown silt and medium sand. 0range to red medium to coarse sand and rounded gravel. 16.0 - 18.5 9.7 Wet Sand & Gravel Orange to red medium to coarse sand and rounded gravel. | | 5 | 10 | 4.0 | 5.0 - 8.0 | 1.3 | Moist | Gravel | Brown to orange medium sand and rounded gravel. | | |
| 15 20 3.5 14.0 - 15.0 1.0 Moist Sand & Gravel Brown medium to coarse sand and rounded gravel. 15 20 3.5 15.0 - 16.0 3.3 Moist Silt & Sand & Gravel Brown silt and medium sand. 16.0 - 18.5 9.7 Wet Sand & Gravel Orange to red medium to coarse sand and rounded gravel. | | | | | 8.0 - 9.0 | 1.7 | Moist | | Orange medium sand and silt, some clay. | | |
| 15 20 3.5 15.0 - 16.0 3.3 Moist Gravel Brown medium to coarse sand and rounded gravel. 15 20 3.5 15.0 - 16.0 3.3 Moist Silt & Sand Brown silt and medium sand. 16.0 - 18.5 9.7 Wet Sand & Gravel Orange to red medium to coarse sand and rounded gravel. | | 10 | 15 | 5.0 | 10.0 - 14. | 0 1.0 | Moist | Silt & Clay | Light brown to orange to gray clay and silt, little fine sand. | | |
| 15 20 3.5 15.0 - 16.0 3.3 Moist Sand Brown silt and medium sand. 16.0 - 18.5 9.7 Wet Sand & Gravel Orange to red medium to coarse sand and rounded gravel, very slight petroleum odor possible. | | | | | 14.0 - 15. | 0 1.0 | Moist | | Brown medium to coarse sand and rounded gravel. | | |
| 16.0 - 18.5 9.7 Wet Gravel gravel, very slight petroleum odor possible. | | 15 | 20 | 3.5 | 15.0 - 16. | 0 3.3 | Moist | | Brown silt and medium sand. | | |
| Sampling Data: Collected GM-GP09-S001 from 16.5 ft to 18.5 ft at 15:20. | | | | | 16.0 - 18. | 5 9.7 | Wet | | | | |
| | Sampling Data: Collected GM-GP09-S001 from 16.5 ft to 18.5 ft at 15:20 | | | | | | | | | | |
| Sampled By: Kelly Power | | | | | | 10.011 10.011 10 | , 10.0 m dt 1 | 0.20. | | | |

 Modifiers:

 and:
 35% to 50 %

 some:
 20% to 35%

 little:
 10% to 20%

 trace:
 <10%</td>

BrightFields File #: 2734.04.51



GEOPROBE[®] DRILLING LOG BORING ID: GM-GP10

Project Name: Dodson Ave - OU4 Characterization Location: Former Wilmington Assembly Plant Weather Conditions: Cloudy, humid, 70's Drilling Method: Geoprobe Sample Interval (feet): Continuous Driller: Paul Wirrick Project No.: 2734.04.51 Drilling Date(s): 9/30/15 Drilling Contractor: Eichelbergers Type of Sample/Coring Device: Open-Tube Macrocore Depth Groundwater Encountered (feet, bgs): 15.5 Logged By: Victoria Bisbing

| FromTo(tell)FromTo(ppm)Image: constraint of the state of the sta | Time | | Sample Depth | Core Recovery | Depth (feet) | PID Reading | Moisture | Soil Class | Soil Description | | | |
|---|----------|--|-----------------|------------------|-----------------|-----------------|----------|---------------|--|--|--|--|
| 15:20 0 5 3.75 0.0 - 0.5 7.1 Dry Cover Aspnait. 15:20 0 5 3.75 0.0 - 0.5 7.1 Dry Cover Aspnait. 16:20 0 5 1.5 1.1 Moist Fill Broken stone/concrete. 16:20 1.5 3.25 3.75 0.9 Moist Silt & Sand Orange to red medium sand. 15 10 3.0 5.0 7.25 0.7 Moist Silt & Sand Orange to red medium sand and silt, little rounded gravel. 10 15 4.0 10.0 11.0 0.6 Moist Sand & Clay Brown to orange silt and clay, little medium sand. 110 15 4.0 10.0 5.1 Moist Sand & Gravel Orange to brown to red medium to coarse sand and rounded gravel. 15 20 3.0 15.0 15.1 Moist Sand & Gravel Orange to brown to red medium to coarse sand. 15 20 3.0 15.0 15.5 30.3 Moist Sand & Gravel Orange to brown to red medium to coarse sand. < | | From | То | (feet) | From To | (ppm) | | Clubb | | | | |
| 1.5 - 3.25 0.9 Moist Sit & Sand Brown silt and fine sand, little clay. 5 10 3.0 5.0 - 7.25 0.7 Moist Sit & Sand Orange to red medium sand. 5 10 3.0 5.0 - 7.25 0.7 Moist Sit & Sand Orange to red medium sand. 10 15 4.0 10.0 - 11.0 0.6 Moist Sit & Sand Brown to orange sit and clay, little medium sand. 10 15 4.0 10.0 - 11.0 0.6 Moist Sit & Sand Gravet 11.0 - 13.0 5.1 Moist Sand & Gravet Orange to brown to orange sit and clay, little medium sand. 15 20 3.0 15.0 - 15.5 30.3 Moist Cand & Gravet 15 20 3.0 15.0 - 15.5 30.3 Moist Brown to black medium to coarse sand. 15.5 - 18.0 388.8 Wet M Sand Brown to black medium to coarse sand. Brown to black medium to coarse sand. Ittle proteum-like odor Brown to black medium sand. Brown to black medium sand.< | 15:20 | 0 | 5 | 3.75 | 0.0 - 0.5 | 7.1 | Dry | | Asphalt. | | | |
| 1.5 - 3.25 0.9 Moist Sand Brown suit and fine sand, little clay. 5 10 3.0 5.0 - 7.25 0.7 Moist Sand Orange to red medium sand. 5 10 3.0 5.0 - 7.25 0.7 Moist Silt & Sand Orange to red medium sand and silt, little rounded gravel. 10 15 4.0 10.0 - 11.0 0.6 Moist Silt & Clay Brown to orange silt and clay, little medium sand. 10 15 4.0 10.0 - 11.0 0.6 Moist Sand & Craye Orange to brown to red medium to coarse sand and rounded gravel. 11.0 - 13.0 5.1 Moist Sand & Gravel Orange to brown to red medium to coarse sand and rounded gravel. 15 20 3.0 15.0 - 15.5 30.3 Moist C Sand 15 20 3.0 15.0 - 15.5 30.3 Moist Brown fine to medium sand, little silt. Petroleum-like odor. 15.5 - 18.0 388.8 Wet M Sand Brown fine to medium sand, little silt. Petroleum-like odor present at 15.5-7 ft. At 18 ft PID reading is 10.1 ppm. Sampling Data: Collected GM-GP10-S001 from 15.5 ft to 17.5 ft at 15.52. Sampling Datat | | | | | 0.5 - 1.5 | 1.1 | Moist | Fill | Broken stone/concrete. | | | |
| 5 10 3.0 5.0 - 7.25 0.7 Moist Silt & Sand Orange to red medium sand and silt, little rounded gravel. 10 15 4.0 10.0 - 11.0 0.6 Moist Silt & Clay Brown to orange silt and clay, little medium sand. 10 15 4.0 10.0 - 11.0 0.6 Moist Brown to orange silt and clay, little medium sand. 10 15 4.0 10.0 - 11.0 0.6 Moist Sand & Gravel Orange to brown to red medium to coarse sand and rounded gravel. 11.0 - 13.0 5.1 Moist Sand & Gravel Orange to brown to red medium to coarse sand. 15 20 3.0 15.0 - 15.5 30.3 Moist C Sand 15.5 - 18.0 388.8 Wet M Sand Brown to black medium to coarse sand, little gravel. Sampling Data: Collected GM-GP10-S001 from 15.5 ft to 17.5 ft at 15:52. Moist M Sand | | | | | 1.5 - 3.25 | 0.9 | Moist | | Brown silt and fine sand, little clay. | | | |
| 5 10 3.0 5.0 - 7.25 0.7 Moist Sand Orange to red medium sand and siit, little rounded gravel. 10 15 4.0 10.0 - 11.0 0.6 Moist Sitt & Clay Brown to orange silt and clay, little medium sand. 10 15 4.0 10.0 - 11.0 0.6 Moist Sand & Clay Brown to orange silt and clay, little medium sand. 11.0 13.0 5.1 Moist Sand & Gravel Orange to brown to red medium to coarse sand and rounded gravel. 15 20 3.0 15.0 - 15.5 30.3 Moist C Sand & Gravel 15 20 3.0 15.0 - 15.5 30.3 Moist Brown to black medium to coarse sand. Petroleum-like odor. 15.5 18.0 388.8 Wet M Sand Brown time to medium sand, little silt. Petroleum-like odor present at 15.5-7 ft. At 18 ft PID reading is 10.1 ppm. Sampling Data: Collected GM-GP10-S001 from 15.5 ft to 17.5 ft at 15:52. Sand 15.5 ft to 17.5 ft at 15:52. | | | | | 3.25 - 3.75 | 0.9 | Moist | M Sand | Orange to red medium sand. | | | |
| 10 15 4.0 10.0 - 11.0 0.6 Moist Sitt & Clay Brown to orange silt and clay, little medium sand. 10 15 4.0 10.0 - 11.0 0.6 Moist Sand & Clay Brown to orange silt and clay, little medium sand. 11.0 - 13.0 5.1 Moist Sand & Gravel Orange to brown to red medium to coarse sand and rounded gravel. 15 20 3.0 15.0 - 15.5 30.3 Moist C Sand 15 20 3.0 15.0 - 15.5 30.3 Moist Brown to black medium to coarse sand, little gravel. Sampling Data: Collected GM-GP10-S001 from 15.5 ft to 17.5 ft at 15:52. Moist Moist Moist | | 5 | 10 | 3.0 | 5.0 - 7.25 | 0.7 | Moist | | Orange to red medium sand and silt, little rounded gravel. | | | |
| 10 15 4.0 10.0 - 11.0 0.6 Moist Brown to orange silt and clay, little medium sand. 11.0 - 13.0 5.1 Moist Sand & Gravel Orange to brown to red medium to coarse sand and rounded gravel. 15 20 3.0 15.0 - 15.5 30.3 Moist Orange to brown to red medium to coarse sand. Petroleum-like odor. 15 20 3.0 15.0 - 15.5 30.3 Moist Brown to black medium to coarse sand, little gravel. 15.5 - 18.0 388.8 Wet M Sand Brown fine to medium sand, little silt. Petroleum-like odor present at 15.5-7 ft. At 18 ft PID reading is 10.1 ppm. Sampling Data: Collected GM-GP10-S001 from 15.5 ft to 17.5 ft at 15:52. | | | | | 7.25 - 8.0 | 0.3 | Moist | Silt & | Brown to orange silt and clay, little medium sand. | | | |
| 15 20 3.0 15.0 - 15.5 30.3 Moist Gravel C Sand Orange to brown to red medium to coarse sand. Petroleum-like odor. 15 20 3.0 15.0 - 15.5 30.3 Moist Moist Brown to black medium to coarse sand, little gravel. 15.5 - 18.0 388.8 Wet M Sand Brown fine to medium sand, little silt. Petroleum-like odor present at 15.5-7 ft. At 18 ft PID reading is 10.1 ppm. Sampling Data: Collected GM-GP10-S001 from 15.5 ft to 17.5 ft at 15:52. | | 10 | 15 | 4.0 | 10.0 - 11.0 | 0.6 | Moist | Clay | Brown to orange silt and clay, little medium sand. | | | |
| 15 20 3.0 15.0 - 15.5 30.3 Moist C Sand Petroleum-like odor. 15 20 3.0 15.0 - 15.5 30.3 Moist Moist Brown to black medium to coarse sand, little gravel. 15.5 - 18.0 388.8 Wet M Sand Brown fine to medium sand, little silt. Petroleum-like odor present at 15.5-7 ft. At 18 ft PID reading is 10.1 ppm. Sampling Data: Collected GM-GP10-S001 from 15.5 ft to 17.5 ft at 15:52. | | | | | 11.0 - 13.0 | 5.1 | Moist | | • | | | |
| 15 20 3.0 15.0 - 15.5 30.3 Moist Image: Collected GM-GP10-S001 from 15.5 ft to 17.5 ft at 15:52. Brown to black medium to coarse sand, little gravel. Brown fine to medium sand, little silt. Petroleum-like odor present at 15.5-7 ft. At 18 ft PID reading is 10.1 ppm. Sampling Data: Collected GM-GP10-S001 from 15.5 ft to 17.5 ft at 15:52. | | | | | 13.0 - 14.0 | 109.6 | Moist | C Sand | | | | |
| 15.5 18.0 388.8 Wet M Sand present at 15.5-7 ft. At 18 ft PID reading is 10.1 ppm. Sampling Data: Collected GM-GP10-S001 from 15.5 ft to 17.5 ft at 15:52. Collected GM-GP10-S001 from 15.5 ft to 17.5 ft at 15:52. Collected GM-GP10-S001 from 15.5 ft to 17.5 ft at 15:52. | | 15 | 20 | 3.0 | 15.0 - 15.5 | 30.3 | Moist | C Sand | Brown to black medium to coarse sand, little gravel. | | | |
| | | | | | 15.5 - 18.0 | 388.8 | Wet | M Sand | | | | |
| | Sampling | Sampling Data: Collected GM-GD10-S001 from 15.5 ft to 17.5 ft at 15:52 | | | | | | | | | | |
| Sampled By: IKelly Power | Sampled | | | Kelly Powe | | , in 10.0 it tu | in.ondi | 0.02. | | | | |

Modifiers:

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



GEOPROBE[®] DRILLING LOG BORING ID: GM-GP11

Project Name: Dodson Ave - OU4 Characterization Location: Former Wilmington Assembly Plant Weather Conditions: Raining, 50's Drilling Method: Geoprobe Sample Interval (feet): Continuous Driller: Paul Wirrick Project No.: 2734.04.51 Drilling Date(s): 10/1/15 Drilling Contractor: Eichelbergers Type of Sample/Coring Device: Open-Tube Macrocore Depth Groundwater Encountered (feet, bgs): Not Encountered Logged By: Victoria Bisbing

| Time | | Sample Depth | Core Recovery | | pth et) | PID Reading | Moisture | Soil Class | Soil Description |
|-----------|-------------------------|-----------------|------------------|---------|------------|----------------|---------------|---------------|--|
| | From | То | (feet) | From | То | (ppm) | | | |
| 08:05 | 0 | 5 | 1.0 | 0.0 | 1.0 | 2.9 | Dry | Surf Cover | Asphalt. |
| | 5 | 10 | 0.5 | 5.0 | 5.5 | 1.1 | Moist | M Sand | Orange medium to coarse sand, some rounded gravel. |
| | 10 | 15 | 1.0 | 10.0 | 10.3 | 0.2 | Moist | W Sand | Orange medium to coarse sand, some rounded gravel. |
| | 10.25 11.0 0.2 Mois | | | | | | | | Brown silt and fine sand, little clay. |
| | 15 | 20 | 1.0 | 15.0 | 16.0 | 0.2 | Moist | M Sand | Orange medium to coarse sand, some rounded gravel. |
| Sampling | Data: | | Collected C | GM-GP11 | -S001 fro | m 15 ft to 1 | 6 ft at 08:30 | 0. | |
| Sampled I | Sampled By: Kelly Power | | | | | | | | |

Modifiers:



GEOPROBE[®] DRILLING LOG BORING ID: GM-GP12

Project Name: Dodson Ave - OU4 Characterization Location: Former Wilmington Assembly Plant Weather Conditions: Raining, 50's Drilling Method: Geoprobe Sample Interval (feet): Continuous Driller: Paul Wirrick Project No.: 2734.04.51 Drilling Date(s): 10/1/15 Drilling Contractor: Eichelbergers Type of Sample/Coring Device: Open-Tube Macrocore Depth Groundwater Encountered (feet, bgs): 16.2 Logged By: Victoria Bisbing

| Time | | Sample Depth To | Core Recovery (feet) | Depth (feet) From To | PID Reading (ppm) | Moisture | Soil Class | Soil Description |
|-----------|-------|-----------------------|----------------------------|----------------------------|-------------------------|--------------|------------------|---|
| 08:30 | 0 | 5 | 4.0 | 0.0 - 1.0 | 2.9 | Dry | Surf Cover | Asphalt. |
| | | | | 1.0 - 3.0 | 0.4 | Moist | Silt & Sand | Brown to gray silt and fine sand, little clay. |
| | | | | 3.0 - 4.0 | 0.2 | Moist | M Sand | Orange medium to coarse sand, some rounded gravel. |
| | 5 | 10 | 3.0 | 5.0 - 7.5 | 0.2 | Moist | | Orange medium to coarse sand, some rounded gravel. |
| | | | | 7.5 - 8.0 | 0.2 | Moist | Silt & | Brown to gray clay and silt, little fine sand. |
| | 10 | 15 | 4.0 | 10.0 - 11.5 | 0.2 | Moist | Clay | Brown to orange clay and silt, some medium sand. |
| | | | | 11.5 - 13.0 | 0.9 | Moist | F Sand | Orange to brown fine to medium sand. |
| | | | | 13.0 - 14.0 | 22.9 | Moist | Sand & Gravel | Orange coarse sand and rounded gravel. Very slight petroleum-like odor. |
| | 15 | 20 | 3.5 | 15.0 - 16.0 | 8.7 | Moist | Silt & Clay | Brown to orange clay and silt, some medium sand. Very slight petroleum-like odor. |
| | | | | 16.0 - 16.2 | 30.9 | Moist | Gravel | Broken quartz fragments. |
| | | | | 16.2 - 18.5 | 1,374 | Wet | C Sand | Brown to orange coarse sand and rounded gravel. Petroleum-like odor present. Highest PID reading at 18.0 ft. At 18.5 ft PID reading is 353.9 ppm. |
| | 20 | 25 | 5.0 | 20.0 - 21.0 | 171 | Wet | Silt & | Brown fine sand, some silt. Petroleum-like odor present. |
| | | | | 21.0 - 22.0 | 55.8 | Wet | Sand | Brown medium to coarse sand, little silt. Petroleum-like odor present. |
| | | | | 22.0 - 24.3 | 36.8 | Wet | Sand & Gravel | Brown coarse sand and rounded gravel. |
| | | | | 24.3 - 25.0 | 8.9 | Wet | M Sand | Brown fine to medium sand. |
| Sampling | Data: | | Collected 0 | GM-GP12-S001 fro | m 16.5 ft to | 18.5 ft at 0 | 9:05. | |
| Sampled E | | | Kelly Powe | | | | | |

Modifiers:



GEOPROBE[®] DRILLING LOG BORING ID: GM-GP13

Project Name: Dodson Ave - OU4 Characterization Location: Former Wilmington Assembly Plant Weather Conditions: Cloudy, 50's Drilling Method: Geoprobe Sample Interval (feet): Continuous Driller: Paul Wirrick Project No.: 2734.04.51 Drilling Date(s): 10/1/15 Drilling Contractor: Eichelbergers Type of Sample/Coring Device: Open-Tube Macrocore Depth Groundwater Encountered (feet, bgs): 15.5 Logged By: Victoria Bisbing

| From To (feet) From To (ppm) Utass Class 09:10 0 5 4.0 0.0 - 1.0 3.1 Dry Surf Cover Asphalt. 09:10 0 5 4.0 0.0 - 1.0 3.1 Dry Surf Cover Asphalt. 1.0 - 1.3 0.6 Moist M Sand Orange medium sand (possibly select fill). Brown silt and fine sand, little clay. 5 10 5.0 5.0 - 8.0 0.6 Moist M Sand Orange medium sand, some rounded gravel. 5 10 5.0 5.0 - 8.0 0.6 Moist Orange to gray mottled clay and silt, some medium sand, some rounded gravel. 10 15 5.0 10.0 - 14.5 2.3 Moist Gray to orange (mottled) clay, some silt and fin 10 15 5.0 10.0 - 14.5 2.3 Moist Gray to orange (mottled) clay, some silt and fin 115 2.0 5.0 15.0 - 15.5 1,183 Moist Gray to orange (mottled) clay, some silt and fin 12 | | Soil Description | Soil | Moisture | PID Reading | Depth (feet) | Core Recovery | Sample Depth | | Time | | | | | |
|--|----------------|---|----------------|--------------|----------------|-----------------|------------------|-----------------|----|-------|--|--|--|--|--|
| 109:10 0 5 4.0 0.0 - 1.3 3.1 Dry Cover Asphait. 1.0 - 1.3 0.6 Moist M Sand Orange medium sand (possibly select fill). 1.3 - 3.5 0.6 Moist Silt & Sand Brown silt and fine sand, little clay. 5 10 5.0 5.0 - 8.0 0.6 Moist M Sand 5 10 5.0 5.0 - 8.0 0.6 Moist Orange medium sand, some rounded gravel. 6 Moist M Sand Orange medium sand, some rounded gravel. Orange medium sand, some rounded gravel. 10 15 5.0 10.0 - 14.5 2.3 Moist Gray to orange (mottled) clay, some silt and fin 10 15 5.0 10.0 - 14.5 2.3 Moist Gray to orange (mottled) clay, some silt and fin 11 14.5 - 15.0 2,160 Moist M Sand Orange to brown medium to coarse sand and r gravel. Petroleum-like odor present. 15 20 5.0 15.0 - 15.5 1,183 Wett M Sand 15 10.0 - 20.0 1,883 Wet Sand & Gravto coarse sand and rounded gravel. Petroleum- | | | Class | | - | | - | | | | | | | | |
| 101.33.50.6MoistSite & SandBrown silt and fine sand, little clay.5105.05.06.0MoistMandOrange medium sand, some rounded gravel.5105.05.08.09.50.6MoistOrange medium sand, some rounded gravel.10155.010.014.52.3MoistSite & ClayGray to orange (mottled) clay, some silt and fin Gray to orange (mottled) clay, some silt and fin Gray to orange (mottled) clay, some silt and fin Orange to brown medium to coarse sand and r gravel. Petroleum-like odor present.10155.015.015.02.160MoistMand Gray to orange (mottled) clay, some silt and fin Gray to orange to brown medium to coarse sand and r gravel. Petroleum-like odor present.15205.015.01.651.183WetMand Gravet15205.016.51.183WetSand & GravetBrown coarse sand and r gravel. Petroleum-like odor present.20254.020.01.883WetSand & | | Asphalt. | | Dry | 3.1 | 0.0 - 1.0 | 4.0 | 5 | 0 | 09:10 | | | | | |
| 1.3 - 3.5 0.6 Moist Brown sitt and time sand, little clay. 5 10 5.0 5.0 - 8.0 0.6 Moist Orange medium sand, some rounded gravel. 5 10 5.0 5.0 - 8.0 0.6 Moist Orange medium sand, some rounded gravel. 6 Moist 8.0 - 9.5 0.6 Moist Orange to gray mottled clay and silt, some medium sand, some rounded gravel. 10 15 5.0 10.0 - 14.5 2.3 Moist Gray to orange (mottled) clay, some silt and fin 10 15 5.0 10.0 - 14.5 2.3 Moist Gray to orange (mottled) clay, some silt and fin 10 15 5.0 10.0 - 14.5 2.3 Moist Gray to orange (mottled) clay, some silt and fin 115 2.0 5.0 15.0 - 15.5 1,183 Moist Orange to brown medium to coarse sand and r 15 2.0 5.0 15.0 - 15.5 1,183 Wet M Sand 15 2.0 5.0 16.5 - 19.0 1,650 Wet Brown fine to medium sand, little rounded gravel. Petroleum-like odor present. 10.0 - 20.0 1,883 Wet | | Orange medium sand (possibly select fill). | M Sand | Moist | 0.6 | 1.0 - 1.3 | | | | | | | | | |
| 5 10 5.0 5.0 - 8.0 0.6 Moist M Sand Orange medium sand, some rounded gravel. 10 15 5.0 10.0 - 14.5 2.3 Moist Gray Orange to gray mottled clay and silt, some medium to coarse sand and r gravel. 10 15 5.0 10.0 - 14.5 2.3 Moist Gray to orange (mottled) clay, some silt and fin 10 15 5.0 10.0 - 14.5 2.3 Moist Gray to orange (mottled) clay, some silt and fin 15 20 5.0 15.0 - 15.5 1,183 Moist Orange to brown medium to coarse sand and r gravel. Petroleum-like odor present. Highest Plat at 14.75 ft. 15 20 5.0 15.0 - 15.5 1,183 Wet M Sand 12 20 25 4.0 20.0 - 21.5 1,339 Wet Sand & Gravel 20 25 4.0 20.0 - 21.5 1,339 Wet Sand & Gravel Brown coarse sand and rounded gravel. Petro 20 25 4.0 20.0 - 21.5 1,339 Wet Sand & Gravel Brown coarse sand and rounded gravel. Petro 20 25 4.0 20.0 | | Brown silt and fine sand, little clay. | | Moist | 0.6 | 1.3 - 3.5 | | | | | | | | | |
| 10155.010.0- 14.52.3MoistOrange to gray mottled clay and silt, some med10155.010.0- 14.52.3MoistGray to orange (mottled) clay, some silt and fin10155.010.0- 14.52.3MoistGray to orange (mottled) clay, some silt and fin10155.010.0- 14.52.3MoistGray to orange (mottled) clay, some silt and fin10155.010.0- 14.52.3MoistOrange to brown medium to coarse sand and r152.05.015.01.5.51.183MoistOrange to brown medium to coarse sand and r152.05.015.01.651.183WetMasedOrange to brown medium to coarse sand and r15.5- 16.51.183WetMasedOrange to brown medium to coarse sand and rOrange to brown medium to coarse sand and r16.5- 19.01.650WetBrown fine to medium sand, little rounded gravel.Petroleum-like odor present.20254.020.0- 21.51.339WetSand & Gravet20254.020.0- 21.51.339WetBrown coarse sand and rounded gravel. Petro | el. | Orange medium sand, some rounded gravel. | M Sand | Moist | 0.6 | 3.5 - 4.0 | | | | | | | | | |
| 10155.010.00.6MoistGray to orange (mottled) clay, some silt and fin Orange to brown medium to coarse sand and r gravel. Petroleum-like odor present. Highest PI at 14.75 ft.15205.015.015.02,160MoistMoist15205.015.015.51,183MoistOrange to brown medium to coarse sand and r gravel. Petroleum-like odor present. Highest PI at 14.75 ft.15205.015.015.51,183WetMoist16.519.01,650WetBrown fine to medium sand, little rounded grav Petroleum-like odor present.20254.020.021.51,339WetBrown coarse sand and rounded gravel. Petro odor present. | el. | Orange medium sand, some rounded gravel. | | Moist | 0.6 | 5.0 - 8.0 | 5.0 | 10 | 5 | | | | | | |
| 10155.010.0 - 14.52.3MoistGray to orange (mottled) clay, some silt and fin Orange to brown medium to coarse sand and r gravel. Petroleum-like odor present. Highest PI at 14.75 ft.15205.015.0 - 15.51,183MoistMaistOrange to brown medium to coarse sand and r gravel. Petroleum-like odor present. Highest PI at 14.75 ft.15205.015.0 - 15.51,183WetMaistOrange to brown medium to coarse sand and r gravel. Petroleum-like odor present.15205.015.0 - 15.51,183WetMaistOrange to brown medium to coarse sand and r gravel. Petroleum-like odor present.16.5- 19.01,650WetBrown fine to medium sand, little rounded gravel.20254.020.0 - 21.51,339WetSand & Gravel20254.020.0 - 21.51,339WetBrown coarse sand and rounded gravel. Petro odor present. | medium sand. | Orange to gray mottled clay and silt, some medium | Silt & Clay | Moist | 0.6 | 8.0 - 9.5 | | | | | | | | | |
| 10155.010.0 - 14.52.3MoistGray to orange (mottled) clay, some silt and fin Orange to brown medium to coarse sand and r gravel. Petroleum-like odor present. Highest Pl at 14.75 ft.15205.015.0 - 15.51,183MoistMast | d fine sand. | Gray to orange (mottled) clay, some silt and fine same | Clav | Moist | 0.6 | 9.5 - 10.0 | | | | | | | | | |
| 15205.014.5 - 15.02,160Moistgravel. Petroleum-like odor present. Highest Plat 14.75 ft.15205.015.0 - 15.51,183MoistOrange to brown medium to coarse sand and regravel. Petroleum-like odor present.1515.5 - 16.51,183WetOrange to brown medium to coarse sand and regravel. Petroleum-like odor present.16.5 - 19.01,650WetBrown fine to medium sand, little rounded gravel. Petroleum-like odor present.20254.020.0 - 21.51,339WetSand & Gravel20254.020.0 - 21.51,339WetBrown coarse sand and rounded gravel. Petroleum-like odor present. | d fine sand. | Gray to orange (mottled) clay, some silt and fine sa | <u> </u> | Moist | 2.3 | 10.0 - 14.5 | 5.0 | 15 | 10 | | | | | | |
| 15205.015.015.51,183Moistgravel. Petroleum-like odor present.1515.516.51,183WetM SandOrange to brown medium to coarse sand and r gravel. Petroleum-like odor present.16.519.01,650WetBrown fine to medium sand, little rounded grav Petroleum-like odor present.20254.020.021.51,339WetSand & GravelBrown coarse sand and rounded gravel. Petro odor present. | | Orange to brown medium to coarse sand and round gravel. Petroleum-like odor present. Highest PID rea at 14.75 ft. | | Moist | 2,160 | 14.5 - 15.0 | | | | | | | | | |
| 20254.020.0 - 21.51,183WetOrange to brown medium to coarse sand and r gravel. Petroleum-like odor present.20254.020.0 - 21.51,339WetOrange to brown medium to coarse sand and r gravel. Petroleum-like odor present.20254.020.0 - 21.51,339WetSand & GravelBrown coarse sand and rounded gravel. Petro odor present. | ind rounded | Orange to brown medium to coarse sand and round gravel. Petroleum-like odor present. | M Sand | Moist | 1,183 | 15.0 - 15.5 | 5.0 | 20 | 15 | | | | | | |
| 16.5 - 19.01,650WetPetroleum-like odor present.19.0 - 20.01,883WetBrown coarse sand and rounded gravel. Petro odor present.20254.020.0 - 21.51,339WetBrown coarse sand and rounded gravel. Petro odor present. | nd rounded | Orange to brown medium to coarse sand and round gravel. Petroleum-like odor present. | Mi Sanu | Wet | 1,183 | 15.5 - 16.5 | | | | | | | | | |
| 20 25 4.0 20.0 - 21.5 1,339 Wet Sand & Gravel odor present. 20 25 4.0 20.0 - 21.5 1,339 Wet Brown coarse sand and rounded gravel. Petro odor present. | gravel. | Brown fine to medium sand, little rounded gravel. Petroleum-like odor present. | | Wet | 1,650 | 16.5 - 19.0 | | | | | | | | | |
| 20 25 4.0 20.0 - 21.5 1,339 Wet Brown coarse sand and rounded gravel. Petro odor present. | 'etroleum-like | Brown coarse sand and rounded gravel. Petroleum odor present. | Sand & | Wet | 1,883 | 19.0 - 20.0 | | | | | | | | | |
| 21.5 - 22.0 30.9 Wet M Sand Brown medium sand. Petroleum-like odor pres | 'etroleum-like | Brown coarse sand and rounded gravel. Petroleum odor present. | Gravel | Wet | 1,339 | 20.0 - 21.5 | 4.0 | 25 | 20 | | | | | | |
| | present. | Brown medium sand. Petroleum-like odor present. | M Sand | Wet | 30.9 | 21.5 - 22.0 | | | | | | | | | |
| 22.0 - 23.0 21.2 Wet Brown fine sand, little silt. | | Brown fine sand, little silt. | F Sand | Wet | 21.2 | 22.0 - 23.0 | | | | | | | | | |
| 23.0 - 24.0 12.5 Wet Orange fine sand, some silt. | | Orange fine sand, some silt. | | Wet | 12.5 | 23.0 - 24.0 | | | | | | | | | |
| Sampling Data: Collected GM-GP13-S001 from 14.5 ft to 16.5 ft at 09:55. | | | 9.55 | 16.5.ft at 0 | om 14 5 ft to | GP13-S001 fro | Collected (| ampling Data: | | | | | | | |
| Sampled By: Kelly Power | | | | n at t | | | | | | | | | | | |

Modifiers:



GEOPROBE[®] DRILLING LOG BORING ID: GM-GP14

Project Name: Dodson Ave - OU4 Characterization Location: Former Wilmington Assembly Plant Weather Conditions: Cloudy, 50's Drilling Method: Geoprobe Sample Interval (feet): Continuous Driller: Paul Wirrick Project No.: 2734.04.51 Drilling Date(s): 10/1/15 Drilling Contractor: Eichelbergers Type of Sample/Coring Device: Open-Tube Macrocore Depth Groundwater Encountered (feet, bgs): 15.5 Logged By: Victoria Bisbing

| Time | Plastic Tube | | Core Recovery | Depth (feet) | PID Reading | Moisture | Soil Class | Soil Description |
|-----------------------|-----------------|----|------------------|------------------|----------------|----------------|------------------|---|
| - | From | To | (feet) | From To | (ppm) | | Class | |
| 09:59 | 0 | 5 | 3.25 | 0.0 - 0.8 | 11.9 | Dry | Surf Cover | Asphalt. |
| | | | | 0.8 - 3.3 | 0.8 | Moist | Silt & Sand | Brown to orange silt and fine sand, little clay. |
| | 5 | 10 | 5.0 | 5.0 - 6.8 | 1.0 | Moist | M Sand | Orange to brown medium to coarse sand, some rounded gravel. |
| | | | | 6.8 - 10.0 | 0.8 | Moist | Silt & Clay | Orange to gray silt and clay, some medium sand. |
| | 10 | 15 | 4.0 | 10.0 - 10.3 | 0.8 | Moist | Clay | Orange to gray silt and clay, some medium sand. |
| | | | | 10.3 - 11.0 | 7.1 | Moist | Silt & Sand | Brown to orange fine sand and silt. |
| | | | | 11.0 - 12.5 | 11.1 | Moist | M Sand | Orange medium sand, little rounded gravel. |
| | | | | 12.5 - 12.5 | 25.7 | Moist | | Orange to brown medium to coarse sand and rounded gravel. Slight petroleum-like odor. |
| | 15 | 20 | 3.5 | 15.0 - 15.5 | 53.6 | Moist | | Gray to orange to red fine sand and rounded gravel, trace silt and clay. Petroleum-like odor. |
| | | | | 15.5 - 16.0 | 53.6 | Wet | | Gray to orange to red fine sand and rounded gravel, trace silt and clay. Petroleum-like odor. |
| | | | | 16.0 - 17.5 | 108.9 | Wet | Sand & Gravel | Gray to orange to red medium to coarse sand and rounded gravel. |
| | | | | 17.5 - 18.5 | 282.5 | Wet | | Gray to orange to red coarse sand and rounded gravel. |
| | 20 | 25 | 3.5 | 20.0 - 21.5 | 107.5 | Wet | | Gray to orange to red coarse sand and rounded gravel. |
| | | | | 21.5 - 23.0 | 59.8 | Wet | | Brown medium sand and rounded gravel. Petroleum-like odor. |
| | | | | 23.0 - 23.5 | 19.2 | Wet | F Sand | Brown fine to medium sand. Slight petroleum-like odor. |
| Computer - | Deter | | Collectori | | | 0:40 | | |
| Sampling Sampled B | | | | GM-GP14-S001 fro | 01 Π C.O Π 10 | 1 10.5 Tt at 1 | 0.42. | |
| ampied b | ⊃y: | | Kelly Powe | I | | | | |

Modifiers:



GEOPROBE[®] DRILLING LOG BORING ID: GM-GP15

Project Name: Dodson Ave - OU4 Characterization Location: Former Wilmington Assembly Plant Weather Conditions: Cloudy, 50's Drilling Method: Geoprobe Sample Interval (feet): Continuous Driller: Paul Wirrick Project No.: 2734.04.51 Drilling Date(s): 10/1/15 Drilling Contractor: Eichelbergers Type of Sample/Coring Device: Open-Tube Macrocore Depth Groundwater Encountered (feet, bgs): 15.5 Logged By: Victoria Bisbing

| Time | | Sample Depth | Core Recovery | Depth (feet) | PID Reading | Moisture | Soil Class | Soil Description |
|-----------|------|-----------------|------------------|-------------------|----------------|--------------|------------------|---|
| | From | То | (feet) | From To | (ppm) | | CidSS | |
| 10:53 | 0 | 5 | 5.0 | 0.0 - 1.0 | 3.9 | Dry | Surf Cover | Asphalt. |
| | | | | 1.0 - 5.0 | 1.1 | Moist | Silt & Sand | Brown to orange mottled silt and fine sand, little clay. |
| | 5 | 10 | 5.0 | 5.0 - 5.75 | 4.9 | Moist | Silt | Orange to gray mottled silt, some clay and rounded gravel. |
| | | | | 5.75 - 8.0 | 22.8 | Moist | Silt & Clay | Brown to orange silt, clay and rounded gravel. |
| | | | | 8.0 - 10.0 | 13.5 | Moist | Clay | Orange to gray mottled clay, some silt and fine sand. |
| | 10 | 15 | 5.0 | 10.0 - 13.5 | 63.6 | Moist | Ulay | Orange to gray mottled clay, some silt and fine sand. Highest PID reading at 12.5 ft. |
| | | | | 13.5 - 15.0 | 11,539 | Moist | Sand & | Brown to gray medium to coarse sand and rounded gravel. Strong petroleum-like odor. Highest PID at 14.0 ft. |
| | 15 | 20 | 3.5 | 15.0 - 15.5 | 1,258 | Moist | Gravel | Brown to gray medium to coarse sand and rounded gravel. Strong petroleum-like odor. |
| | | | | 15.5 - 17.0 | 1,339 | Wet | F Sand | Brown to gray fine to medium sand, little silt, soft. Petroleum-like odor present. |
| | | | | 17.0 - 18.0 | 1,655 | Wet | M Sand | Brown medium sand. Petroleum-like odor present. |
| | | | | 18.0 - 18.5 | 1,650 | Wet | Sand & Gravel | Brown to gray coarse sand and rounded gravel. |
| | 20 | 25 | 5.0 | 20.0 - 23.25 | 1,050 | Wet | M Sand | Brown medium sand. Petroleum-like odor present. |
| | | | | 23.25 - 24.75 | 163.2 | Wet | Sand & Gravel | Brown coarse sand and gravel. Petroleum-like odor present. |
| | | | | 24.75 - 25.0 | 20.1 | Wet | F Sand | Brown fine to medium sand. Slight petroleum-like odor. |
| Complia | Data | | Callastad | | ··· 40 F 4 1- | 1554 | 4.55 | |
| Sampling | | | | GP-GP15-S001 from | 11 13.5 TT to | 15.5 ft at 1 | 1.55. | |
| Sampled I | ру: | | Kelly Powe | 1 | | | | |

Modifiers:



GEOPROBE[®] DRILLING LOG BORING ID: GM-GP16

Project Name: Dodson Ave - OU4 Characterization Location: Former Wilmington Assembly Plant Weather Conditions: Cloudy, 50's Drilling Method: Geoprobe Sample Interval (feet): Continuous Driller: Paul Wirrick Project No.: 2734.04.51 Drilling Date(s): 10/1/15 Drilling Contractor: Eichelbergers Type of Sample/Coring Device: Open-Tube Macrocore Depth Groundwater Encountered (feet, bgs): 16.0 Logged By: Victoria Bisbing

| | | | Care | Depth | DID | | | |
|---------|-----------------|----|------------------|------------------|----------------|--------------|------------------|--|
| Time | Plastic Tube | • | Core Recovery | (feet) | PID Reading | Moisture | Soil Class | Soil Description |
| | From | To | (feet) | From To | (ppm) | | CidSS | |
| 12:10 | 0 | 5 | 3.0 | 0.0 - 0.5 | 3.1 | Dry | Surf Cover | Asphalt. |
| | | | | 0.5 - 1.0 | 0.8 | Moist | M Sand | Orange medium sand (possibly fill). |
| | | | | 1.0 - 1.25 | 0.7 | Moist | Fill | Asphalt. |
| | | | | 1.25 - 3.0 | 0.7 | Moist | M Sand | Orange medium sand (possibly fill). |
| | 5 | 10 | 1.5 | 5.0 - 5.25 | 0.6 | Moist | in Gana | Orange medium sand (possibly fill). |
| | | | | 5.25 - 5.5 | 0.6 | Moist | Fill | Stone gravel fill. |
| | | | | 5.5 - 6.5 | 0.6 | Moist | M Sand | Orange medium sand (possibly fill). |
| | 10 | 15 | 1.5 | 10.0 - 10.25 | 0.6 | Moist | Moand | Orange to red to black. |
| | | | | 10.25 - 11.4 | 0.6 | Moist | Silt & Clay | Orange and gray silt and clay. |
| | | | | 11.4 - 11.5 | 0.6 | Moist | Gravel | Gravel (fill - stuck in shoe which caused poor recovery). |
| | 15 | 20 | 4.0 | 15.0 - 16.0 | 54.8 | Moist | Clay | Orange clay. |
| | | | | 16.0 - 16.5 | 568.9 | Wet | C Sand | Brown coarse sand and gravel. Staining and strong petroleum-like odor present. |
| | | | | 16.5 - 19.0 | 753.9 | Wet | M Sand | Brown to gray medium to coarse sand, little gravel. Purple staining observed. Highest PID at 18.0 ft. |
| | 20 | 25 | 0.5 | 20.0 - 20.5 | 54.5 | Wet | C Sand | Brown coarse sand. Stuck rock caused poor recovery, proceeded to drill deeper. |
| | 25 | 30 | 5.0 | 25.0 - 26.5 | 23.8 | Wet | Sand & Gravel | Brown coarse sand and rounded gravel. Slight petroleum like odor. |
| | | | | 26.5 - 28.0 | 41.3 | Wet | M Sand | Brown medium to coarse sand. Slight petroleum-like door. |
| | | | | 28.0 - 29.0 | 22.7 | Wet | F Sand | Brown fine to medium sand |
| | | | | 29.0 - 30.0 | 11.9 | Wet | i Sanu | Orange fine sand. |
| ampling | Data: | | Collectord | GM-GP16-S001 fro | m 17 ft to 1 | 0 ft at 10.E | 2 | |
| amping | Dala. | | Kelly Powe | 10-3001 10 | | 9 it at 12:5 | ۷. | |

Modifiers:

and: 35% to 50 %

some: 20% to 35%

little: 10% to 20%

trace: <10%



GEOPROBE[®] DRILLING LOG BORING ID: GM-GP17

Project Name: Dodson Ave - OU4 Characterization Location: Former Wilmington Assembly Plant Weather Conditions: Cloudy, windy, 50's Drilling Method: Geoprobe Sample Interval (feet): Continuous Driller: Paul Wirrick

Project No.: 2734.04.51 Drilling Date(s): 10/1/15 Drilling Contractor: Eichelbergers Type of Sample/Coring Device: Open-Tube Macrocore Depth Groundwater Encountered (feet, bgs): 16.0 Logged By: Victoria Bisbing

| Time | Plastic | | Core | Depth (feet) | PID | Maiatura | Soil | Sell Deceristics | | |
|----------------|-------------------|-------------|--|------------------|------------------|--------------|------------------|--|--|--|
| Time | From | Depth To | Recovery (feet) | From To | Reading (ppm) | Moisture | Class | Soil Description | | |
| 13:53 | 0 | 5 | 4.0 | 0.0 - 1.0 | 0.0 | Dry | Surf Cover | Asphalt. | | |
| | | | | 1.0 - 2.25 | 0.0 | Moist | Silt & Sand | Brown silt and fine sand, little clay. | | |
| | | | | 2.25 - 3.0 | 0.0 | Moist | M Sand | Orange medium to coarse sand, some rounded gravel. | | |
| | | | | 3.0 - 4.0 | 0.0 | Moist | Silt & | Brown to orange silt and clay, some medium sand. | | |
| | 5 | 10 | 5.0 | 5.0 - 8.0 | 0.0 | Moist | Clay | Orange to brown silt and clay, little rounded gravel. | | |
| | | | | 8.0 - 8.5 | 0.0 | Moist | M Sand | Orange medium sand. | | |
| | | | | 8.5 - 10.0 | 0.0 | Moist | Silt & | Gray to orange silt and clay, little medium sand. | | |
| | 10 | 15 | 4.0 | 10.0 - 11.0 | 0.0 | Moist | Clay | Brown to orange silt and clay, little medium sand. | | |
| | | | | 11.0 - 13.0 | 0.0 | Moist | M Sand | Orange medium sand, some rounded gravel. | | |
| | | | | 13.0 - 14.0 | 0.0 | Moist | C Sand | Orange coarse sand and rounded gravel. | | |
| | 15 | 20 | 2.0 | 15.0 - 16.0 | 10.2 | Moist | Silt & Clay | Brown to orange silt and clay, little medium sand. | | |
| | | | | 16.0 - 17.0 | 17.1 | Wet | | Orange coarse sand and rounded gravel. Slight petroleum like odor. | | |
| | 20 | 25 | 4.0 | 20.0 - 22.0 | 13.9 | Wet | Sand & Gravel | Brown medium sand, some gravel. Slight petroleum-like odor. | | |
| | | | | 22.0 - 24.5 | 11.1 | Wet | | Brown to orange corase sand and gravel. | | |
| | | | | 24.5 - 25.0 | 12.3 | Wet | M Sand | Brown fine to medium sand. | | |
| Sampling | Data [.] | | Collected (| GM-GP17-S001 fro | m 15 ft to 1 | 7 ft at 14:3 | 4. | | | |
| Sampling Data. | | | Collected GM-GP17-S001 from 15 ft to 17 ft at 14:34. Collected GM-GP17-S201 (Equipment Blank) at 14:02. | | | | | | | |
| Sampled E | By: | | Kelly Powe | ŗ | | | | | | |

Modifiers:

and: 35% to 50 %

20% to 35% some: 10% to 20% little:

<10%

trace:



GEOPROBE[®] DRILLING LOG BORING ID: GM-GP18

Project Name: Dodson Ave - OU4 Characterization Location: Former Wilmington Assembly Plant Weather Conditions: Windy, cloudy, raining 50's Drilling Method: Geoprobe Sample Interval (feet): Continuous Driller: Paul Wirrick

Project No.: 2734.04.51 Drilling Date(s): 10/1/15 Drilling Contractor: Eichelbergers Type of Sample/Coring Device: Open-Tube Macrocore Depth Groundwater Encountered (feet, bgs): 16.5 Logged By: Victoria Bisbing

| Time | | Sample Depth To | Core Recovery (feet) | Depth (feet) From To | PID Reading (ppm) | Moisture | Soil Class | Soil Description | | | |
|-------------|-------|-----------------------|--|----------------------------|-------------------------|----------|------------------|---|--|--|--|
| 13:53 | 0 | 5 | 4.5 | 0.0 - 1.0 | 26.9 | Dry | Surf Cover | Asphalt. | | | |
| | | | | 1.0 - 4.0 | 50.6 | Moist | Silt & Sand | Brown to orange silt and fine sand, little clay. Slight petroleum-like odor. | | | |
| | | | | 4.0 - 4.5 | 30.6 | Moist | M Sand | Orange medium to coarse sand, some rounded gravel. Slight chemical odor. | | | |
| | 5 | 10 | 5.0 | 5.0 - 6.5 | 23.1 | Moist | Silt & Clay | Brown to orange silt and clay, stiff, little fine sand and rounded gravel. | | | |
| | | | | 6.5 - 7.5 | 28.0 | Moist | Sand & Gravel | Orange to red medium sand and gravel. Slight chemical odor. | | | |
| | | | | 7.5 - 10.0 | 24.6 | Moist | Silt & | Brown to orange silt and clay, little fine sand. Slight chemical odor. | | | |
| | 10 | 15 | 5.0 | 10.0 - 13.5 | 268 | Moist | Clay | Brown to orange silt and clay, little medium sand. Chemical odor. | | | |
| | | | | 13.5 - 15.0 | 2,448 | Moist | Sand & Gravel | Brown to orange coarse sand and gravel (quartz fragments). Chemical odor. Highest PID reading at 14 ft. | | | |
| | 15 | 20 | 5.0 | 15.0 - 16.5 | 544 | Moist | Silt & Clay | Orange to brown silt and clay, little medium sand. Petroleum-like odor. | | | |
| | | | | 16.5 - 17.5 | 1,701 | Wet | M Sand | Brown to orange medium to coarse sand, little rounded gravel. Petroleum-like odor. | | | |
| | | | | 17.5 - 20.0 | 1,548 | Wet | F Sand | Brown to orange fine to medium sand, trace lenses of clay. Petroleum-like odor and staining present. | | | |
| | 20 | 25 | 5.0 | 20.0 - 22.5 | 1,730 | Wet | M Sand | Brown medium to coarse sand, strong petroleum-like odor. | | | |
| | | | | 22.5 - 23.0 | 639.8 | Wet | Sand & Gravel | Brown coarse sand and gravel, strong petroleum-like odor. | | | |
| | | | | 23.0 - 25.0 | 144.2 | Wet | Silt & Clay | Brown to orange silt and clay. | | | |
| | | | | | | | | Product observed inside drill rod in water. Product not observed in soil core. | | | |
| ampling | Data: | | | GM-GP18-S001 fro | | | 4. | | | | |
| Sampled By: | | | Collected GM-GP18-S301 (Trip Blank) at 15:42. Kelly Power | | | | | | | | |

Modifiers: and:

35% to 50 % 20% to 35% some:

10% to 20% little:

<10% trace:



GEOPROBE[®] DRILLING LOG BORING ID: GM-GP19

Project Name: Dodson Ave - OU4 Characterization Location: Former Wilmington Assembly Plant Weather Conditions: Raining hard, windy/cloudy, 50's Drilling Method: Geoprobe Sample Interval (feet): Continuous Driller: Paul Wirrick Project No.: 2734.04.51 Drilling Date(s): 10/1/15 Drilling Contractor: Eichelbergers Type of Sample/Coring Device: Open-Tube Macrocore Depth Groundwater Encountered (feet, bgs): 17.5 Logged By: Victoria Bisbing

| Time | Tube | | Core Recovery (feet) | Depth (feet) | PID Reading (ppm) | Moisture | Soil Class | Soil Description |
|----------|------|----|----------------------------|------------------|-------------------------|----------------|------------------|--|
| | From | То | (leel) | From To | (ppm) | | | |
| 15:30 | 0 | 5 | 1.25 | 0.0 - 0.75 | 27.6 | Dry | Surf Cover | Asphalt. |
| | | | | 0.75 - 1.25 | 6.8 | Moist | M Sand | Orange medium sand (possibly select fill). |
| | 5 | 10 | 4.0 | 5.0 - 6.25 | 4.7 | Moist | Silt & Sand | Orange to red silt and fine sand, little clay. |
| | | | | 6.25 - 7.75 | 3.3 | Moist | Sand & Gravel | Orange to red medium to coarse sand and gravel. |
| | | | | 7.75 - 9.0 | 4.8 | Moist | | Orange to gray mottled silt and clay, little medium sand. |
| | 10 | 15 | 5.0 | 10.0 - 14.5 | 6.4 | Moist | | Orange to gray mottled silt and clay, little medium sand. |
| | | | | 14.5 - 15.0 | 7.1 | Moist | Silt & Clay | Gray silt and clay, little medium sand. |
| | 15 | 20 | 4.5 | 15.0 - 17.0 | 16.2 | Moist | | Brown silt and clay, little medium sand. |
| | | | | 17.0 - 17.5 | 1,355 | Moist | | Brown to gray silt and clay, some fine sand. Petroleum- like odor and black staining present. |
| | | | | 17.5 - 20.0 | 1,732 | Wet | Sand & Gravel | Brown to dark gray coarse sand and rounded gravel. Petroleum-like odor. |
| | 20 | 25 | 5.0 | 20.0 - 22.0 | 1,166 | Wet | F Sand | Brown fine to medium sand. Sheen and petroleum-like odor present. |
| | | | | 22.0 - 24.0 | 918.3 | Wet | M Sand | Brown medium sand. Petroleum-like odor. |
| | | | | 24.0 - 24.5 | 107.4 | Wet | F Sand | Brown fine to medium sand. Slight petroleum-like odor. |
| | | | | 24.5 - 25.0 | 23.1 | Wet | Silt & Sand | Brown silt and fine sand. Slight petroleum-like odor. |
| | | | | | | | | |
| Sampling | | | | GM-GP19-S001 fro | m 17.5 ft to | o 19.5 ft at 1 | 6:18. | |
| Sampled | ву: | | Kelly Powe | F | | | | |

Modifiers:



Orange to brown to red silt and clay, little fine sand.

GEOPROBE[®] DRILLING LOG BORING ID: GM-GP20

Project Name: Dodson Ave - OU4 Characterization Location: Former Wilmington Assembly Plant Weather Conditions: Raining hard, windy/cloudy, 50's Drilling Method: Geoprobe Sample Interval (feet): Continuous Driller: Paul Wirrick

Project No.: 2734.04.51 Drilling Date(s): 10/1/15 Drilling Contractor: Eichelbergers Type of Sample/Coring Device: Open-Tube Macrocore Depth Groundwater Encountered (feet, bgs): 15.5 Logged By: Victoria Bisbing

| Brillor | | ION | | | | | | | | |
|---------|----|-----------------------|----------------------------|-----------|----------------------------|----------|------------------|--|--|--|
| Time | | Sample Depth To | Core Recovery (feet) | | PID Reading To (ppm) | Moisture | Soil Class | Soil Description | | |
| 16:30 | 0 | 5 | 4.0 | 0.0 - 1.0 | | Dry | Surf Cover | Asphalt. | | |
| | | | | 1.0 - 1.5 | 5 0.8 | Dry | Fill | Broken concrete. | | |
| | | | | 1.5 - 4.0 |) 1.0 | Moist | Silt & Sand | Brown to orange silt and fine sand, little clay. | | |
| | 5 | 10 | 5.0 | 5.0 - 7.0 |) 1.0 | Moist | M Sand | Red to orange medium sand and silt. | | |
| | | | | 7.0 - 10 | .0 1.0 | Moist | Silt & | Orange to brown silt and fine sand, little clay. | | |
| | 10 | 15 | 4.0 | 10.0 - 11 | .0 1.1 | Moist | Sand | Orange to brown silt and fine sand, little clay. | | |
| | | | | 11.0 - 14 | .0 1.0 | Moist | | Orange to brown to red coarse sand and rounded gravel. | | |
| | 15 | 20 | 3.5 | 15.0 - 15 | .5 0.4 | Moist | Sand & Gravel | Orange to brown to red coarse sand and rounded gravel. | | |
| | | | | 15.5 - 16 | .5 0.4 | Wet | | Orange to brown to red coarse sand and rounded gravel. | | |

Silt & Clay Sampling Data: Sampled By: Collected GM-GP20-S001 from 15 ft to 17 ft at 17:05. Kelly Power

Wet

16.5 - 18.5

0.1

Modifiers:

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



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

GEOPROBE[®] DRILLING LOG BORING ID: GM-GP21

Project Name: Dodson Ave - OU4 Characterization Location: Former Wilmington Assembly Plant Weather Conditions: Sunny, 50's, windy Drilling Method: Geoprobe Sample Interval (feet): Continuous Driller: Paul Wirrick Project No.: 2734.04.51 Drilling Date(s): 10/5/15 Drilling Contractor: Eichelbergers Type of Sample/Coring Device: Open-Tube Macrocore Depth Groundwater Encountered (feet, bgs): 17.0 Logged By: Victoria Bisbing

| Time | | Sample Depth | Core Recovery | Depth (feet) | PID Reading | Moisture | Soil Class | Soil Description | | | | | |
|-------------------------|-------|-----------------|------------------|------------------|----------------|--------------|------------------|---|--|--|--|--|--|
| | From | To | (feet) | From To | (ppm) | | Class | | | | | | |
| 10:05 | 0 | 5 | 3.0 | 0.0 - 1.5 | 39.4 | Dry | Surf Cover | Asphalt and concrete. | | | | | |
| | | | | 1.5 - 3.0 | 14.7 | Moist | Silt & | Brown silt and fine sand, little clay, trace rounded gravel. | | | | | |
| | 5 | 10 | 4.5 | 5.0 - 6.5 | 13.9 | Moist | Sand | Brown silt and fine sand, little clay, trace rounded gravel. | | | | | |
| | | | | 6.5 - 9.0 | 90.1 | Moist | Sand & Gravel | Orange medium sand and rounded gravel. | | | | | |
| | | | | 9.0 - 9.5 | 7.0 | Moist | Clay | Orange to brown clay, some silt, slight chemical odor. | | | | | |
| | 10 | 15 | 5.0 | 10.0 - 14.0 | 668.7 | Moist | •••• | Orange to brown clay, some silt, slight chemical odor. | | | | | |
| | | | | 14.0 - 15.0 | 756.4 | Moist | Silt | Brown to gray silt and medium sand, little rounded grav and clay. Chemical odor. Highest PID at 14.5 ft. | | | | | |
| | 15 | 20 | 4.5 | 15.0 - 16.5 | 224 | Moist | Clay | Orange to brown clay, some silt, chemical odor present. | | | | | |
| | | | | 16.5 - 17.0 | 2,134 | Moist | Silt & Sand | Orange to gray silt and medium sand. Petroleum-like odor present. | | | | | |
| | | | | 17.0 - 19.5 | 1,790 | Wet | | Brown to gray medium to coarse sand, some rounded gravel. Petroleum-like odor present. | | | | | |
| | 20 | 25 | 5.0 | 20.0 - 21.5 | 650 | Wet | | Brown to orange medium sand, little silt and rounded gravel. Petroleum-like odor present. | | | | | |
| | | | | 21.5 - 22.0 | 168 | Wet | M Sand | Brown medium sand, some clay and silt. Petroleum-like odor present. | | | | | |
| | | | | 22.0 - 24.0 | 36.5 | Wet | | Brown medium to coarse sand. Petroleum-like odor present. | | | | | |
| | | | | 24.0 - 25.0 | 31.4 | Wet | | Orange medium to coarse sand. Petroleum-like odor present. | | | | | |
| Sampling | Data: | | Collected (| GM-GP20-S001 fro | m 16 5 ft to | 18 5 ft at 1 | 0.42 | | | | | | |
| | | | | | 10.0 11 10 | 10.0 11 dt 1 | 0.70. | | | | | | |
| Sampled By: Kelly Power | | | | | | | | | | | | | |

Modifiers:

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



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

AUGER BORING LOG BORING ID: GM-MW49

Project Name: Dodson Ave Location: Former Wilmington Assembly Plant Weather Conditions: Sunny, windy, 50's Excavation Method: Auger Driller: Paul Wirrick Project No.: 2734.04.51 Date(s): 10/5/15 Contractor: Eichelbergers Depth Groundwater Encountered (feet, bgs): Not Encountered Logged By: Victoria Bisbing

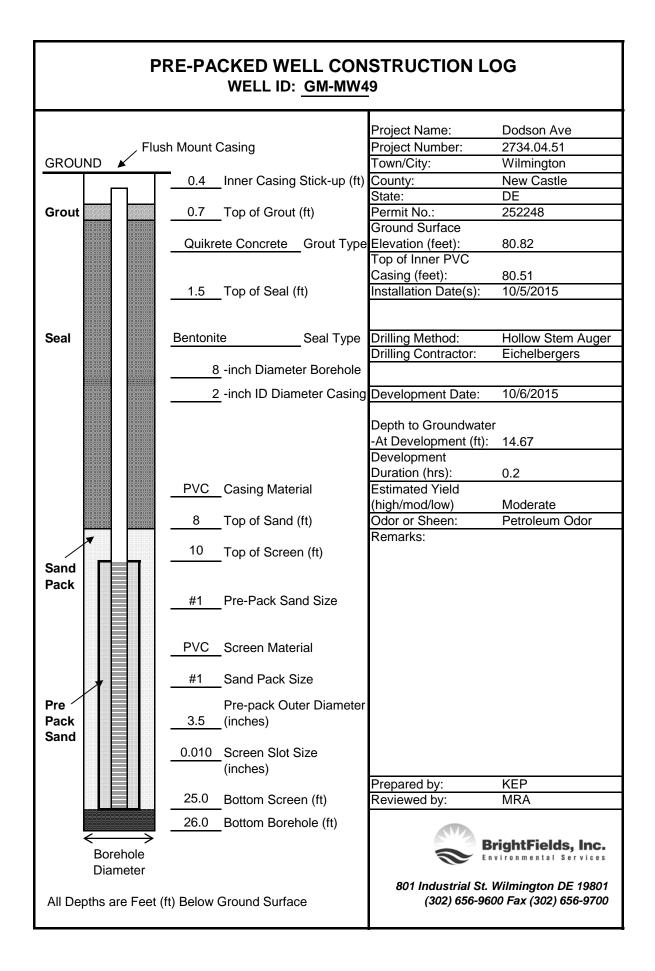
| Time | Depth (feet) | PID Reading | Moisture | Soil Class | Soil Description | | | | | |
|-------|-----------------|----------------|----------|------------------|---|--|--|--|--|--|
| | From To | (ppm) | | Oldoo | | | | | | |
| 11:10 | 0.0 - 1.5 | - | Dry | Surf Cover | Asphalt and concrete. | | | | | |
| | 1.5 - 5.0 | - | Moist | Silt & Sand | Brown to orange silt and fine sand, some clay. | | | | | |
| | 5.0 - 7.0 | - | Moist | Sand & Gravel | Brown to orange medium sand and rounded gravel. | | | | | |
| | 7.0 - 8.0 | - | Moist | M Sand | 2 | | | | | |
| | 8.0 - 10.0 | - | Moist | Silt & Gravel | Brown to orange silt and rounded gravel, little medium sand. | | | | | |
| | 10.0 - 15.0 | - | Moist | Silt & Clay | Brown silt and clay, little fine sand, slight petroleum-like odor. | | | | | |
| | 15.0 - 17.0 | - | Moist | Ciay | Brown clay, some silt, little medium sand and rounded gravel, slight petroleum-like odor. | | | | | |
| | 17.0 - 19.0 | - | Moist | Silt & Clay | Brown clay and silt, slight petroleum-like odor. | | | | | |
| | | | | | Log based on observation. | | | | | |
| | | | | | No recovery from 19-24 ft bgs. | | | | | |
| L | | | | | Likely that sands and groundwater would be encountered. | | | | | |

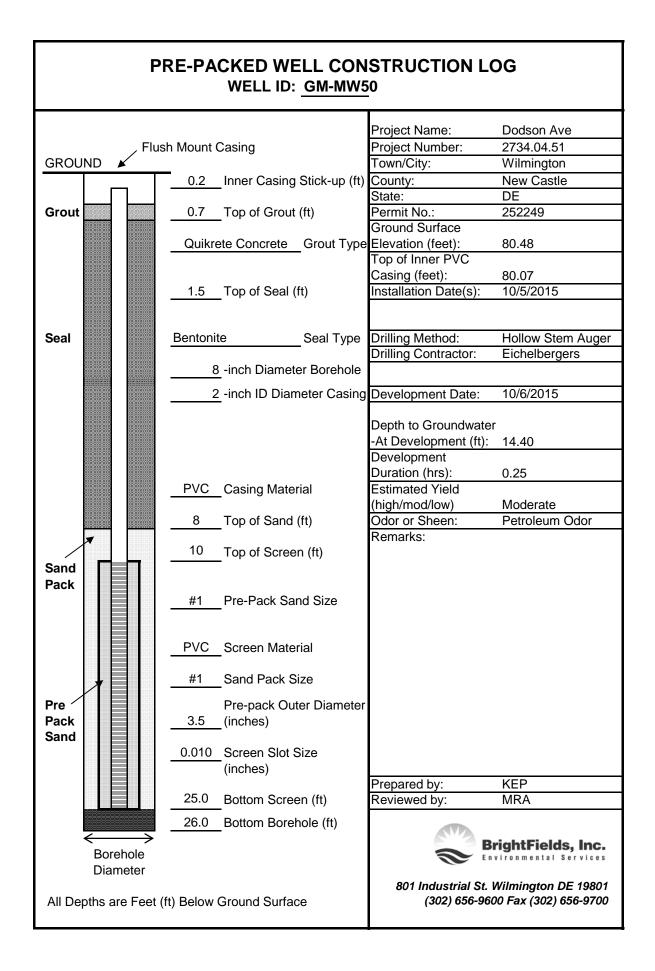
Modifiers:

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



Appendix A.2 Well Construction Logs October 2015







Appendix A.3 Well Development Logs October 2015

| | WELL DEVEL | OPMENT LOG | ì | SHEET: 1 of 1 | | | | | | | |
|-----------------|---------------------------------|---------------------------------|--------------------------|--|-------------------------------|--------------|-------------|-------------------------------|---------------------|---------------------------|--|
| WELL DE | SIGNATION: GM-I | | | PROJECT NAI | ME: Dodsor | Avenue - | OU4 Ch | aracterizatior | า | | |
| DATE: 10 | | START TIME | : 10:15 | PROJECT NUI | | | | | | | |
| | ED BY: KEP | - | | COMPANY: Br | | | | | | | |
| | OF WATER IN CA | SING | | NOTES: | | | | | | | |
| | oth to bottom of cas | | | Well went dry a | around 16 ga | allons but r | echargeo | d quickly. | | | |
| | (from TOC) | 25.72 | ft. | | | | | | | | |
| | oth to water (from TOC) | 14 67 | f4 | | | | | | | | |
| | umn of water | 14.67 | ft. | VOLUM | E CONVERS | SION TAB | IF: Alw | avs Use This | : One | | |
| , | (#1 - #2) | 11.05 | ft. | VOLUME CONVERSION TABLE: Always Use This One casing diameter gallons/foot w/ sand pack | | | | | | | |
| 4) Cas | ing diameter | 2 | in. | 0.75 ind | ches | 0.0 |)23 | 0.044 | | | |
| | ume conversion | 0.555 | | 1 inch | nes | 0.0 |)41 | 0.078 | | | |
| • | m table) ume of water within | 0.555 | gal/ft. | 2 inch | nes | 0.1 | 163 | 0.555 | | | |
| wel | l (3 x 5) | 6.13 | gal. | 4 inch | nes | 0.6 | 653 | 1.24 | | | |
| Develo | opment Method(s): | 12 volt Pu | ger | 6 inch | ies | 1. | 47 | 2.25 | | | |
| Was w | vell surge blocked: | NO | | 8 inch | nes | 2. | 61 | 3.59 | | | |
| | | | | | | | | | | | |
| FIELD N | IEASUREMENTS: | | | 1 | | | | | T | | |
| TIME | Purge Method | Purge Volume (in gallons) | Temperature (Celsius) | Cond (mS/cm) | Dissolved Oxygen (mg/L) | рН | ORP (mV) | PID (ppm) | Turbidity (NTUs) | Depth to Water (ft) | |
| 10:51 | 12 Volt Purger | 0.0 | 20.48 | 0.581 | 4.17 | 7.45 | -117 | 67.9 | 641 | - | |
| 10:52 | 12 Volt Purger | 2.5 | 19.26 | 0.573 | 1.66 | 7.00 | -147 | 361.0 | 431 | - | |
| 10:53 | 12 Volt Purger | 5.0 | 18.91 | 0.500 | 2.87 | 6.81 | -119 | 677.8 | 1,000 | - | |
| 10:54 | 12 Volt Purger | 7.5 | 18.93 | 0.482 | 3.97 | 6.52 | -77 | 198.3 | 0.0 | - | |
| 10:56 | 12 Volt Purger | 10.0 | 18.87 | 0.506 | 3.11 | 6.32 | -78 | 350.8 | 0.0 | - | |
| 10:58 | 12 Volt Purger | 12.5 | 18.82 | 0.483 | 4.82 | 6.20 | -60 | 706.6 | 0.0 | - | |
| 10:59 | 12 Volt Purger | 15.0 | 18.83 | 0.501 | 4.85 | 6.16 | -60 | 195.8 | 0.0 | - | |
| 11:01 | 12 Volt Purger | 17.5 | 18.89 | 0.529 | 3.11 | 6.12 | -62 | 110.3 | 0.0 | - | |
| 11:02 | 12 Volt Purger | 20.0 | 18.81 | 0.508 | 1.94 | 6.19 | -75 | 130.9 | 0.0 | - | |
| OBSERVA | ATIONS: | | | | | | | | | | |
| <u>Initial</u> | | | | PID Headspace | | 1,362 | | | | | |
| Purge | water color: | Brown | 1 | Groundwater P | PID (ppm): | 706.6 | | | | | |
| Purge | water sediment cor | ntent High | | Odor: | Petroleum | | | | | | |
| <u>Final</u> | | | | Sheen: | None | | | | | | |
| Purge | water color: | Light Bro | wn | Weather: | 60s, sunny, | light bree: | ze | | | | |
| Purge | water sediment cor | ntent Low | | | | | | | | | |
| Did we | ell go dry: | YES | | | | | S | | tFields | | |
| Total v | olume purged: | 20 gallo | ons | | | | | | nmental Se | | |
| | | | | | | | | ustrial St. W 02) 656-9600 | | | |

| | WELL DEVEL | OPMENT LOG | ; | SHEET: 1 of 1 | | | | | | | | |
|-----------------------|---------------------------------|-------------------------------|-------------|---|---|-------------|------------|------------------------------|-----------------|-------------------|--|--|
| WELL DE | SIGNATION: GM- | | | PROJECT NA | ME: Dodsor | Avenue - | OU4 Cha | aracterization | I | | | |
| DATE: 10 | | START TIME | : 11:30 | PROJECT NU | | | | | | | | |
| | PED BY: KEP | | | COMPANY: Br | | | | | | | | |
| VOLUME | OF WATER IN CA | SING | | NOTES: Well went dry around 3 gallons and continually every 2 gallons but recharged | | | | | | | | |
| 1) Dep | oth to bottom of cas | ing | | Well went dry a quickly. | around 3 gall | ons and c | ontinually | every 2 gallo | ons but rech | narged | | |
| | (from TOC) | 25.94 | ft. | quickly. | | | | | | | | |
| 2) Dep | oth to water (from TOC) | 14.40 | ft. | | | | | | | | | |
| 3) Col | umn of water | 14.40 | <u> </u> | VOLUME CONVERSION TABLE: Always Use This One | | | | | | | | |
| 0) 001 | (#1 - #2) | 11.54 | ft. | | casing diameter gallons/foot w/ sand pack | | | | | | | |
| 4) Cas | sing diameter | 2 | in. | 0.75 ind | ches | 0.0 |)23 | 0.044 | | | | |
| | ume conversion | 0 555 | | 1 inch | ies | 0.0 |)41 | 0.078 | | | | |
| 6) Volu | m table) ume of water within | | 0 | 2 inch | nes | 0.1 | 63 | 0.555 | | | | |
| we | ll (3 x 5) | 6.40 | gal. | 4 inch | ies | 0.6 | 653 | 1.24 | | | | |
| | opment Method(s): | 12 volt Pu | rger | 6 inch | ies | 1. | 47 | 2.25 | | | | |
| Was w | vell surge blocked: | NO | | 8 inch | ies | 2. | 61 | 3.59 | | | | |
| FIELD N | IEASUREMENTS: | | | | | | | | | | | |
| | | Purge Volume | Temperature | | Dissolved Oxygen | | ORP | | Turbidity | Depth to Water | | |
| TIME | Purge Method | (in gallons) | (Celsius) | Cond (mS/cm) | | рН | (mV) | PID (ppm) | (NTUs) | (ft) | | |
| 11:58 | 12 Volt Purger | 0.0 | 18.09 | 0.710 | 2.62 | 6.98 | -175 | 63.5 | 1,000 | - | | |
| 11:59 | 12 Volt Purger | 2.5 | 18.65 | 0.717 | 1.40 | 6.75 | -149 | 31.6 | 0.0 | - | | |
| 12:00 | 12 Volt Purger | 5.0 | 18.43 | 0.693 | 1.62 | 6.60 | -137 | 33.9 | 1,000 | - | | |
| 12:02 | 12 Volt Purger | 7.5 | 18.31 | 0.733 | 1.78 | 6.49 | -120 | 34.5 | 0.0 | - | | |
| 12:04 | 12 Volt Purger | 10.0 | 18.24 | 0.727 | 2.69 | 6.40 | -107 | 68.1 | 0.0 | - | | |
| 12:06 | 12 Volt Purger | 12.5 | 18.19 | 0.733 | 1.93 | 6.40 | -105 | 60.4 | 0.0 | - | | |
| 12:08 | 12 Volt Purger | 15.0 | 18.18 | 0.730 | 3.28 | 6.34 | -96 | 106.8 | 0.0 | - | | |
| 12:11 | 12 Volt Purger | 17.5 | 18.15 | 0.740 | 2.44 | 6.34 | -100 | 80.0 | 0.0 | - | | |
| 12:12 | 12 Volt Purger | 20.0 | 18.15 | 0.740 | 2.21 | 6.37 | -98 | 33.6 | 0.0 | - | | |
| OBSERVA Initial | ATIONS: | | | PID Headspace | a (nnm): | 118.8 | | | | | | |
| | water color: | Group | | | | 106.8 | | | | | | |
| Ū. | | <u>Gray Bro</u> otent High | | Groundwater P | | 100.0 | | | | | | |
| Ū. | water sediment co | ilient "iigh | | Odor: Sheen: | Petroleum | | | | | | | |
| <u>Final</u> Purae | water color: | Light Bro | wn | Weather: | None 60s, sunny, | light bree: | ze | | | | | |
| Ŭ | water sediment co | tent Low | | | , eaniy, | 3.1.2.00 | - | | | | | |
| _ | ell go dry: | YES | | | | | SM | Briah | t Fields | Inc. | | |
| Total v | volume purged: | 20 gall | ons | | | | Ø | Environ | mental Se | rvices | | |
| | | | | | | | | strial St. Wi 2) 656-9600 | | | | |



Appendix A.4 Well Sampling Logs October 2015

| | WELL SAMPLIN | G LOG (Horiba | U52) | SHEET: | 1 of 1 | | | | | |
|---------------------|--|--------------------------|---------------|--------------------------------|-----------------|----------------------------|--------------------|------------------------------------|---------------------------------|--|
| | | DA-MW30 | | | E: Dodson | Avenue - OU4 Ch | aracterizati | on | | |
| DATE: | 10/14/2015 | START TIME: | 9:20 | PROJECT NO: | 2734.04.5 | 1 | | | | |
| SAMPLE | DESIGNATION: | DA-MW30-W002 | 2 | ANALYSES: | TCL VOCs | s & TCL SVOCs (p | olus 1,2,4-T | MB) | | |
| | OF WATER TO E to bottom of casir | | | SAMPLE ORDE | R: | TCL VOCs, TCL | SVOCs | | | |
| <i>,</i> . | (from TOC) | 19.6 | 4 <u></u> ft. | Metals: | | Not Applicable | | | | |
| 2) Depth | to water (from TOC) | 16.5 | 0 ft. | Sampling Metho | od: | Peristaltic Pump | | | | |
| 3) Colum | n of water (#1 - #2) | 3.14 | | VOLUME CONV casing diameter | | ERSION TABLE | - | Always Use This On w/ sand pack | | |
| | (#1 - #2) | | <u>+ </u> 11. | 0.75 inc | | 0.023 | | | 044 | |
| 4) Casing | g diameter | 1 | in. | | | 0.041 | | | 078 | |
| , | e conversion | | | 1 inches | | 0.041 | | 0. | 078 | |
| (from t 6) Volum | table) le of water within | 0.07 | 8gal/ft. | 2 inche | es | 0.163 | 3 | 0. | 555 | |
| well (| 3 x 5) | 0.24 | t gal. | 4 inche | es | 0.653 | 3 | 1 | .24 | |
| , | er of volumes vacuated | 3 | | 6 inche | es | 1.47 | | 2 | .25 | |
| | volume to be ed (6 x 7) | 0.73 | 3 gal. | 8 inche | es | 2.61 | | 3 | .59 | |
| | | | 0 | 0 mon | | 2.01 | | 0 | | |
| 9) Purgir | ng Method | Peristaltic | Fullip | 1 | | | | | | |
| FIELD ME | ASUREMENTS: | | | | | | | | | |
| TIME | Purge Volume (in gallons) | Temperature (Celsius) | рН | ORP (mV) | Cond (mS/cm) | Dissolved Oxygen (mg/L) | Turbidity (NTU) | PID (ppm) | Depth to Water (if poss.) | |
| 10:44 | 0.00 | 15.74 | 6.37 | -33 | 0.579 | 1.42 | 170 | 0.2 | - | |
| 10:46 | 0.25 | 15.70 | 6.29 | -26 | 0.599 | 0.92 | 182 | 2.2 | - | |
| 10:48 | 0.50 | 15.74 | 6.21 | 15 | 0.589 | 2.61 | 166 | 1.5 | - | |
| 10:53 | 0.75 | 15.82 | 6.13 | 38 | 0.557 | 4.21 | 146 | 1.3 | - | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| NOTES: | <u> </u> | | | SAMPLED BY: | | ļ | <u> </u> | Ļ | ļ | |
| | dspace (ppm): | 1.9 | | TIME: | 10:55 | | | | | |
| Sample of | | Non | e | Notes: | | | | | | |
| Sample of | color: | Cloue | dy | | | | | | | |
| Sample s | sediment content: | Low | 1 | | | | | | | |
| Weather | : | 50s, partly | cloudy | | | | | | | |
| Did well | go dry: | No | | | | | | viebtField | . Inc | |
| Total vol | ume purged: | 0.75 ga | llons | | | | | vironmental S | | |
| QA/QC s | amples: | Non | e | | | | | Vilmington | | |
| | | | | | | (302 | ?) 656-9600 | - Fax (302) | 656-9700 | |

| | WELL SAMPLIN | G LOG (Horiba | U52) | SHEET: | 1 of 1 | | | | |
|-----------------|---------------------------------|--------------------------|----------------|--------------------------|-----------------|----------------------------|--------------------|---------------------|------------------------------|
| | SIGNATION: | DA-MW35 | | PROJECT NAM | E: Dodson | Avenue - OU4 Ch | aracterizat | ion | |
| DATE: | 10/13/2015 | START TIME: | | PROJECT NO: ANALYSES: | | | | | |
| SAMPLE | DESIGNATION: | DA-MW35-W00 | 2 | ANAL (SES: | TCL VOCs | s & TCL SVOCs (| olus 1,2,4-T | TMB) | |
| | OF WATER TO E | - | | SAMPLE ORDE | R: | TCL VOCs, TCL | SVOCs | | |
| r) Deptr | to bottom of casi (from TOC) | ng 18.0 | 0 ft. | Metals: | | Not Applicable | | | |
| 2) Depth | to water | | | Sampling Metho | od: | Peristaltic Pump | | | |
| 3) Colum | (from TOC) nn of water | 7.3 | <u>2</u> ft. | VOL | | ERSION TABLE | | Always Use This One | |
| 5) Ooluli | (#1 - #2) | 10.6 | 8 <u>f</u> t. | casing dia | | gallons/i | - | | nd pack |
| | | | | 0.75 inches | | 0.023 | 3 | 0. | 044 |
| 4) Casin | g diameter | 1 | in. | 1 inch | 20 | 0.041 | | 0 | 078 |
| 5) Volum | ne conversion | | | | | 0.041 | | 0. | 070 |
| (from | table) ne of water within | 0.07 | <u>gal/ft.</u> | 2 inch | es | 0.163 | 3 | 0. | 555 |
| , | 3 x 5) | 0.8 | 3 gal. | 4 inch | es | 0.653 | 3 | 1 | .24 |
| , | er of volumes | | | C inch | 20 | A A | | ~ | 25 |
| | evacuated volume to be | 3 | | 6 inch | 5 | 1.47 | | 2 | .25 |
| , | ved (6 x 7) | 2.5 |) gal. | 8 inches | | 2.61 | | 3 | .59 |
| 9) Purgir | ng Method | Peristaltic | Pump | | | | | | |
| | | | | | | | | | |
| FIELD ME | ASUREMENTS: | | | | | | | | |
| TIME | Purge Volume (in gallons) | Temperature (Celsius) | рН | ORP (mV) | Cond (mS/cm) | Dissolved Oxygen (mg/L) | Turbidity (NTU) | PID (ppm) | Depth f Water (if poss |
| 14:49 | 0.00 | 22.14 | 6.57 | 192 | 0.538 | 3.19 | 0.0 | 0.0 | - |
| 14:51 | 0.25 | 22.14 | 6.57 | 192 | 0.538 | 3.19 | 0.0 | 0.0 | - |
| 14:53 | 0.50 | 22.14 | 6.57 | 192 | 0.539 | 3.20 | 0.0 | 0.0 | - |
| 14:55 | 0.75 | 19.58 | 5.67 | 244 | 0.580 | 1.00 | 516 | 0.0 | - |
| 14:58 | 1.00 | 19.54 | 5.67 | 242 | 0.581 | 0.95 | 532 | 0.0 | - |
| 15:00 | 1.25 | 19.55 | 5.67 | 241 | 0.580 | 0.92 | 495 | 0.0 | - |
| 15:02 | 1.50 | 19.60 | 5.67 | 241 | 0.579 | 0.90 | 409 | 0.1 | - |
| 15:04 | 1.75 | 19.66 | 5.68 | 242 | 0.578 | 0.88 | 375 | 0.0 | - |
| 15:04 | 2.00 | 19.60 | 5.68 | 242 | 0.582 | 0.88 | 322 | 0.0 | _ |
| | | | | | | | | | |
| 15:08 | 2.25 | 19.61 | 5.67 | 244 | 0.581 | 0.90 | 311 | 0.0 | - |
| 15:10 NOTES: | 2.50 | 19.69 | 5.68 | 244 SAMPLED BY: | 0.582 KP | 0.87 | 306 | 0.0 | - |
| PID Hea | dspace (ppm): | 0.7 | | TIME: | 15:15 | | | | |
| Sample | odor: | Nor | e | | | | | | |
| Sample | color: | Clou | dy | Notes: | | | | | |
| Sample | sediment content: | Lov | v | | | | | | |
| Weather | : | 70s, su | inny | | | | | | |
| Did well | go dry: | Nc | | | | | | windot Field | |
| Total vol | ume purged: | 2.5 gal | lons | | | | | rightField | S, INC. Services |
| QA/QC s | samples: | MS/M | | | | 801 Indi | ustrial St. V | Nilmington | DE 19801 |
| | - | | | | | (302 | 2) 656-9600 |) - Fax (302) | 656-9700 |

| | WELL SAMPLIN | G LOG (Horiba | U52) | SHEET: | 1 of 1 | | | | |
|-------------------|--|--------------------------|---------------|--------------------------------|-----------------|------------------------------------|--------------------|-------------------------------------|---------------------------------|
| | | DA-MW36D | , | | | Avenue - OU4 Ch | aracterizati | on | |
| DATE: | 10/14/2015 | START TIME: | 11:30 | PROJECT NO: | 2734.04.5 | 1 | | | |
| <u> </u> | DESIGNATION: | DA-MW36D-W0 | 02 | ANALYSES: | | s & TCL SVOCs (p | olus 1,2,4-T | MB) | |
| | OF WATER TO E to bottom of casi | | | SAMPLE ORDE | R: | TCL VOCs, TCL | SVOCs | | |
| 2) Danth | (from TOC) | 40.0 | 0 ft. | Metals: | -l. | Not Applicable Peristaltic Pump | | | |
| 2) Depth | to water (from TOC) | 15.8 | 9 ft. | Sampling Metho | | · | | | |
| 3) Colum | nn of water (#1 - #2) | 24.1 | 1 ft. | VOLUME CONV casing diameter | | VERSION TABLE: gallons/foot | | Always Use This One w/ sand pack | |
| | () | | | 0.75 inc | | 0.023 | | | 044 |
| 4) Casin | g diameter | 1 | in. | 1 inche | es | 0.041 | | 0. | 078 |
| 5) Volum (from | ne conversion | 0.07 | 8 gal/ft. | 2 inch | 26 | 0.163 | 2 | 0 | 555 |
| 6) Volum | ne of water within | - | 0 | 2 inches | | | | | |
| well (7) Numb | 3 x 5) er of volumes | 1.88 | <u>3</u> gal. | 4 inches | | 0.653 | 3 | 1 | .24 |
| | to be evacuated 3 8) Total volume to be | | | 6 inche | es | 1.47 | | 2 | .25 |
| -, | red (6 x 7) | 5.64 | 4 gal. | 8 inche | es | 2.61 | | 3 | .59 |
| 9) Purgir | ng Method | Peristaltic | Pump | | | | | | |
| | | | | | | | | | |
| | ASUREMENTS: | | | | | | | | |
| TIME | Purge Volume (in gallons) | Temperature (Celsius) | рН | ORP (mV) | Cond (mS/cm) | Dissolved Oxygen (mg/L) | Turbidity (NTU) | PID (ppm) | Depth to Water (if poss.) |
| 11:32 | 0.00 | 16.36 | 7.44 | -35 | 0.302 | 2.30 | 0.0 | 2.4 | - |
| 11:39 | 0.75 | 16.03 | 5.83 | 22 | 0.285 | 0.00 | 962 | 3.7 | - |
| 11:45 | 1.50 | 16.11 | 5.73 | 29 | 0.277 | 0.00 | 311 | 1.3 | - |
| 11:53 | 2.25 | 15.84 | 5.67 | 35 | 0.271 | 0.00 | 70.1 | 0.9 | - |
| 11:59 | 3.00 | 15.84 | 5.67 | 39 | 0.269 | 0.00 | 0.0 | 0.7 | - |
| 12:07 | 3.75 | 15.94 | 5.67 | 38 | 0.267 | 0.00 | 0.0 | 3.6 | - |
| 12:13 | 4.50 | 15.85 | 5.61 | 43 | 0.258 | 0.00 | 56.9 | 3.9 | - |
| 12:20 | 5.25 | 15.83 | 5.59 | 46 | 0.257 | 0.00 | 87.6 | 0.7 | - |
| 12:28 | 6.00 | 15.79 | 5.57 | 48 | 0.255 | 0.00 | 9.3 | 1.0 | - |
| NOTES: | | | | SAMPLED BY: | KP | | | ļ | |
| | dspace (ppm): | 115. | 1 | TIME: | кр 12:30 | | | | |
| Sample | odor: | Petroleu | m-like | | | | | | |
| Sample | color: | Clou | dy | Notes: | | | | | |
| Sample | sediment content: | Lov | V | | | | | | |
| Weather | : | 60s, partly | cloudy | | | | | | |
| Did well | go dry: | No | | | | | | vielatio | |
| Total vol | ume purged: | 6.0 gal | lons | | | | | vironmental S | |
| QA/QC s | samples: | Non | e | | | | | Vilmington | |
| | | | | | | (302 | 2) 656-9600 | - Fax (302) | 656-9700 |

| | WELL SAMPLIN | IG LOG (Horiba | U52) | SHEET: 1 of 1 | | | | | | | |
|---------------------|---|--------------------------|---------------|----------------------|-----------------|----------------------------|--------------------|---------------------|---------------------------------|--|--|
| | SIGNATION: | DA-MW36S | , | PROJECT NAM | E: Dodson | Avenue - OU4 Ch | aracterizati | on | | | |
| DATE: | 10/14/2015 | START TIME: | 14:05 | PROJECT NO: | 2734.04.5 | 1 | | | | | |
| - | DESIGNATION: | DA-MW36S-W0 | 02 | ANALYSES: | | s & TCL SVOCs (p | olus 1,2,4-T | MB) | | | |
| | OF WATER TO E to bottom of casi | | | SAMPLE ORDE | R: | TCL VOCs, TCL | SVOCs | | | | |
| | (from TOC) | 22.7 | <u>1</u> ft. | Metals: | | Not Applicable | | | | | |
| 2) Depth | to water (from TOC) | 14.9 | 6 ft. | Sampling Metho | od: | Peristaltic Pump | | | | | |
| 3) Colum | nn of water | 14.5 | <u> </u> | VOLUME CONV | | ERSION TABLE | | Always Use This One | | | |
| | (#1 - #2) | 7.75 | 5 <u></u> ft. | casing diameter | | gallons/foot | | w/ sand pack | | | |
| 4) Casin | g diameter | 1 | in. | 0.75 inches | | 0.023 | 3 | 0. | 044 | | |
| 5) Volum | e conversion | | | 1 inch | es | 0.041 | | 0. | 078 | | |
| (from | table) | 0.07 | 8 gal/ft. | 2 inch | es | 0.163 | 3 | 0. | 555 | | |
| 6) Volum well (3 | ne of water within 3 x 5) | 0.60 |) gal. | 4 inch | es | 0.653 | 3 | 1 | .24 | | |
| 7) Numb | er of volumes | | <u> </u> | - | | | | | | | |
| | to be evacuated <u>3</u> 8) Total volume to be | | | 6 inch | es | 1.47 | | 2 | .25 | | |
| -, | ved (6 x 7) | 1.8^ | 1gal. | 8 inch | es | 2.61 | | 3 | .59 | | |
| 9) Purgir | ng Method | Peristaltic | Pump | | | | | | | | |
| | | | | | | | | | | | |
| FIELD ME | ASUREMENTS: | | | | | | | | | | |
| TIME | Purge Volume (in gallons) | Temperature (Celsius) | рН | ORP (mV) | Cond (mS/cm) | Dissolved Oxygen (mg/L) | Turbidity (NTU) | PID (ppm) | Depth to Water (if poss.) | | |
| 14:06 | 0.00 | 19.41 | 7.53 | -97 | 0.718 | 2.37 | 0.0 | 14.2 | - | | |
| 14:08 | 0.25 | 18.60 | 6.49 | -92 | 0.616 | 0.83 | 0.0 | 8.1 | - | | |
| 14:10 | 0.50 | 18.68 | 6.36 | -85 | 0.573 | 0.56 | 835 | 9.4 | - | | |
| 14:12 | 0.75 | 18.61 | 6.28 | -83 | 0.619 | 0.39 | 767 | 0.9 | - | | |
| 14:14 | 1.00 | 18.58 | 6.24 | -84 | 0.660 | 0.28 | 634 | 0.8 | - | | |
| 14:16 | 1.25 | 18.62 | 6.23 | -85 | 0.671 | 0.23 | 601 | 1.4 | - | | |
| 14:18 | 1.50 | 18.64 | 6.24 | -88 | 0.687 | 0.18 | 310 | 0.4 | - | | |
| 14:20 | 1.75 | 18.58 | 6.22 | -88 | 0.693 | 0.12 | 279 | 1.0 | - | | |
| 14:22 | 2.00 | 18.57 | 6.25 | -91 | 0.704 | 0.06 | 269 | 0.5 | - | | |
| | | | | | | | | | | | |
| NOTES: PID Hea | dspace (ppm): | 0.0 | | SAMPLED BY: TIME: | KP 14:25 | | | | | | |
| Sample | , | Petroleu | | | | | | | | | |
| Sample | | Cloue | | Notes: | | | | | | | |
| Sample | sediment content: | Lov | V | | | | | | | | |
| Weather | : | 60s, clo | budy | | | | | | | | |
| Did well | go dry: | No | | | | | | rightField | e Ino | | |
| Total vol | ume purged: | 2.0 gal | lons | | | | | vironmental S | | | |
| QA/QC s | samples: | Non | e | | | | | Vilmington | | | |
| | | | | | | (302 | :) 656-9600 | - Fax (302) | 656-9700 | | |

| | WELL SAMPLIN | G LOG (Horiba I | J52) | SHEET: 1 of 1 | | | | | | |
|---------------------|------------------------------------|--------------------------|---------------|----------------------|-----------------|----------------------------|--------------------|---------------|---------------------------------|--|
| WELL DE | SIGNATION: | DA-MW37 | | PROJECT NAM | E: Dodson | Avenue - OU4 Ch | aracterizati | on | | |
| DATE: | 10/13/2015 | START TIME: | 16:00 | PROJECT NO: | 2734.04.5 | 1 | | | | |
| <u>••••••</u> | DESIGNATION: | DA-MW37-W002 | 2 | ANALYSES: | | s & TCL SVOCs (p | olus 1,2,4-T | MB) | | |
| | OF WATER TO E to bottom of casi | | | SAMPLE ORDE | R: | TCL VOCs, TCL SVOCs | | | | |
| <i>,</i> . | (from TOC) | 21.3 | 0 <u>ft</u> . | Metals: | | Not Applicable | | | | |
| 2) Depth | to water (from TOC) | 12.4 | 9 ft. | Sampling Metho | od: | Peristaltic Pump | | | | |
| 3) Colum | n of water | | | | | VERSION TABLE: | | Always Use | | |
| | (#1 - #2) | 8.81 | ft. | casing diameter | | gallons/foot | | | nd pack | |
| 4) Casing | g diameter | 1 | in. | 0.75 inches | | 0.023 | 5 | 0. | 044 | |
| F) \/elum | | | | 1 inches | | 0.041 | | 0. | 078 | |
| 5) Volum (from t | e conversion table) | 0.07 | 8 gal/ft. | 2 inche | es | 0.163 | 3 | 0. | 555 | |
| , | e of water within | | v | | | 0.050 | | 4 | 0.4 | |
| well (3 7) Numb | er of volumes | 0.69 |) gal. | 4 inches | | 0.653 |) | I | .24 | |
| | vacuated /olume to be | 3 | | 6 inche | es | 1.47 | | 2 | .25 | |
| -, | ed (6 x 7) | 2.06 | <u>gal.</u> | 8 inche | es | 2.61 | | 3 | .59 | |
| 9) Purain | ng Method | Peristaltic | Pump | | | | | | | |
| o) i digi | | | <u> </u> | - | | | | | | |
| FIELD ME | ASUREMENTS: | | | - | | | | | | |
| TIME | Purge Volume (in gallons) | Temperature (Celsius) | рН | ORP (mV) | Cond (mS/cm) | Dissolved Oxygen (mg/L) | Turbidity (NTU) | PID (ppm) | Depth to Water (if poss.) | |
| 16:01 | 0.00 | 24.31 | 7.15 | 146 | 1.39 | 2.65 | 0.0 | 0.0 | - | |
| 16:03 | 0.25 | 21.85 | 4.51 | 242 | 1.39 | 1.09 | 0.0 | 0.0 | - | |
| 16:05 | 0.50 | 21.87 | 4.37 | 274 | 1.37 | 1.80 | 1,000 | 0.0 | - | |
| 16:07 | 0.75 | 21.65 | 4.30 | 290 | 1.38 | 2.22 | 0.0 | 0.0 | - | |
| 16:09 | 1.00 | 21.54 | 4.20 | 308 | 1.39 | 1.93 | 791 | 0.0 | - | |
| 16:11 | 1.25 | 21.33 | 4.20 | 318 | 1.36 | 1.82 | 573 | 0.0 | - | |
| 16:13 | 1.50 | 21.26 | 4.15 | 317 | 1.37 | 1.56 | 291 | 0.0 | - | |
| 16:15 | 1.75 | 21.26 | 4.13 | 328 | 1.35 | 1.24 | 118 | 0.0 | - | |
| 16:17 | 2.00 | 21.23 | 4.11 | 334 | 1.33 | 1.20 | 83.8 | 0.0 | - | |
| 16:19 | 2.25 | 21.22 | 4.11 | 331 | 1.32 | 1.32 | 48.1 | 0.0 | - | |
| NOTES: PID Hear | dspace (ppm): | 0.0 | | SAMPLED BY: TIME: | KP 16:20 | | _ | _ | _ | |
| Sample of | 1 (11) | Non | | | 10.20 | | | | | |
| Sample o | | Cloud | | Notes: | | | | | | |
| Sample s | sediment content: | Low | <u> </u> | | | | | | | |
| Weather | : | 70s, su | nny | | | | | | | |
| Did well | go dry: | No | | | | | | rightField | Inc | |
| Total vol | ume purged: | 2.25 ga | llons | | | | | vironmental S | | |
| QA/QC s | amples: | Non | e | | | | | Vilmington | | |
| | | | | | | (302 | :) 656-9600 | - Fax (302) | 656-9700 | |

| WELL DESIGNATION: DA.MW38 PROJECT NME: Dotson Avenue - CU4 Characterization DATE: 01/32015 START TIME: 14.30 PROJECT ND: 273.04 AS 11 SAMPLE DESIGNATION: DA.MW38-W004 ANALYSES: TCL VOCs & TCL SVOCs (plus 1,2,4-TMB) VOLUME OF WATER TO BE REMOVED: 10.4pht hotom of casing (from TOC) 23.06 ft. 3) Deptin to watch (from TOC) 15.31 ft. Sample DORDER: TCL VOCs, TCL SVOCs 4) Casing diameter 0.75 ft. Sample CONVERSION TABLE: Always Use This for asing diameter Always Use This for asing diameter 3) Column weak (for Toc) 0.34 gal. 1 inches 0.041 0.078 4) Casing diameter 0.75 in. 0.34 gal. 1 inches 0.041 0.078 5) volume conversion 0.34 gal. 4 inches 0.263 1.24 10 water within (gr pasing Method Peristatic Pump 2 1.47 2.25 71 Number of volumes to be evacuated (fing gallons) 7.11 -71 0.136 2.46 0.0 0.1 15.00 0.25 <th></th> <th>WELL SAMPLIN</th> <th>G LOG (Horiba</th> <th>U52)</th> <th>SHEET:</th> <th>1 of 1</th> <th></th> <th></th> <th></th> <th></th> | | WELL SAMPLIN | G LOG (Horiba | U52) | SHEET: | 1 of 1 | | | | |
|---|-----------|-------------------|---------------|----------------|-------------|--------|------------------|--------------|------------|---------------------------------|
| DATE: 10/32015 START TIME: 14:30 PROJECT NO: 2734.04.51 SAMPLE DESIGNATION: DAMW38-W0004 AMALYSES: TCL VOCs & TCL SVOCs (plus 1.2,4-TMB) YOLUME COVERTS: 0.24 MRT TO BE REMOVED: 10 opth to bottom of casing (from TOC) 23.06 ft. Sampling Method: Peristalic Pump AMALYSES: TCL VOCs, TCL SVOCs Maxay Use This On sampling Method: Maxay Use This On sampling Method: <td>WELL DE</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Avenue - OU4 Ch</td> <td>aracterizati</td> <td>on</td> <td></td> | WELL DE | | | | | | Avenue - OU4 Ch | aracterizati | on | |
| SAMPLE DESIGNATION: MANVIGA-WOOD TELE VOUS (IN 57.2.4-1 MB) VOLUME COVERENT TOLO, COLSPOS (IN 57.2.4-1 MB) VOLUME COVERSION TABLE: Sampling Method: Peristatic Pump OULWIG COVERSION TABLE: OULWIG COVERSION TABLE: Always Use This On semination of water within the seminatis water within the semination of water within the | | | START TIME: | 14:30 | PROJECT NO: | | | | | |
| 1) Depth to bottom of Casing (from TOC) 23.06 ft. 2) Depth to water (from TOC) 23.06 ft. 3) Column of water (from TOC) 15.31 ft. 3) Column of water (from table) 0.75 ft. 9) Volume conversion (from table) 0.044 gal/ft. 9) Volume conversion (from table) 0.044 gal/ft. 9) Volume rote oversion (from table) 0.044 gal/ft. 1) Inches 0.041 0.078 1) Number of volumes to water within 0) Volume to be removed (6 x 7) 0.024 gal/ft. 9) Purging Method Peristatic Pump 0.044 gal/ft. 71Mmeter of volumes temoved (6 x 7) 1.02 gal. 8 inches 2.61 3.59 9) Purging Method Peristatic Pump 0.04 2.61 3.59 0.00 - 11A:58 0.00 19.50 7.11 -7.71 0.136 2.45 0.0 0.0 - 14:58 0.50 16.75 6.39 -53 0.168 10.42 0.0 0.0 - 15:02 0.50 16.75 6.39 -53 <td< td=""><td></td><td>DESIGNATION:</td><td></td><td>4</td><td></td><td></td><td>s & TCL SVOCs (p</td><td>olus 1,2,4-T</td><td>MB)</td><td></td></td<> | | DESIGNATION: | | 4 | | | s & TCL SVOCs (p | olus 1,2,4-T | MB) | |
| 2) Depth is water (from TOC) 15.31 ft. 3) Column of water (f1 + #2) 7.75 ft. 4) Casing diameter 0.75 ft. 5) Volume conversion (from table) 0.044 gal/ft. 6) Volume conversion (from table) 0.044 gal/ft. 7) Number of valuers within well (3 5) 0.34 gal. 7) Number of values 3 6 inches 0.653 8) Total volume to be removed (6 7) 1.02 gal. 9) Purging Method Peristatic Pump 0.653 1.24 7) Number of volumes to be exacuted (8 7) 1.02 gal. 8 inches 2.61 3.59 9) Purging Method Peristatic Pump 0RP (mV) Cond (mS/cm) Dissolved Oxigen (mg/L) Turbidity (Ppm) Pip TIME Purge Volume (fing palons) Temperature (fing palons) pH ORP (mV) Cond (mS/cm) Dissolved Oxigen (mg/L) Turbidity (Wate (if poss 14:59 0.25 18:14 6.40 -56 0.153 1.32 0.0 0.0 - 15:05 0.75 16:46 6.42 -53 0.168 10.42 | | | - | | SAMPLE ORDE | R: | TCL VOCs, TCL | SVOCs | | |
| (from TOC) (#1 - #2) 15.31 .7.75 ft. (3) Column of water (#1 - #2) 15.31 ft. (3.50 VolUME CONVERSION TABLE: gailons/foot 0.75 Always Use This On wellons/foot 0.023 Always Use This On wellons/foot 0.023 4) Casing diameter (from table) 0.75 in. 0.75 0.023 0.044 5) Volume conversion (from table) 0.044 gal/h. 2 inches 0.163 0.555 6) Volume of volumes to be evacuated 3 6 inches 1.47 2.25 8) Total volume to be removed (6 x 7) 1.02 gal 8 inches 2.61 3.59 9) Purging Method Peristatlic Pump 0RP (mV) Cond (mS/cm) Dissolved Oxygen (mg/L) Turbidity (NTU) PID Depth Water 14:56 0.00 19.50 7.11 -71 0.136 2.45 0.0 0.0 - 14:59 0.25 18.14 6.40 -56 0.153 1.32 0.0 0.0 - 14:50 0.75 16.46 6.42 -53 0.168 10.42 0.0 0.0 - | , . | (from TOC) | 0 | 6 <u>f</u> t. | | d. | | | | |
| (#1 -#2) 7.75 ft. casing diameter gallonaftoot ww sand pack 4) Casing diameter 0.75 in. 1 0.75 0.023 0.044 5) Volume conversion (from table) 0.044 gal/t. 2 inches 0.063 0.555 6) Volume of water within well (3 x 5) 0.34 gal. 4 inches 0.653 1.24 7) Number of volumes to be evacuated 3 6 inches 1.47 2.25 8) Total volume to be removed (6 x 7) 1.02 gal. 8 inches 2.61 3.59 9) Purging Method Peristaltic Pump PH ORP (mV) Cond (mS/cm) Dissolved Oxygen (mg/L) Turbidity PID (NTU) Mathematical structure in the structure in | | (from TOC) | 15.3 | 5 <u>1</u> ft. | | | • | | | |
| 4) Casing diameter 0.75 in. 1 inches 0.041 0.078 5) Volume conversion (from table) 0.044 gal/ft. 2 inches 0.163 0.555 6) Volume of water within well (3 x 5) 0.34 gal. 4 inches 0.6633 1.24 7) Number of volumes to be evacuated 3 6 inches 1.47 2.25 8 8) Total volume to be removed (6 x 7) 1.02 gal. 8 inches 2.61 3.59 9) Purging Method Peristaltic Pump PH ORP (mV) Cond (mS'cm) Dissolved Oxygen (mg/L) Turbidity (NTU) PID (ppm) Depth (if poss) 14:56 0.00 19.50 7.11 -71 0.136 2.45 0.0 0.0 - 14:59 0.25 18.14 6.40 -56 0.153 1.32 0.0 0.0 - 15:05 0.75 16.36 6.42 -53 0.168 10.42 0.0 0.0 - 15:05 0.75 16.46 6.42 -53 0.169 1.55 0.0 0.0 - 15:09 <td>3) Colum</td> <td></td> <td><u> </u></td> <td>5<u>f</u>t.</td> <td></td> <td></td> <td colspan="2"></td> <td colspan="2">,</td> | 3) Colum | | <u> </u> | 5 <u>f</u> t. | | | | | , | |
| 5) Volume conversion (from table) 0.044 gal/t. 2 inches 0.163 0.078 6) Volume of valer within well (3 x 5) 0.34 gal. 4 inches 0.653 1.24 7) Number of volumes to be evacuated 3 6 inches 1.47 2.25 8) Total volume by removed (6 x 7) 1.02 gal. 8 inches 2.61 3.59 9) Purging Method Peristatic Pump 9 Purging Method Peristatic Pump 0 RP (mV) Cond (mS/cm) Dissolved Oxygen (mg/L) Turbidity (NTU) PID Depth Wate (if post 14:59 0.25 18.14 6.40 -56 0.153 1.32 0.0 0.0 - 15:02 0.50 16.75 6.39 -53 0.168 10.42 0.0 0.0 - 15:09 1.00 16.31 6.29 -44 0.171 1.49 432 0.0 - 15:09 1.00 16.31 6.29 -44 0.171 1.49 432 0.0 - 15:09 1.00 16.31 6.29 -44 0.171 1.49 | 1) 0: | a diamatar | 0.7 | | | | 0. | 044 | | |
| Image: form table) 0.044 gal/t. 2 inches 0.163 0.555 6) Volume of valumes to be evaluated 3 6 inches 1.47 2.25 8) Total volumes to be evaluated 3 6 inches 1.47 2.25 8) Total volume to be renoved (6 x 7) 1.02 gal. 8 inches 2.61 3.59 9) Purging Method Peristatic Pump 8 inches 2.61 3.59 9 TIME Purge Volume (Celsius) PH ORP (mV) Cond (mS/cm) Turbidity (PID) Purgh Wethor (PID) PUD Weth (ft poss) 14:56 0.00 19.50 7.11 -71 0.136 2.45 0.0 0.0 - 14:59 0.25 18.14 6.40 -56 0.153 1.32 0.0 0.0 - 15:02 0.50 16.75 6.39 -53 0.168 10.42 0.0 0.0 - 15:09 1.00 16.31 6.29 -44 0.171 1.49 432 | , | 0 | 0.73 | <u>o</u> In. | 1 inche | es | 0.041 | | 0. | 078 |
| 6) Volume of vater within well (3 x5) 0.34 gal. 4 inches 0.653 1.24 7) Number of volumes to be evacuated 3 6 inches 1.47 2.25 8) Total volume to be removed (6 x 7) 1.02 gal. 8 inches 2.61 3.59 9) Purging Method Peristaltic Pump 8 inches 2.61 3.59 9 FIELD MEASUREMENTS: TIME Purge Volume (in galons) Temperature (Cetsius) PH ORP (mV) Cond (mS/cm) Dissolved Oxygen (mg/L) Turbidity (NUU) PID (ppm) Depth (if poss) 14:59 0.25 18:14 6.40 -56 0.153 1.32 0.0 0.0 - 15:02 0.50 16:75 6.39 -53 0.168 10.42 0.0 0.0 - 15:05 0.75 16.46 6.42 -53 0.169 1.55 0.0 0.0 - 15:09 1.00 16.31 6.29 -44 0.171 1.49 432 0.0 - NOTES: Sample color: Slight Marsh-like Sample color: | , | | 0.04 | 4 gal/ft. | 2 inche | es | 0.163 | } | 0. | 555 |
| 7) Number of Volumes to be vacuated 3 6 inches 1.47 2.25 8) Total volume to be removed (6 x 7) 1.02 gal. 8 inches 2.61 3.59 9) Purging Method Peristattic Pump 8 inches 2.61 3.59 FIELD MEASUREMENTS: TIME Purge Volume Temperature (Celsius) pH ORP (mV) Cond Dissolved Oxygen (mg/L) Turbidity PID Depth // Water (rip celsius) 14:56 0.00 19.50 7.11 -71 0.136 2.45 0.0 0.0 - 14:59 0.25 18.14 6.40 -56 0.153 1.32 0.0 0.0 - 15:02 0.50 16.75 6.39 -53 0.168 10.42 0.0 0.0 - 15:05 0.75 16.46 6.42 -53 0.169 1.55 0.0 0.0 - 15:05 0.75 16.46 6.42 -53 0.169 1.55 0.0 0.0 - 15:09 1.00 16.31 6.29 -44 <td>,</td> <td></td> <td>0.3</td> <td>0</td> <td>4 inch</td> <td>ès</td> <td>0.653</td> <td>}</td> <td>1</td> <td>.24</td> | , | | 0.3 | 0 | 4 inch | ès | 0.653 | } | 1 | .24 |
| B) Total volume to be removed (6 x 7) 1.02 gal. B inches 2.61 3.59 9) Purging Method Peristallic Pump Peristallic Pump Signed content of the second of th | 7) Numb | er of volumes | | <u> </u> | | | | | | |
| 9) Purging Method Peristaltic Pump FIELD MEASUREMENTS: PH ORP (mV) Cond (mS/cm) Dissolved Oxygen (mg/L) Turbidity (NTU) PID (ppm) Depth Water (f poss 14:56 0.00 19:50 7.11 -71 0.136 2.45 0.0 0.0 - 14:59 0.25 18.14 6.40 -56 0.153 1.32 0.0 0.0 - 15:02 0.50 16.75 6.39 -53 0.168 10.42 0.0 0.0 - 15:05 0.75 16.46 6.42 -53 0.169 1.55 0.0 0.0 - 15:09 1.00 16.31 6.29 -44 0.171 1.49 432 0.0 - 15:09 1.00 16.31 6.29 -44 0.171 1.49 432 0.0 - NOTES: Sample color: | 8) Total | volume to be | | | | | | | | |
| FIELD MEASUREMENTS: TIME Purge Volume (in gallons) Temperature (Celsius) pH ORP (mV) Cond (mS/cm) Dissolved Oxygen (mg/L) Turbidity (NTU) PID (ppm) Depth Water (if poss 14:56 0.00 19.50 7.11 -71 0.136 2.45 0.0 0.0 - 14:59 0.25 18.14 6.40 -56 0.153 1.32 0.0 0.0 - 15:02 0.50 16.75 6.39 -53 0.168 10.42 0.0 0.0 - 15:05 0.75 16.46 6.42 -53 0.169 1.55 0.0 0.0 - 15:09 1.00 16.31 6.29 -44 0.171 1.49 432 0.0 - NOTES: | remov | ved (6 x 7) | 1.02 | 2gal. | 8 inche | es | 2.61 | | 3 | .59 |
| TIME Purge Volume (in gallons) Temperature (Celsius) pH ORP (mV) Cond (mS/cm) Dissolved Oxygen (mg/L) Turbidity (NTU) PID (ppm) Depth Wate (if poss 14:56 0.00 19.50 7.11 -71 0.136 2.45 0.0 0.0 - 14:59 0.25 18.14 6.40 -56 0.153 1.32 0.0 0.0 - 15:02 0.50 16.75 6.39 -53 0.168 10.42 0.0 0.0 - 15:05 0.75 16.46 6.42 -53 0.169 1.55 0.0 0.0 - 15:09 1.00 16.31 6.29 -44 0.171 1.49 432 0.0 - 15:09 1.00 16.31 6.29 -44 0.171 1.49 432 0.0 - 15:08 Image: Sample color: | 9) Purgir | ng Method | Peristaltic | Pump | | | | | | |
| TIME Purge volume Temperature (Celsius) pH ORP (mV) Cond (mS/cm) Dissolved Oxygen (mg/L) Turbolity (NTU) PD (ppm) Water (if possi- (if poss- tif poss-tif poss- tif poss- tif poss- tif poss- tif poss- tif poss- tif poss- tif poss- tif poss- tif poss-tif poss-t | FIELD ME | ASUREMENTS: | | | | | | | | |
| 14:59 0.25 18.14 6.40 -56 0.153 1.32 0.0 0.0 - 15:02 0.50 16.75 6.39 -53 0.168 10.42 0.0 0.0 - 15:05 0.75 16.46 6.42 -53 0.169 1.55 0.0 0.0 - 15:09 1.00 16.31 6.29 -44 0.171 1.49 432 0.0 - 16:09 1.00 16.31 6.29 -44 0.171 1.49 432 0.0 - 16:09 1.00 16.31 6.29 -44 0.171 1.49 432 0.0 - 16:09 1.00 16.31 6.29 -44 0.171 1.49 432 0.0 - 10 <t< td=""><td>TIME</td><td>•</td><td>•</td><td>рН</td><td>ORP (mV)</td><td></td><td></td><td></td><td></td><td>Depth to Water (if poss.)</td></t<> | TIME | • | • | рН | ORP (mV) | | | | | Depth to Water (if poss.) |
| 14:59 0.25 18.14 6.40 -56 0.153 1.32 0.0 0.0 - 15:02 0.50 16.75 6.39 -53 0.168 10.42 0.0 0.0 - 15:05 0.75 16.46 6.42 -53 0.169 1.55 0.0 0.0 - 15:09 1.00 16.31 6.29 -44 0.171 1.49 432 0.0 - 15:09 1.00 16.31 6.29 -44 0.171 1.49 432 0.0 - 16:09 1.00 16.31 6.29 -44 0.171 1.49 432 0.0 - 16:09 1.00 16.31 6.29 -44 0.171 1.49 432 0.0 - 10 <t< td=""><td>14:56</td><td>0.00</td><td>19.50</td><td>7.11</td><td>-71</td><td>0.136</td><td>2.45</td><td>0.0</td><td>0.0</td><td>-</td></t<> | 14:56 | 0.00 | 19.50 | 7.11 | -71 | 0.136 | 2.45 | 0.0 | 0.0 | - |
| 15:05 0.75 16.46 6.42 -53 0.169 1.55 0.0 0.0 - 15:09 1.00 16.31 6.29 -44 0.171 1.49 432 0.0 - 16:09 1.00 16.31 6.29 -44 0.171 1.49 432 0.0 - 16:09 1.00 16.31 6.29 -44 0.171 1.49 432 0.0 - 16:09 1.00 16.31 6.29 -44 0.171 1.49 432 0.0 - 16:09 1.00 | | 0.25 | | | | | | 0.0 | 0.0 | - |
| 15:09 1.00 16.31 6.29 -44 0.171 1.49 432 0.0 - Image: Constraint of the second sec | 15:02 | 0.50 | 16.75 | 6.39 | -53 | 0.168 | 10.42 | 0.0 | 0.0 | - |
| Image: Solution of the section of t | 15:05 | 0.75 | 16.46 | 6.42 | -53 | 0.169 | 1.55 | 0.0 | 0.0 | - |
| PID Headspace (ppm): 0.2 TIME: 15:08 Sample odor: Slight Marsh-like Notes: Sample color: Cloudy Notes: Sample sediment content: Low Weather: 70s, sunny, mod winds Did well go dry: No Total volume purged: 1.0 gallons | 15:09 | 1.00 | 16.31 | 6.29 | -44 | 0.171 | 1.49 | 432 | 0.0 | - |
| PID Headspace (ppm): 0.2 TIME: 15:08 Sample odor: Slight Marsh-like Notes: Sample color: Cloudy Notes: Sample sediment content: Low Veather: Did well go dry: No Total volume purged: 1.0 gallons | | | | | | | | | | |
| PID Headspace (ppm): 0.2 TIME: 15:08 Sample odor: Slight Marsh-like Notes: Sample color: Cloudy Notes: Sample sediment content: Low Weather: 70s, sunny, mod winds Did well go dry: No Total volume purged: 1.0 gallons | | | | | | | | | | |
| Sample color: Cloudy Sample sediment content: Low Weather: 70s, sunny, mod winds Did well go dry: No Total volume purged: 1.0 gallons | | dspace (ppm): | 0.2 | 2 | | | | | | |
| Sample color: Cloudy Sample sediment content: Low Weather: 70s, sunny, mod winds Did well go dry: No Total volume purged: 1.0 gallons | Sample | odor: | Slight Mar | rsh-like | | | | | | |
| Weather: 70s, sunny, mod winds Did well go dry: No Total volume purged: 1.0 gallons | Sample | color: | Clou | dy | Notes: | | | | | |
| Did well go dry: No Total volume purged: 1.0 gallons | Sample | sediment content: | Lov | V | | | | | | |
| Total volume purged: 1.0 gallons | Weather | : | 70s, sunny, m | nod winds | | | | | | |
| Total volume purged: <u>1.0 gallons</u> | Did well | go dry: | No | | | | | | rightEigld | s. Inc |
| 04/00 complexity None 904 Industrial St. Wilmington DE 1090 | Total vol | ume purged: | 1.0 gal | lons | | | | | | |
| QA/QC samples: <u>None</u> 801 Industrial St. Wilmington DE 1980 (302) 656-9600 - Fax (302) 656-9700 | QA/QC s | samples: | Non | e | | | | | • | |

| | WELL SAMPLIN | G LOG (Horiba | U52) | SHEET: | 1 of 1 | | | | | |
|-------------------|---|--------------------------|---|--|--------------|---------------------|--------------|-------------------------------------|-----------|--|
| | SIGNATION: | DA-MW39 | • | PROJECT NAM | E: Dodson | Avenue - OU4 Ch | aracterizati | on | | |
| DATE: | 10/13/2015 | START TIME: | 15:25 | PROJECT NO: | 2734.04.5 | 1 | | | | |
| | DESIGNATION: | DA-MW39-W004 | 1 | ANALYSES: | | s & TCL SVOCs (| olus 1,2,4-T | MB) | | |
| | OF WATER TO E to bottom of casi | | | SAMPLE ORDE | R: | TCL VOCs, TCL | s, TCL SVOCs | | | |
| , . | (from TOC) | 25.1 | <u>0</u> ft. | Metals: | | Not Applicable | | | | |
| 2) Depth | to water (from TOC) | 16.2 | 0 ft. | Sampling Metho | od: | Peristaltic Pump | | | | |
| 3) Colum | nn of water (#1 - #2) | 8.90 |) ft. | VOL casing dia | | ERSION TABLE | | Always Use This One w/ sand pack | | |
| | ("" """) | 0.00 | <u>, , , , , , , , , , , , , , , , , , , </u> | 0.75 inc | | 0.023 | | | 044 | |
| 4) Casin | sing diameter 0.75 in. | | 5 <u></u> in. | 1 inche | 20 | 0.041 | | 0 | 078 | |
| , | lume conversion om table) 0.044 gal/ft. | | | | | | | | | |
| `` | table) ne of water within | 0.04 | 4gal/ft. | 2 inche | es | 0.163 | 3 | 0. | 555 | |
| well (| 3 x 5) er of volumes | 0.39 |) gal. | 4 inche | es | 0.653 | 3 | 1 | .24 | |
| , | vacuated | 3 | | 6 inche | es | 1.47 | | 2 | .25 | |
| | volume to be red (6 x 7) | 1.17 | 7 gal. | 8 inche | es | 2.61 | | 3 | .59 | |
| 0) Purgir | ng Method | Peristaltic | Pump | | | | | | | |
| 9) i uigii | | T chotalite | | - | | | | | | |
| FIELD ME | ASUREMENTS: | | | - | | | | | | |
| TIME | Purge Volume (in gallons) | Temperature (Celsius) | рН | ORP (mV) Cond Dissolved Turbidity (mS/cm) Oxygen (mg/L) (NTU) | | | PID (ppm) | Depth to Water (if poss.) | | |
| 15:58 | 0.00 | 23.66 | 7.30 | 31 | 0.197 | 6.07 | 0.0 | 0.0 | - | |
| 16:00 | 0.25 | 23.23 | 6.67 | 68 | 0.191 | 5.92 | 0.0 | 0.0 | - | |
| 16:02 | 0.50 | 21.45 | 6.30 | 90 | 0.177 | 6.51 | 0.0 | 0.0 | - | |
| 16:06 | 0.75 | 19.46 | 6.04 | 110 | 0.177 | 7.93 | 1,000 | 0.0 | - | |
| 16:12 | 1.00 | 19.10 | 6.00 | 119 | 0.181 | 9.15 | 0.0 | 0.0 | - | |
| 16:17 | 1.25 | 19.65 | 5.97 | 126 | 0.171 | 6.12 | 486 | 0.0 | - | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| NOTES: PID Hea | dspace (ppm): | 0.2 | | SAMPLED BY: TIME: | KEP 16:15 | | | | | |
| Sample | , | Non | | | | | | | | |
| Sample | | Cloue | | Notes: Pump slowed do | wn due to b | pattery; switched r | | r source dur | ina firet | |
| Sample | sediment content: | Low | V | | | I sampling at 16:2 | | | ing mot | |
| Weather | | 70s, cloudy, It | | | | | | | | |
| Did well | | <u> </u> | | L | | | | | _ | |
| | ume purged: | 1.25 ga | | | | | | vironmental S | | |
| QA/QC s | | Non | | | | | | Vilmington | | |
| | | | | | | (302 | :) 656-9600 | - Fax (302) | 656-9700 | |

| | WELL SAMPLIN | G LOG (Horiba | U52) | SHEET: 1 of 1 | | | | | | | |
|-------------------|--|---------------|--|----------------------|-----------------|------------------|--------------|------------------------------|---------------------------------|--|--|
| | SIGNATION: | DA-MW40 | • | PROJECT NAM | E: Dodson | Avenue - OU4 Ch | aracterizati | on | | | |
| DATE: | 10/14/2015 | START TIME: | 8:15 | PROJECT NO: | 2734.04.5 | 1 | | | | | |
| | DESIGNATION: | | 1 | ANALYSES: | | s & TCL SVOCs (p | olus 1,2,4-T | MB) | | | |
| | WELL DESIGNATION: DA-MW40 PR(DATE: 10/14/2015 START TIME: 8:15 PR(ANJ SAMPLE DESIGNATION: DA-MW40-W004 ANJ ANJ ANJ VOLUME OF WATER TO BE REMOVED: 1) Depth to bottom of casing (from TOC) 23.31 ft. Me 2) Depth to water (from TOC) 23.31 ft. Me Said 3) Column of water (#1 - #2) 9.29 ft. Said Said 4) Casing diameter 0.75 in. Said Said 5) Volume conversion (from table) 0.41 gal. gal. 7) Number of volumes to be evacuated 3 gal. gal. 8) Total volume to be removed (6 x 7) 1.23 gal. 9) Purging Method Peristaltic Pump pH Gal. 8:44 0.00 14.80 7.20 3 8:44 0.25 14.59 5.75 3 8:50 0.50 14.61 5.58 3 8:56 1.00 14.52 5.46 3 8:5 | | | | R: | TCL VOCs, TCL | SVOCs | | | | |
| <i>,</i> . | LL DESIGNATION: DA-MW40 TE: 10/14/2015 START TIME: 8:15 MPLE DESIGNATION: DA-MW40-W004 LUME OF WATER TO BE REMOVED: Depth to bottom of casing (from TOC) 23.31 ft. Depth to water (from TOC) 23.31 ft. Casing diameter 0.75 in. Column of water (#1 - #2) 9.29 ft. Casing diameter 0.75 in. Volume conversion (from table) 0.044 ga ga Volume of vater within well (3 x 5) 0.41 ga Number of volumes to be evacuated 3 7 Total volume to be removed (6 x 7) 1.23 ga Purging Method Peristaltic Pump pH 44 0.00 14.80 7.20 44 0.00 14.57 5.43 53 0.75 14.57 5.43 56 1.00 14.52 5.46 58 1.25 14.49 5.41 54 1.25 14.49 5.41 | <u>1</u> ft. | Metals: | | Not Applicable | | | | | | |
| 2) Depth | | 14.0 | 2 ft. | Sampling Metho | od: | Peristaltic Pump | | | | | |
| 3) Colun | | 0.00 | | | | ERSION TABLE | | Always Use | | | |
| | (#1 - #2) | 9.23 | <u>9 </u> | casing dia | 0.75 inches | | | <u>w/ sand pack</u> 0.044 | | | |
| 4) Casin | g diameter | 0.75 | 5 <u>i</u> n. | | | 0.023 | | | | | |
| 5) Volum | ne conversion | | | 1 inche | es | 0.041 | | 0. | 078 | | |
| | | 0.04 | 4gal/ft. | 2 inche | es | 0.163 | 3 | 0. | 555 | | |
| well (| 3 x 5) | 0.4 | l gal. | 4 inche | es | 0.653 | 3 | 1 | .24 | | |
| , | | 3 | | 6 inche | es | 1.47 | | 2 | .25 | | |
| | | 1.23 | | 8 inche | 20 | 2.61 | | 3 | .59 | | |
| | · · · | | 0 | 0 men | | 2.01 | | 5 | .55 | | |
| 9) Purgir | ng Method | Peristaltic | Pump | | | | | | | | |
| FIELD ME | ASUREMENTS: | | | | | | | | | | |
| TIME | 0 | | рН | ORP (mV) | Cond (mS/cm) | | | PID (ppm) | Depth to Water (if poss.) | | |
| 8:44 | 0.00 | 14.80 | 7.20 | 108 | 0.217 | 5.67 | 0.0 | 2.6 | - | | |
| 8:46 | 0.25 | 14.59 | 5.75 | 161 | 0.213 | 3.33 | 0.0 | 4.5 | - | | |
| 8:50 | 0.50 | 14.61 | 5.58 | 175 | 0.209 | 2.59 | 0.0 | 5.4 | - | | |
| 8:53 | 0.75 | 14.57 | 5.43 | 189 | 0.205 | 2.77 | 0.0 | 11.0 | - | | |
| 8:56 | 1.00 | 14.52 | 5.46 | 190 | 0.203 | 2.44 | 1,000 | 2.8 | - | | |
| 8:58 | 1.25 | 14.49 | 5.41 | 196 | 0.201 | 2.18 | 254 | 8.0 | - | | |
| | | | | | | | | | | | |
| NOTES: PID Hea | dspace (ppm): | 0.1 | | SAMPLED BY: TIME: | KEP 9:00 | | | | | | |
| Sample | odor: | Slight Petrol | eum-like | | | | | | | | |
| Sample | color: | Clea | ar | Notes: | | | | | | | |
| Sample | sediment content: | Low | / | | | | | | | | |
| Weather | : | 50s, p cloudy | , lt breeze | | | | | | | | |
| Did well | go dry: | No | | | | | | | | | |
| | ume purged: | 1.25 ga | | | | | | vironmental S | | | |
| QA/QC s | | Non | e | | | | | Vilmington - Fax (302) | | | |

| | WELL SAMPLIN | G LOG (Horiba I | J52) | SHEET: | 1 of 1 | | | | | | |
|---------------------|------------------------------------|---|-----------------|----------------|-----------------|--------------------------------|--------------------|----------------|---------------------------------|--|--|
| WELL DE | SIGNATION: | DA-MW41 | | PROJECT NAM | E: Dodson | Avenue - OU4 Ch | aracterizati | on | | | |
| DATE: | 10/14/2015 | START TIME: | 9:15 | PROJECT NO: | 2734.04.5 | 1 | | | | | |
| - | DESIGNATION: | DA-MW41-W004 | ļ | ANALYSES: | | s & TCL SVOCs (plus 1,2,4-TMB) | | | | | |
| | OF WATER TO E to bottom of casi | | | SAMPLE ORDE | R: | TCL VOCs, TCL | SVOCs | | | | |
| <i>,</i> . | (from TOC) | 24.8 | 7 <u>f</u> t. | Metals: | | Not Applicable | | | | | |
| 2) Depth | to water (from TOC) | 13.0 | A 64 | Sampling Metho | od: | Peristaltic Pump | | | | | |
| 3) Colum | (nom TOC) in of water | 13.0 | <u>4</u> ft. | VOL | | ERSION TABLE | | Always Use | e This One | | |
| -, | (#1 - #2) | 11.8 | <u>3</u> ft. | casing dia | | gallons/f | | | nd pack | | |
| 4) Casin | g diameter | 0.75 | in. | 0.75 inc | hes | 0.023 | 3 | 0. | 044 | | |
| , | - | | <u> </u> | 1 inche | es | 0.041 | | 0. | 078 | | |
| 5) Volum (from t | e conversion table) | 0.04 | 4 gal/ft. | 2 inche | es | 0.163 | 3 | 0. | 555 | | |
| 6) Volum well (3 | ie of water within | 0.52 | | 4 inche | | 0.653 | • | 1 | .24 | | |
| • | er of volumes | 0.52 | gal. | 4 11016 | 55 | 0.053 |) | I | .24 | | |
| | vacuated volume to be | 3 | | 6 inche | es | 1.47 | | 2 | .25 | | |
| , | ed (6 x 7) | 1.56 | gal. | 8 inche | es | 2.61 | | 3.59 | | | |
| 9) Purgin | ng Method | Peristaltic | Pump | | | | | | | | |
| <i>,</i> , | • | | | • | | | | | | | |
| FIELD ME | ASUREMENTS: | | | T | | T | | | 1 | | |
| TIME | Purge Volume (in gallons) | Temperature (Celsius) | рН | ORP (mV) | Cond (mS/cm) | Dissolved Oxygen (mg/L) | Turbidity (NTU) | PID (ppm) | Depth to Water (if poss.) | | |
| 9:40 | 0.00 | 15.16 | 6.76 | -27 | 0.327 | 2.50 | 0.0 | 0.6 | - | | |
| 9:43 | 0.25 | 15.47 | 6.25 | -7 | 0.318 | 1.30 | 428 | 0.5 | - | | |
| 9:47 | 0.50 | 15.55 | 6.19 | -6 | 0.319 | 0.82 | 632 | 1.7 | - | | |
| 9:50 | 0.75 | 15.57 | 6.21 | -9 | 0.320 | 0.78 | 0.0 | 1.5 | - | | |
| 9:53 | 1.00 | 15.56 | 6.19 | -12 | 0.318 | 0.72 | 1,000 | 1.7 | - | | |
| 9:56 | 1.25 | 15.54 | 6.18 | -11 | 0.315 | 0.69 | 330 | 1.5 | - | | |
| 9:58 | 1.50 | 15.54 | 6.15 | -16 | 0.315 | 0.65 | 338 | 2.1 | - | | |
| 10:01 | 1.75 | 15.56 | 6.17 | -17 | 0.315 | 0.63 | 147 | 2.4 | - | | |
| | | | | | | | | | | | |
| NOTES: | | | | SAMPLED BY: | KEP | 1 | | Į | <u> </u> | | |
| PID Hea | dspace (ppm): | 0.2 | | TIME: | 10:05 | | | | | | |
| Sample of | odor: | Strong Petro | leum-like | Notosi | | | | | | | |
| Sample of | color: | <u>r </u> | Notes: | | | | | | | | |
| Sample s | sediment content: | 1 | | | | | | | | | |
| Weather | Weather: 50s, p cloudy, It breeze | | | | | | | | | | |
| Did well | go dry: | No | | | | | | vio bė Cie I d | | | |
| Total vol | ume purged: | 1.75 ga | lons | | | | | vironmental S | | | |
| QA/QC s | amples: | Non | e | | | | | Vilmington | | | |
| | | | | | | (302 | ?) 656-9600 | - Fax (302) | 656-9700 | | |

| A) Casing diameter 0.75 in. 0.75 inches 0.023 0.0 4) Casing diameter 0.75 in. 1 inches 0.041 0.0 5) Volume conversion (from table) 0.044 gal/ft. 2 inches 0.163 0.0 6) Volume of water within well (3 x 5) 0.39 gal. 4 inches 0.653 1 7) Number of volumes to be evacuated 3 6 inches 1.47 2 8) Total volume to be removed (6 x 7) 1.18 gal. 8 inches 2.61 3 9) Purging Method Peristaltic Pump PH ORP (mV) Cond (mS/cm) Dissolved Oxygen (mg/L) Turbidity (NTU) PID (ppm) 13:21 0.00 21.87 6.85 -69 0.429 1.11 0.0 37.1 13:24 0.25 19.83 6.07 -61 0.440 0.54 425 41.4 13:27 0.50 19.69 6.01 -57 0.441 0.58 418 79.1 13:29 0.75 1 | e This One nd pack 044 078 555 .24 .25 |
|--|--|
| SAMPLE DESIGNATION: DA-MW42-W004 ANALYSES: TCL VOCs & TCL SVOCs (plus 1.2,4-TMB) VOLUME OF WATER TO BE REMOVED: SAMPLE ORDER: TCL VOCs, TCL SVOCs 1) Depth to bottom of casing (from TOC) 22.99 ft. Sampling Method: Peristalic Pump 2) Depth to water (from TOC) 14.04 ft. Sampling Method: Peristalic Pump 3) Column of water (from table) 8.95 ft. Sampling Method: Peristalic Pump 4) Casing diameter 0.75 in. 1 inches 0.023 0. 5) Volume conversion (from table) 0.044 gal/ft. 2 inches 0.163 0. 6) Volume of volumes to be evacuated 3 6 inches 1.47 2 8) Total volume to be removed (6 x 7) 1.18 gal. 8 inches 2.61 3 9) Purging Method Peristaltic Pump PH ORP (mV) Cond (mS/cm) Dissolved Oxygen (mg/L) Turbidity (NTU) PID (ppm) 13.21 0.00 21.87 6.85 -69 0.429 1.11 | <u>nd pack</u> 044 078 555 24 |
| SAMPLE DESIGNATION: DA-MW42-W004 TCL VODS & TCL SVODS (plus 1,2,4-1MB) VOLUME OF WATER TO BE REMOVED: 1) Depth to bottom of casing (from TOC) 22.99 ft. 2) Depth to water (from TOC) 14.04 ft. 3) Column of water (#1 - #2) 8.95 ft. 4) Casing diameter 0.75 in. 5) Volume conversion (from table) 0.044 gal/ft. 6) Volume of water within well (3 x 5) 0.39 gal. 7) Number of volumes to be evacuated 3 6 8) Total volume to be removed (6 x 7) 1.18 gal. 7IME Purge Volume (n gallons) peristaltic Pump 7IME Purge Volume (n gallons) peristaltic Pump 7IME Purge Volume (n gallons) pH ORP (mV) Cond (mS/cm) Dissolved Oxygen (mg/L) Turbidity (NTU) PID (ppm) 13:21 0.00 21.87 6.85 -69 0.429 1.11 0.0 37.1 13:24 0.25 19.83 6.07 -61 0.440 0.54 425 41.4 13: | <u>nd pack</u> 044 078 555 24 |
| 1) Depth to bottom of casing (from TOC) 22.99 ft. Not Applicable 2) Depth to water (from TOC) 14.04 ft. Sampling Method: Peristaltic Pump 3) Column of water (#1 - #2) 8.95 ft. Volume Conversion TABLE: Always Use 4) Casing diameter 0.75 in. 1 inches 0.023 0. 5) Volume conversion (from table) 0.044 gal/ft. 2 inches 0.163 0. 6) Volume of water within well (3 x 5) 0.39 gal. 4 inches 0.653 1 7) Number of volumes to be evacuated 3 6 inches 1.47 2 8) Total volume to be removed (6 x 7) 1.18 gal. 8 inches 2.61 3 9) Purging Method Peristaltic Pump 0RP (mV) Cond (mS/cm) Dissolved Oxygen (mg/L) Turbidity PID (NTU) (PID) 13:21 0.00 21.87 6.85 -69 0.429 1.11 0.0 37.1 13:24 0.25 19.83 6.07 -61 0.440 0.54 425 41.4 <tr< td=""><td><u>nd pack</u> 044 078 555 24</td></tr<> | <u>nd pack</u> 044 078 555 24 |
| 2) Depth to water (from TOC) 14.04 14.04 ft. Sampling Method: Peristaltic Pump 3) Column TOC) 14.04 (#1 - #2) ft. Sampling Method: Peristaltic Pump 4) Casing diameter 8.95 (#1 - #2) ft. VOLUME CONVERSION TABLE: (asing diameter Always Use (asing diameter 5) Volume conversion (from table) 0.044 (st s) gal/ft. 0.75 (asing diameter 0.041 (asing diameter 0.041 (asin | <u>nd pack</u> 044 078 555 24 |
| $\begin{array}{c c c c c c c } (from TOC) & 14.04 & ft. \\ 3) Column of water (\#1 - \#2) & 8.95 & ft. \\ (\#1 - \#2) & 0.05 & ft. \\ 4) Casing diameter & 0.75 & in. \\ 4) Casing diameter & 0.75 & in. \\ 4) Casing diameter & 0.75 & in. \\ 5) Volume conversion (from table) & 0.044 & gal/ft. \\ (from table) & 0.044 & gal/ft. \\ 0.39 & gal. \\ 7) Number of volumes to be evacuated & 3 & 6 inches & 1.47 & 2 \\ 8) Total volume to be removed (6 x 7) & 1.18 & gal. \\ 9) Purging Method & Peristaltic Pump & \\ \hline \hline \hline \\ \hline \\$ | <u>nd pack</u> 044 078 555 24 |
| $\begin{array}{c c c c c c c c } (\#1 + \#2) & \underline{8.95} & \text{ft.} & \underline{casing diameter} & \underline{gallons/foot} & \underline{w/sar} \\ 0.75 & \text{inches} & 0.023 & 0.0 \\ 0.075 & \text{inches} & 0.023 & 0.0 \\ 1 & \text{inches} & 0.041 & 0.0 \\ 0.044 & \underline{gal/tt.} & 2 & \text{inches} & 0.041 & 0.0 \\ 0.044 & \underline{gal/tt.} & 2 & \text{inches} & 0.163 & 0.0 \\ 0.041 & \underline{gal/tt.} & 2 & \text{inches} & 0.653 & 1 \\ 0.05 & \underline{gal/tt.} & \underline{gal/tt.} & 2 & \underline{gal/tt.} & 2 \\ 0.05 & \underline{gal/tt.} & \underline{gal/tt.} & 2 & \underline{gal/tt.} & 2 \\ 0.063 & \underline{gal/tt.} & \underline{gal/tt.} & 2 & \underline{gal/tt.} & 2 \\ 0.041 & 0.041 & 0.0 \\ 0.044 & \underline{gal/tt.} & 2 & \underline{gal/tt.} & 2 & \underline{gal/tt.} & 2 \\ 0.05 & \underline{gal/tt.} & \underline{gal/tt.} & 2 & \underline{gal/tt.} & 2 \\ 0.05 & \underline{gal/tt.} & \underline{gal/tt.} & 2 & \underline{gal/tt.} & 2 \\ 0.05 & \underline{gal/tt.} & \underline{gal/tt.} & 2 & \underline{gal/tt.} & 2 \\ 0.063 & \underline{gal/tt.} & \underline{gal/tt.} & 2 & \underline{gal/tt.} & 2 \\ 0.063 & \underline{gal/tt.} & \underline{gal/tt.} & 2 & \underline{gal/tt.} & 2 \\ 0.063 & \underline{gal/tt.} & \underline{gal/tt.} & 2 & \underline{gal/tt.} & 2 \\ 0.063 & \underline{gal/tt.} & \underline{gal/tt.} & 2 & \underline{gal/tt.} & 2 \\ 0.063 & \underline{gal/tt.} & \underline{gal/tt.} & 2 & \underline{gal/tt.} & 2 \\ 0.063 & \underline{gal/tt.} & \underline{gal/tt.} & 2 & \underline{gal/tt.} & 2 \\ 0.063 & \underline{gal/tt.} & \underline{gal/tt.} & 2 & \underline{gal/tt.} & 2 \\ 0.063 & \underline{gal/tt.} & \underline{gal/tt.} & 2 & \underline{gal/tt.} & 2 \\ 0.063 & \underline$ | <u>nd pack</u> 044 078 555 24 |
| 4) Casing diameter 0.75 in. 0.75 inches 0.023 0.0 5) Volume conversion (from table) 0.044 gal/ft. 2 inches 0.163 0.0 6) Volume of water within well (3 x 5) 0.39 gal. 4 inches 0.653 1 7) Number of volumes to be evacuated 3 6 inches 1.47 2 8) Total volume to be removed (6 x 7) 1.18 gal. 8 inches 2.61 3 9) Purging Method Peristaltic Pump Peristaltic Pump 0RP (mV) Cond (mS/cm) Dissolved Oxygen (mg/L) Turbidity (NTU) PID (ppm) 13:21 0.00 21.87 6.85 -69 0.429 1.11 0.0 37.1 13:24 0.25 19.83 6.07 -61 0.440 0.54 425 41.4 13:27 0.50 19.69 6.01 -57 0.441 0.58 418 79.1 13:29 0.75 19.49 6.03 -59 0.444 0.48 361 7.1 | 044 078 555 .24 |
| 4) Casing diameter 0.75 in. 1 inches 0.041 0.0 5) Volume conversion (from table) 0.044 gal/ft. 2 inches 0.163 0.0 6) Volume of water within well (3 x 5) 0.39 gal. 4 inches 0.653 1 7) Number of volumes to be evacuated 3 6 inches 1.47 2 8) Total volume to be removed (6 x 7) 1.18 gal. 8 inches 2.61 3 9) Purging Method Peristaltic Pump 7 1.18 gal. 8 inches 2.61 3 71ME Purge Volume (in gallons) Temperature (Celsius) pH ORP (mV) Cond (mS/cm) Dissolved Oxygen (mg/L) Turbidity (NTU) PID (ppm) 13:21 0.00 21.87 6.85 -69 0.429 1.11 0.0 37.1 13:24 0.25 19.83 6.07 -61 0.440 0.54 425 41.4 13:27 0.50 19.69 6.01 -57 0.441 0.48 361 7.1 13:29 0.75 19.49 6.03 -59 0. | 078 555 .24 |
| | 555 .24 |
| 6) Volume of water within well (3 x 5) 0.39 gal. 4 inches 0.653 1 7) Number of volumes to be evacuated 3 6 inches 1.47 2 8) Total volume to be removed (6 x 7) 1.18 gal. 8 inches 2.61 3 9) Purging Method Peristaltic Pump 8 inches 2.61 3 FIELD MEASUREMENTS: TIME Purge Volume (in gallons) Temperature (Celsius) pH ORP (mV) Cond (mS/cm) Dissolved (mg/L) Turbidity (NTU) PID (ppm) 13:21 0.00 21.87 6.85 -69 0.429 1.11 0.0 37.1 13:24 0.25 19.83 6.07 -61 0.440 0.54 425 41.4 13:27 0.50 19.69 6.01 -57 0.441 0.58 418 79.1 13:29 0.75 19.49 6.03 -59 0.444 0.48 361 7.1 | .24 |
| 7) Number of volumes to be evacuated 3 6 inches 1.47 2 8) Total volume to be removed (6 x 7) 1.18 gal. 8 inches 2.61 3 9) Purging Method Peristaltic Pump 8 nches 2.61 3 FIELD MEASUREMENTS: TIME Purge Volume (in gallons) Temperature (Celsius) pH ORP (mV) Cond (mS/cm) Dissolved Oxygen (mg/L) Turbidity (NTU) PID (ppm) 13:21 0.00 21.87 6.85 -69 0.429 1.11 0.0 37.1 13:24 0.25 19.83 6.07 -61 0.440 0.54 425 41.4 13:27 0.50 19.69 6.01 -57 0.441 0.58 418 79.1 13:29 0.75 19.49 6.03 -59 0.444 0.48 361 7.1 | |
| to be evacuated 3 6 inches 1.47 2 8) Total volume to be removed (6 x 7) 1.18 gal. 8 inches 2.61 3 9) Purging Method Peristaltic Pump 8 inches 2.61 3 FIELD MEASUREMENTS: TIME Purge Volume (in gallons) Temperature (Celsius) pH ORP (mV) Cond (mS/cm) Dissolved Oxygen (mg/L) Turbidity (NTU) PID (ppm) 13:21 0.00 21.87 6.85 -69 0.429 1.11 0.0 37.1 13:24 0.25 19.83 6.07 -61 0.440 0.54 425 41.4 13:27 0.50 19.69 6.01 -57 0.441 0.58 418 79.1 13:29 0.75 19.49 6.03 -59 0.444 0.48 361 7.1 | .25 |
| removed (6 x 7) 1.18 gal. 8 inches 2.61 3 9) Purging Method Peristaltic Pump 1.18 gal. 8 inches 2.61 3 FIELD MEASUREMENTS: TIME Purge Volume (in gallons) Temperature (Celsius) pH ORP (mV) Cond (mS/cm) Dissolved (NTU) Turbidity (NTU) PID (ppm) 13:21 0.00 21.87 6.85 -69 0.429 1.11 0.0 37.1 13:24 0.25 19.83 6.07 -61 0.440 0.54 425 41.4 13:27 0.50 19.69 6.01 -57 0.441 0.58 418 79.1 13:29 0.75 19.49 6.03 -59 0.444 0.48 361 7.1 | |
| FIELD MEASUREMENTS: TIME Purge Volume (in gallons) Temperature (Celsius) pH ORP (mV) Cond (mS/cm) Dissolved Oxygen (mg/L) Turbidity (NTU) PID (ppm) 13:21 0.00 21.87 6.85 -69 0.429 1.11 0.0 37.1 13:24 0.25 19.83 6.07 -61 0.440 0.54 425 41.4 13:27 0.50 19.69 6.01 -57 0.441 0.58 418 79.1 13:29 0.75 19.49 6.03 -59 0.444 0.48 361 7.1 | .59 |
| TIME Purge Volume (in gallons) Temperature (Celsius) pH ORP (mV) Cond (mS/cm) Dissolved Oxygen (mg/L) Turbidity (NTU) PID (ppm) 13:21 0.00 21.87 6.85 -69 0.429 1.11 0.0 37.1 13:24 0.25 19.83 6.07 -61 0.440 0.54 425 41.4 13:27 0.50 19.69 6.01 -57 0.441 0.58 418 79.1 13:29 0.75 19.49 6.03 -59 0.444 0.48 361 7.1 | |
| TIME Purge Volume (in gallons) Temperature (Celsius) pH ORP (mV) Cond (mS/cm) Dissolved Oxygen (mg/L) Turbidity (NTU) PID (ppm) 13:21 0.00 21.87 6.85 -69 0.429 1.11 0.0 37.1 13:24 0.25 19.83 6.07 -61 0.440 0.54 425 41.4 13:27 0.50 19.69 6.01 -57 0.441 0.58 418 79.1 13:29 0.75 19.49 6.03 -59 0.444 0.48 361 7.1 | |
| HME (in gallons) (Celsius) PH ORP (mV) (mS/cm) Oxygen (mg/L) (NTU) (ppm) 13:21 0.00 21.87 6.85 -69 0.429 1.11 0.0 37.1 13:24 0.25 19.83 6.07 -61 0.440 0.54 425 41.4 13:27 0.50 19.69 6.01 -57 0.441 0.58 418 79.1 13:29 0.75 19.49 6.03 -59 0.444 0.48 361 7.1 | |
| 13:24 0.25 19.83 6.07 -61 0.440 0.54 425 41.4 13:27 0.50 19.69 6.01 -57 0.441 0.58 418 79.1 13:29 0.75 19.49 6.03 -59 0.444 0.48 361 7.1 | Depth to Water (if poss.) |
| 13:27 0.50 19.69 6.01 -57 0.441 0.58 418 79.1 13:29 0.75 19.49 6.03 -59 0.444 0.48 361 7.1 | - |
| 13:29 0.75 19.49 6.03 -59 0.444 0.48 361 7.1 | - |
| | - |
| | - |
| <u>13:31</u> 1.00 19.34 6.02 -57 0.446 1.01 365 32.3 | - |
| <u>13:33</u> <u>1.25</u> <u>19.42</u> <u>6.00</u> <u>-57</u> <u>0.447</u> <u>0.54</u> <u>240</u> <u>7.4</u> | - |
| | |
| NOTES: SAMPLED BY: KP/KEP PID Headspace (ppm): 0.4 TIME: 13:35 | |
| PID Headspace (ppm): 0.4 TIME: 13:35 Sample odor: Petroleum-like | |
| Sample color: Cloudy Notes: | |
| Sample sediment content: Low | |
| Weather: 60s, sunny | |
| Did well go dry: No BrightFields | |
| Total volume purged: 1.25 gallons | s, Inc. |
| QA/QC samples: None 801 Industrial St. Wilmington (302) 656-9600 - Fax (302) | |

| WELL DESIGNATION: DA-MW44 PROJECT NAME: Dods on Avenue - OL4 Characterization DATE: 1013/2015 START TIME: 10:20 PROJECT N0: 274.04.61 SAMPLE DESIGNATION: DA-MW44-W004 PROJECT N0: 274.04.61 MALYSES: TCL VOCs & TCL SVOCs (plus 1.2.4-TMB) SAMPLE ORDER: TCL VOCs & TCL SVOCs (plus 1.2.4-TMB) SAMPLE ORDER: TCL VOCs & TCL SVOCs 1) Depth to born of casing (from TOC) 20.90 2) Depth to water (from TOC) 12.30 3) Colume of water (from TABIP) 0.044 3) Colume of water (from table) 0.044 4) Casing diameter 0.75 5) Volume conversion (from table) 0.044 6) inches 1.47 6) inches 1.47 7) Number of volumes (frog stable) 0.38 9) Purging Method Peristable Pump THEE MEASUREMENTS: TIME Purge Volume (frog stable) 0.55 18.67 6.69 10.57 0.00 18.67 6.69 10.57 0.00 18.67 6.69 10.50 | | WELL SAMPLIN | G LOG (Horiba | U52) | SHEET: | 1 of 1 | | | | | | | |
|---|------------|-------------------------|---------------|--------------|----------------|-----------|------------------|------------------------------|-----|---------------------------------|--|--|--|
| SAMPLE DESIGNATION: DA-MW44-W004 NALYSE: TCL VOCs & TCL SVOCs (plus 1,2,4-TMB) VOLUME OF WATER TO BE REMOVED: 1) Depits hotom of casing (from TOC) 20.80 ft. 2) Depits vater (from TOC) 20.80 ft. 3) Column of water (from TOC) 12.30 ft. 3) Column of water (from TABL) 0.75 in. 4) Casing diameter 0.75 in. 5) Volume conversion (from table) 0.044 gal/ft. 6) Volume of vater within well (3 K) 0.38 gal. 4) Casing diameter 0.75 in.ches 0.163 6) Volume of vater within well (3 K) 0.38 gal. 4 inches 0.653 7) Number of volumes to be evacuated 3 6 inches 1.47 2.25 8) Total volume to be removed (6 x 7) 1.14 gal. 8 inches 2.61 3.59 9) Purging Method Peristallic Pump PH ORP (mV) Cond (mS/cm) Dissolved Dissolved, (ms/L) Turbidify (from yight hed FIELD MEASUREMENTS: 1.14 gal 0.642 5.55 0.0 0.0 - <td></td> <td></td> <td></td> <td>,</td> <td></td> <td></td> <td>Avenue - OU4 Ch</td> <td>aracterizati</td> <td>on</td> <td></td> | | | | , | | | Avenue - OU4 Ch | aracterizati | on | | | | |
| SAMPLE DESIGNATION: UN-MINITARYOLD In the VOLS IN LS VOUS (DIR 1, 2.4 MB) VOLUNE OF WATER TO BE REMOVED: (nor TOC) Colspan="2">Colspan="2" Total volume on total colspan="2" TOTA OPT of colspan="2" | DATE: | 10/13/2015 | START TIME: | 10:20 | | 2734.04.5 | 1 | | | | | | |
| 1) Depth to bottom of casing (mor TCC) 20.90 ft. Depth to water (ft. ref.) 20.90 ft. 2) Depth to water (ft. ref.) 12.30 ft. Metals: Not Applicable | | DESIGNATION: | | 1 | ANALYSES: | TCL VOCs | s & TCL SVOCs (p | & TCL SVOCs (plus 1,2,4-TMB) | | | | | |
| (tron TCC) 20.90 ft. 2) Depth to water (tron TCC) 12.30 ft. 3) Columo for Water (#1 - #2) 8.60 ft. 4) Casing diameter 0.75 in. 5) Volume conversion (from table) 0.044 gal/nt. 6) Volume conversion (from table) 0.044 gal/tt. 0.75 in. 7) Number of volumes removed (6 x 7) 1.14 gal. 4 inches 0.653 1.24 9) Purging Method 9 9.114 gal. 6 inches 1.47 2.25 8) Total volume to be removed (6 x 7) 1.14 gal. 8 inches 2.61 3.59 9) Purging Method Peristatilic Pump 6 6 0.00 - 710.75 0.00 18.67 6.69 189 0.42 0.556 0.0 0.0 10:57 0.00 18.67 4.99 264 0.556 5.78 334 0.0 - 10:57 0.00 18.57 4.99 264 0.519 4.13 0.0 | | | - | | SAMPLE ORDE | R: | TCL VOCs, TCL | SVOCs | | | | | |
| If com TOC) 12.30 ft. 3) Columo for water (#1 - #2) 12.30 ft. 4) Casing diameter (#1 - #2) 8.60 ft. 4) Casing diameter (#1 - #2) 0.75 in. 5) Volume conversion (from table) 0.044 0.75 6) Volume dowater within well (3 x 5) 0.38 gal. 7) Number of volumes to be evacuated 3 0.44 3) Total volume to be removed (6 x 7) 1.14 gal. 9) Parging Method Peristallic Pump 8 inches 2.61 710 Line 0.00 18.67 6.69 189 10:57 0.00 18.67 6.69 189 0.642 5.55 0.0 0.0 11:03 0.75 19.02 4.93 274 0.523 5.28 0.0 0.0 11:03 0.05 18.57 4.99 284 0.519 4.13 0.0 - 11:04 1.00 19.10 4.93 274 0.523 5.28 0.0 0.0 - <tr< td=""><td><i>,</i> .</td><td>(from TOC)</td><td>0</td><td>0 ft.</td><td></td><td></td><td></td><td></td><td></td><td></td></tr<> | <i>,</i> . | (from TOC) | 0 | 0 ft. | | | | | | | | | |
| Back Stress S | 2) Depth | | 12.3 | 0 ft. | Sampling Metho | od: | Peristaltic Pump | | | | | | |
| 4) Casing diameter 0.75 in. 0.75 inches 0.023 0.044 4) Casing diameter 0.75 in. 1 inches 0.041 0.078 5) Volume conversion (from table) 0.044 gal/t. 2 inches 0.163 0.555 6) Volume of valuers within well (3 5) 0.38 gal. 4 inches 0.653 1.24 7) Number of volumes to be exacuted 3 6 inches 1.47 2.25 8) Total volume to be removed (6 7) 1.14 gal. 8 inches 2.61 3.59 9) Purging Method Peristalite Pump PH ORP (mV) Cond (mS/cm) Dissolved Oxygen (mg/L) Turbidity (NTU) PID Depth to Water 10:59 0.25 18.38 5.40 2.241 0.590 5.94 0.0 0.0 - 11:01 0.55 19.02 4.93 2.74 0.523 5.28 0.0 0.0 - 11:03 0.75 19.02 4.93 2.74 0.519 4.13 0.0 0.0 - 1 | 3) Colum | n of water | | <u> </u> | | | | | | | | | |
| 4) Casing diameter 0.75 in. 1 inches 0.041 0.078 5) Volume orwater within well (3 x 5) 0.38 gal/t. 2 inches 0.163 0.555 1) Total volume to be evacuated 3 6 inches 1.47 2.25 8) Total volume to be evacuated 3 6 inches 1.47 2.25 9) Purging Method Peristaltic Pump 8 inches 2.61 3.59 9) Purging Method Peristaltic Pump 0RP (mV) Cond Dissolved, Oxygen (mgL) Turbidity 10.57 0.00 18.67 6.69 189 0.642 5.55 0.0 0.0 11:01 0.50 18.57 4.99 264 0.566 5.78 334 0.0 - 11:01 0.50 18.57 4.99 264 0.566 5.78 334 0.0 - 11:01 0.50 18.57 4.99 281 0.548 5.02 720 0.0 - 11:03 0.75 19.02 4.33 274 0.523 5.28 0.0 0.0 - | | (#1 - #2) | 8.60 | <u>)</u> ft. | | | | | | | | | |
| 6) Volume conversion (from table) 0.044 gal/ft. 2 inches 0.163 0.555 6) Volume of vater within well (3 x 5) 0.38 gal/ft. 4 inches 0.653 1.24 7) Number of volumes to be evacuated 3 6 inches 1.47 2.25 8) Total volume to be removed (6 x 7) 1.14 gal. 8 inches 2.61 3.59 9) Purging Method Peristatic Pump 8 inches 2.61 3.59 9 FIELD MEASUREMENTS: TIME Purge Volume (in gallons) Temperature (Celsius) pH ORP (mV) Cond (mS/cm) Dissolved Dissolved Turbidity (PID) PID Water (if poss.) 10:57 0.00 18.67 6.69 189 0.642 5.55 0.0 0.0 - 10:59 0.25 18.38 5.40 241 0.590 5.94 0.0 0.0 - 11:01 0.50 18.57 4.99 264 0.519 4.13 0.0 0.0 - 11:05 1.00 19.10 4.89 281 0.548 5.02 720 <td>4) Casin</td> <td>g diameter</td> <td>0.75</td> <td>5 in.</td> <td>0.75 Inc</td> <td>nes</td> <td>0.023</td> <td>6</td> <td>0.</td> <td>044</td> | 4) Casin | g diameter | 0.75 | 5 in. | 0.75 Inc | nes | 0.023 | 6 | 0. | 044 | | | |
| (from table) 0.044 gal/ft. 2 inches 0.163 0.555 6) Volume of valumes to be evacuated 3 6 inches 1.47 2.25 8) Total volumes to be evacuated 3 6 inches 1.47 2.25 8) Total volume to be removed (6 x 7) 1.14 gal. 8 inches 2.61 3.59 9) Purging Method Peristaltic Pump 8 inches 2.61 3.59 9 71 NME Purge Volume (in gallons) Temperature (Celsius) PH ORP (mV) Cond (mS/cm) Dissolved Oxygen (mg/L) Turbidity (NTU) Pip Water (if poss. 10:57 0.00 18.67 6.69 189 0.642 5.55 0.0 0.0 - 11:03 0.75 19.02 4.93 274 0.523 5.28 0.0 0.0 - 11:07 1.25 19.10 4.99 284 0.518 5.02 720 0.0 - 11:07 1.25 19.10 4.99 284 0.519 4.13 | 5) Volum | | | | 1 inche | es | 0.041 | | 0. | 078 | | | |
| Norme 0.38 gal. 4 inches 0.653 1.24 7) Number ovolumes to be evacuated to be evacuated 3 6 inches 1.47 2.25 8) Total volume to be evacuated (6 x 7) | (from | table) | 0.04 | 4 gal/ft. | 2 inche | es | 0.163 | 3 | 0. | 555 | | | |
| 7) Number of volumes to be evaluated 8) Total volume to be removed (6 x 7) 3 6 inches 1.47 2.25 9) Purging Method Peristaltic Pump 8 inches 2.61 3.59 FIELD MEASUREMENTS: TIME Purge Volume (in gallons) Temperature (Celsius) pH ORP (mV) Cond (mS/cm) Dissolved Oxygen (mg/L) Turbidity (NTU) PID (ppm) Depth to Water 10:57 0.00 18.67 6.69 189 0.642 5.55 0.0 0.0 - 10:59 0.25 18.38 5.40 241 0.590 5.94 0.0 0.0 - 11:01 0.50 18.57 4.99 264 0.556 5.78 334 0.0 - 11:03 0.75 19.02 4.93 274 0.523 5.28 0.0 0.0 - 11:05 1.00 19.10 4.89 281 0.548 5.02 720 0.0 - 11:07 1.25 19.10 4.91 284 0.519 4.13 0.0 - - | , | | 0.35 | len 8 | 4 inch | 26 | 0.653 | 2 | 1 | 24 | | | |
| B) Total volume to be removed (6 x 7) 1.14 gal. B inches 2.61 3.59 9) Purging Method Peristaltic Pump B inches 2.61 3.59 FIELD MEASUREMENTS: TIME Purge Volume (in gallons) Temperature (Celsius) pH ORP (mV) Cond (mS/cm) Dissolved Oxygen (mgL) Turbidity (NTU) PID (ppm) Depth to Water (if poss. 10:57 0.00 18.67 6.69 189 0.642 5.55 0.0 0.0 - 10:59 0.25 18.38 5.40 241 0.590 5.94 0.0 0.0 - 11:01 0.50 18.57 4.99 264 0.556 5.78 334 0.0 - 11:03 0.75 19.02 4.93 274 0.523 5.28 0.0 0.0 - 11:05 1.00 19.10 4.89 281 0.548 5.02 720 0.0 - 11:07 1.25 19.10 4.91 284 0.519 4.13 0.0 - NOTES: PID H | 7) Numb | er of volumes | | <u> </u> | | | | | | | | | |
| removed (6 x 7) 1.14 gal. 8 inches 2.61 3.59 9) Purging Method Peristatic Pump 8 inches 2.61 3.59 FIELD MEASUREMENTS: TIME Purge Volume (rege Volume (rege Volume (reges)) PH ORP (mV) Cond (mS/cm) Dissolved (mgL) Turbidity PID (ppm) Depth to Water (rf poss. 10:57 0.00 18.67 6.69 189 0.642 5.55 0.0 0.0 - 10:59 0.25 18.38 5.40 241 0.590 5.94 0.0 0.0 - 11:01 0.50 18.57 4.99 264 0.556 5.78 334 0.0 - 11:03 0.75 19.02 4.93 274 0.523 5.28 0.0 0.0 - 11:05 1.00 19.10 4.89 281 0.519 4.13 0.0 - - 11:07 1.25 19.10 4.91 284 0.519 4.13 0.0 - - PID Headspace (ppm): 0.1 | | | 3 | | 6 inche | es | 1.47 | | 2 | .25 | | | |
| FIELD MEASUREMENTS: TIME Purge Volume (in gallons) Temperature (Celsius) pH ORP (mV) Cond (mS/cm) Dissolved Oxygen (mg/L) Turbidity (NTU) PID (ppm) Depth to Water (f poss. 10:57 0.00 18.67 6.69 189 0.642 5.55 0.0 0.0 - 10:59 0.25 18.38 5.40 241 0.590 5.94 0.0 0.0 - 11:01 0.50 18.57 4.99 264 0.556 5.78 334 0.0 - 11:03 0.75 19.02 4.93 274 0.523 5.28 0.0 0.0 - 11:05 1.00 19.10 4.89 281 0.548 5.02 720 0.0 - 11:07 1.25 19.10 4.91 284 0.519 4.13 0.0 0.0 - MOTES: PID Headspace (ppm): 0.1 Interstructure Interstructure Interstructure Interstructure <td< td=""><td></td><td></td><td>1.14</td><td>4 gal.</td><td>8 inche</td><td>es</td><td>2.61</td><td></td><td>3</td><td>.59</td></td<> | | | 1.14 | 4 gal. | 8 inche | es | 2.61 | | 3 | .59 | | | |
| TIME Purge Volume (in gallons) Temperature (Celsius) pH ORP (mV) Cond (mS/cm) Dissolved Oxygen (mg/L) Turbidity (NTU) PID (ppm) Depth to Water (if poss. 10:57 0.00 18.67 6.69 189 0.642 5.55 0.0 0.0 - 10:59 0.25 18.38 5.40 241 0.590 5.94 0.0 0.0 - 11:01 0.50 18.57 4.99 264 0.556 5.78 334 0.0 - 11:03 0.75 19.02 4.93 274 0.523 5.28 0.0 0.0 - 11:05 1.00 19.10 4.89 281 0.548 5.02 720 0.0 - 11:07 1.25 19.10 4.91 284 0.519 4.13 0.0 0.0 - NOTES: | 9) Purgir | ng Method | Peristaltic | Pump | | | | | | | | | |
| TIME Purge Volume (in gallons) Temperature (Celsius) pH ORP (mV) Cond (mS/cm) Dissolved Oxygen (mg/L) Turbidity (NTU) PID (ppm) Depth to Water (if poss. 10:57 0.00 18.67 6.69 189 0.642 5.55 0.0 0.0 - 10:59 0.25 18.38 5.40 241 0.590 5.94 0.0 0.0 - 11:01 0.50 18.57 4.99 264 0.556 5.78 334 0.0 - 11:03 0.75 19.02 4.93 274 0.523 5.28 0.0 0.0 - 11:07 1.25 19.10 4.89 281 0.548 5.02 720 0.0 - 11:07 1.25 19.10 4.91 284 0.519 4.13 0.0 0.0 - NOTES: | | | | | | | | | | | | | |
| TIME Putge volume Temperature (celsius) pH ORP (mV) Cond (mS/cm) Dissolved Oxygen (mg/L) Turbidity (NTU) PHD Water (gpm) 10:57 0.00 18.67 6.69 189 0.642 5.55 0.0 0.0 - 10:59 0.25 18.38 5.40 241 0.590 5.94 0.0 0.0 - 11:01 0.50 18.57 4.99 264 0.556 5.78 334 0.0 - 11:03 0.75 19.02 4.93 274 0.523 5.28 0.0 0.0 - 11:07 1.25 19.10 4.89 281 0.548 5.02 720 0.0 - 11:07 1.25 19.10 4.91 284 0.519 4.13 0.0 0.0 - NOTES: | FIELD ME | ASUREMENTS: | | | | 1 | 1 | | 1 | 1 | | | |
| 10:59 0.25 18.38 5.40 241 0.590 5.94 0.0 0.0 - 11:01 0.50 18.57 4.99 264 0.556 5.78 334 0.0 - 11:03 0.75 19.02 4.93 274 0.523 5.28 0.0 0.0 - 11:05 1.00 19.10 4.89 281 0.548 5.02 720 0.0 - 11:07 1.25 19.10 4.91 284 0.519 4.13 0.0 0.0 - 11:07 1.25 19.10 4.91 284 0.519 4.13 0.0 0.0 - 11:07 1.25 19.10 4.91 284 0.519 4.13 0.0 0.0 - 11:07 1.25 19.10 4.91 284 0.519 4.13 0.0 0.0 - NOTES: 9.1 0.1 SAMPLED BY: KP/KEP TIME: 11:10 Image: Notes: Image: Notes: Image: Notes: Image: Notes: Image: Notes: Image: | TIME | U U | | рН | ORP (mV) | | | - | | Depth to Water (if poss.) | | | |
| 11:01 0.50 18.57 4.99 264 0.556 5.78 334 0.0 - 11:03 0.75 19.02 4.93 274 0.523 5.28 0.0 0.0 - 11:05 1.00 19.10 4.89 281 0.548 5.02 720 0.0 - 11:07 1.25 19.10 4.91 284 0.519 4.13 0.0 0.0 - 11:07 1.25 19.10 4.91 284 0.519 4.13 0.0 0.0 - 11:07 1.25 19.10 4.91 284 0.519 4.13 0.0 0.0 - 11:07 1.25 19.10 4.91 284 0.519 4.13 0.0 0.0 - 11:07 1.25 19.10 4.91 284 0.519 4.13 0.0 0.0 - NOTES: 0.1 1.1 11:10 11:10 11:10 11:10 Notes: Notes: Notes: Notes: Sample color: 1.25 gallons <t< td=""><td>10:57</td><td>0.00</td><td>18.67</td><td>6.69</td><td>189</td><td>0.642</td><td>5.55</td><td>0.0</td><td>0.0</td><td>-</td></t<> | 10:57 | 0.00 | 18.67 | 6.69 | 189 | 0.642 | 5.55 | 0.0 | 0.0 | - | | | |
| 11:03 0.75 19.02 4.93 274 0.523 5.28 0.0 0.0 - 11:05 1.00 19.10 4.89 281 0.548 5.02 720 0.0 - 11:07 1.25 19.10 4.91 284 0.519 4.13 0.0 0.0 - 11:07 1.25 19.10 4.91 284 0.519 4.13 0.0 0.0 - 11:07 1.25 19.10 4.91 284 0.519 4.13 0.0 0.0 - 11:07 1.25 19.10 4.91 284 0.519 4.13 0.0 0.0 - 11:07 1.25 19.10 4.91 284 0.519 4.13 0.0 0.0 - 11:07 1.25 10.1 | 10:59 | 0.25 | 18.38 | 5.40 | 241 | 0.590 | 5.94 | 0.0 | 0.0 | - | | | |
| 11:05 1.00 19.10 4.89 281 0.548 5.02 720 0.0 - 11:07 1.25 19.10 4.91 284 0.519 4.13 0.0 0.0 - 11:07 1.25 19.10 4.91 284 0.519 4.13 0.0 0.0 - 11:07 1.25 19.10 4.91 284 0.519 4.13 0.0 0.0 - 11:0 1 | 11:01 | 0.50 | 18.57 | 4.99 | 264 | 0.556 | 5.78 | 334 | 0.0 | - | | | |
| 11:07 1.25 19.10 4.91 284 0.519 4.13 0.0 0.0 - Image: Constraint of the second sec | 11:03 | 0.75 | 19.02 | 4.93 | 274 | 0.523 | 5.28 | 0.0 | 0.0 | - | | | |
| Image: Section of the section of th | 11:05 | 1.00 | 19.10 | 4.89 | 281 | 0.548 | 5.02 | 720 | 0.0 | - | | | |
| PID Headspace (ppm): 0.1 Sample odor: None Sample color: Light Brown, Cloudy Sample sediment content: Low Weather: 60s, light rain Did well go dry: No Total volume purged: 1.25 gallons QA/QC samples: None | 11:07 | 1.25 | 19.10 | 4.91 | 284 | 0.519 | 4.13 | 0.0 | 0.0 | - | | | |
| PID Headspace (ppm): 0.1 Sample odor: None Sample color: Light Brown, Cloudy Sample sediment content: Low Weather: 60s, light rain Did well go dry: No Total volume purged: 1.25 gallons QA/QC samples: None | | | | | | | | | | | | | |
| PID Headspace (ppm): 0.1 Sample odor: None Sample color: Light Brown, Cloudy Sample sediment content: Low Weather: 60s, light rain Did well go dry: No Total volume purged: 1.25 gallons QA/QC samples: None | | | | | | | | | | | | | |
| Sample odor: None Sample color: Light Brown, Cloudy Sample sediment content: Low Weather: 60s, light rain Did well go dry: No Total volume purged: 1.25 gallons QA/QC samples: None | | <u> </u> | | | SAMPLED BY: | KP/KEP | ļ | <u> </u> | Ļ | Į | | | |
| Sample color: Light Brown, Cloudy Sample sediment content: Low Weather: 60s, light rain Did well go dry: No Total volume purged: 1.25 gallons QA/QC samples: None | | , | | | TIME: | 11:10 | | | | | | | |
| Sample color: Light Brown, Cloudy Sample sediment content: Low Weather: 60s, light rain Did well go dry: No Total volume purged: 1.25 gallons QA/QC samples: None 801 Industrial St. Wilmington DE 19801 | | | Non | e | Notes: | | | | | | | | |
| Weather: 60s, light rain Did well go dry: No Total volume purged: 1.25 gallons QA/QC samples: None 801 Industrial St. Wilmington DE 19801 | Sample | color: | Light Brown | , Cloudy | | | | | | | | | |
| Did well go dry: No BrightFields, Inc. Total volume purged: 1.25 gallons 801 Industrial St. Wilmington DE 19801 | Sample | sediment content: | Low | / | | | | | | | | | |
| Total volume purged: 1.25 gallons Services QA/QC samples: None 801 Industrial St. Wilmington DE 19801 | Weather | Weather:60s, light rain | | t rain | | | | | | | | | |
| Total volume purged: 1.25 gallons Services QA/QC samples: None 801 Industrial St. Wilmington DE 19801 | Did well | go dry: | No | | | | | | | _ | | | |
| QA/QC samples: None 801 Industrial St. Wilmington DE 19801 | | | | | | | | | | | | | |
| (302) 656-9600 - Fax (302) 656-9700 | | | | | | | | • | | | | | |

| | WELL SAMPLIN | G LOG (Horiba | U52) | SHEET: | 1 of 1 | | | | | | |
|---------------------|------------------------------------|--------------------------|---------------|----------------|-----------------|----------------------------|---------------------|---------------------------|---------------------------------|--|--|
| WELL DE | SIGNATION: | DA-MW46 | • | PROJECT NAM | E: Dodson | Avenue - OU4 Ch | aracterizati | on | | | |
| DATE: | 10/13/2015 | START TIME: | 11:30 | PROJECT NO: | 2734.04.5 | 1 | | | | | |
| | DESIGNATION: | DA-MW46-W003 | 3 | ANALYSES: | | s & TCL SVOCs (p | Cs (plus 1,2,4-TMB) | | | | |
| | OF WATER TO E to bottom of casi | - | | SAMPLE ORDE | R: | TCL VOCs, TCL | SVOCs | | | | |
| <i>,</i> . | (from TOC) | 23.7 | <u>3</u> ft. | Metals: | | Not Applicable | | | | | |
| 2) Depth | to water (from TOC) | 13.5 | 4 ft. | Sampling Metho | od: | Peristaltic Pump | | | | | |
| 3) Colum | n of water | 13.5 | <u>4</u> 11. | VOL | JME CONV | ERSION TABLE | | Always Use | e This One | | |
| , | (#1 - #2) | 10.1 | <u>9</u> ft. | casing dia | <u>meter</u> | gallons/f | | | nd pack | | |
| 4) Casin | g diameter | 0.75 | 5 in. | 0.75 inc | nes | 0.023 | 3 | 0. | 044 | | |
| , | 0 | | <u> </u> | 1 inche | es | 0.041 | | 0. | 078 | | |
| 5) Volum (from t | ne conversion table) | 0.04 | 4 gal/ft. | 2 inche | es | 0.163 | 3 | 0. | 555 | | |
| | ne of water within | | 0 | 4 inches | | 0.050 | | | 0.4 | | |
| well (: 7) Numb | 3 x 5) er of volumes | 0.45 | <u>5</u> gal. | 4 Inche | :5 | 0.653 |) | 1 | .24 | | |
| to be e | vacuated | 3 | 3 | | 6 inches | | | 2 | .25 | | |
| , | volume to be ved (6 x 7) | 1.35 | 5 gal. | 8 inche | es | 2.61 | | 3 | .59 | | |
| 9) Purair | ng Method | Peristaltic | Pump | | | | | | | | |
| | . <u>g</u> | | | | | | | | | | |
| FIELD ME | ASUREMENTS: | | | - | | | | | | | |
| TIME | Purge Volume (in gallons) | Temperature (Celsius) | рН | ORP (mV) | Cond (mS/cm) | Dissolved Oxygen (mg/L) | Turbidity (NTU) | PID (ppm) | Depth to Water (if poss.) | | |
| 11:52 | 0.00 | 18.98 | 6.62 | 161 | 0.754 | 3.14 | 0.0 | 0.0 | - | | |
| 11:55 | 0.25 | 18.80 | 6.29 | 167 | 0.619 | 9.73 | 0.0 | 0.0 | - | | |
| 11:57 | 0.50 | 18.57 | 6.24 | 174 | 0.575 | 9.49 | 1,000 | 0.0 | - | | |
| 12:00 | 0.75 | 18.50 | 6.22 | 178 | 0.560 | 9.23 | 295 | 0.0 | - | | |
| 12:03 | 1.00 | 18.54 | 6.21 | 179 | 0.559 | 8.97 | 0.0 | 0.0 | - | | |
| 12:07 | 1.25 | 18.57 | 6.18 | 181 | 0.543 | 8.75 | 469 | 0.0 | - | | |
| 12:10 | 1.50 | 18.6 | 6.17 | 179 | 0.540 | 8.58 | 291 | 0.0 | - | | |
| | | | | | | | | | | | |
| NOTES: | | | | SAMPLED BY: | KP/KEP | | | | | | |
| | dspace (ppm): | 0.3 | | TIME: | 12:10 | | | | | | |
| Sample of | | <u>Non</u> Cloue | | Notes: | | | | | | | |
| Sample of | | ay | | | | | | | | | |
| Sample s | sediment content: | / | | | | | | | | | |
| Weather | Weather:60s, light rain | | | | | | | | | | |
| Did well | go dry: | No | | | | | R | rightField | s. Inc. | | |
| Total vol | ume purged: | 1.5 gal | lons | | | | | vironmental S | | | |
| QA/QC s | samples: | Non | e | | | | | Vilmington - Fax (302) | | | |
| | | | | | | (00- | , | | | | |

| | WELL SAMPLIN | G LOG (Horiba | U52) | SHEET: | 1 of 1 | | | | |
|------------|---|--------------------------|---------------|-------------------|-----------------|----------------------------|--------------------|---------------|---------------------------------|
| | | DA-MW47 | | PROJECT NAM | E: Dodson | Avenue - OU4 Ch | aracterizati | on | |
| DATE: | 10/13/2015 | START TIME: | 12:20 | PROJECT NO: | 2734.04.5 | 1 | | | |
| SAMPLE | DESIGNATION: | DA-MW47-W003 | 3 | ANALYSES: | TCL VOCs | s & TCL SVOCs (p | olus 1,2,4-T | MB) | |
| | OF WATER TO E to bottom of casi | | | SAMPLE ORDE | R: | TCL VOCs, TCL | SVOCs | | |
| <i>,</i> . | (from TOC) | 20.9 | 5 <u></u> ft. | Metals: | | Not Applicable | | | |
| 2) Depth | to water (from TOC) | 13.3 | 1 ft. | Sampling Metho | od: | Peristaltic Pump | | | |
| 3) Colun | nn of water (#1 - #2) | 7.64 | 1 ft. | VOL casing dia | | ERSION TABLE | | Always Use | e This One nd pack |
| | (#1 - # ∠) | 7.0- | <u> </u> | 0.75 inc | | 0.023 | | | 044 |
| 4) Casin | g diameter | 0.75 | 5 <u>i</u> n. | 1 inche | | 0.041 | | 0 | 078 |
| , | ne conversion | | | | | | | | |
| | table) ne of water within | 0.04 | 4gal/ft. | 2 inche | es | 0.163 | 8 | 0. | 555 |
| well (| 3 x 5) | 0.34 | t gal. | 4 inche | es | 0.653 | 3 | 1 | .24 |
| to be e | er of volumes evacuated | 3 | | 6 inche | es | 1.47 | | 2 | .25 |
| | volume to be /ed (6 x 7) | 1.0 | gal. | 8 inche | es | 2.61 | | 3 | .59 |
| | ng Method | Peristaltic | | | | | | | |
| 9) i uigii | | T Chotalite | | | | | | | |
| FIELD ME | EASUREMENTS: | | | 1 | T | 1 | | T | I |
| TIME | Purge Volume (in gallons) | Temperature (Celsius) | рН | ORP (mV) | Cond (mS/cm) | Dissolved Oxygen (mg/L) | Turbidity (NTU) | PID (ppm) | Depth to Water (if poss.) |
| 12:38 | 0.00 | 20.54 | 6.87 | 125 | 0.659 | 1.43 | 0.0 | 0.0 | - |
| 12:41 | 0.25 | 20.28 | 5.21 | 188 | 0.530 | 0.68 | 0.0 | 0.2 | - |
| 12:43 | 0.50 | 20.03 | 5.05 | 205 | 0.505 | 0.66 | 701 | 0.0 | - |
| 12:47 | 0.75 | 20.25 | 5.07 | 209 | 0.471 | 0.62 | 557 | 0.0 | - |
| 12:50 | 1.00 | 20.01 | 5.03 | 216 | 0.477 | 0.62 | 581 | 0.0 | - |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| NOTES: | | | | SAMPLED BY: | KP/KEP | ! | <u> </u> | ļ | ļ |
| | dspace (ppm): | 0.2 Non | | TIME: | 12:50 | | | | |
| • | Sample odor: None Sample color: Light Brown, Cloudy | | | Notes: | | | | | |
| Sample | Sample sediment content: Low | | 1 | | | | | | |
| Weather | | 60s, su | inny | | | | | | |
| Did well | go dry: | No | | | | | | | |
| | lume purged: | 1.0 gal | | | | | | vironmental S | |
| | samples: | Non | | | | | | Vilmington | |
| | | | | | | (302 | c) 656-9600 | - Fax (302) | 050-9700 |

| | WELL SAMPLIN | G LOG (Horiba | U52) | SHEET: | 1 of 1 | | | | | |
|--------------------|--|--------------------------|------------------|--|--|----------------------------|--------------------|---------------------|---------------------------------|--|
| WELL DE | | GM-MW49 | | | | Avenue - OU4 Ch | aracterizati | on | | |
| DATE: | 10/14/2015 | START TIME: | 14:00 | PROJECT NO: | 2734.04.5 | 1 | | | | |
| - | DESIGNATION: | GM-MW49-W00 | 1 | ANALYSES: | | s & TCL SVOCs (| olus 1,2,4-T | MB) | | |
| | OF WATER TO E to bottom of casi | | | SAMPLE ORDE | R: | TCL VOCs, TCL | SVOCs | | | |
| <i>,</i> . | (from TOC) | 26.2 | <u>2</u> ft. | Metals: | . 1 | Not Applicable | | | | |
| 2) Depth | to water (from TOC) | 14.7 | 1 ft. | Sampling Metho | od: | Peristaltic Pump | | | | |
| 3) Colum | nn of water (#1 - #2) | 11.5 | 1 ft. | VOL casing dia | | ERSION TABLE | | Always Use w/ sa | e This One nd pack | |
| | . , | | | 0.75 inc | hes | 0.023 | 3 | 0. | 044 | |
| 4) Casin | g diameter | 2 | in. | 1 inch | es | 0.041 | | 0. | 078 | |
| 5) Volum (from | ne conversion table) | 0.55 | 5 gal/ft. | 2 inch | es | 0.163 | } | 0. | 555 | |
| 6) Volum well (| the of water within 3×5 | 6.39 | 0 | 4 inch | 25 | 0.653 | <pre></pre> | 1 | .24 | |
| 7) Numb | er of volumes | | <u> </u> | | | | | | | |
| | evacuated volume to be | 3 | | 6 inch | es | 1.47 | | 2 | .25 | |
| remov | ved (6 x 7) | 19.1 | 6gal. | 8 inch | es | 2.61 | | 3.59 | | |
| 9) Purgir | ng Method | Peristaltic | Pump | | | | | | | |
| FIELD ME | ASUREMENTS: | | | | | | | | | |
| TIME | Purge Volume (in gallons) | Temperature (Celsius) | рН | ORP (mV) | Cond (mS/cm) | Dissolved Oxygen (mg/L) | Turbidity (NTU) | PID (ppm) | Depth to Water (if poss.) | |
| 14:16 | 0.0 | 19.41 | 6.82 | -101 | 0.603 | 1.53 | 207 | 3.6 | - | |
| 14:40 | 2.5 | 19.22 | 6.54 | -130 | 0.541 | 6.02 | 58.4 | 10.7 | - | |
| 15:05 | 5.0 | 19.18 | 6.52 | -138 | 0.545 | 0.35 | 18.7 | 3.8 | - | |
| 15:28 | 7.5 | 19.14 | 6.55 | -144 | 0.540 | 0.34 | 15.5 | 5.6 | - | |
| 15:54 | 10.0 | 19.15 | 6.55 | -146 | 0.543 | 0.34 | 14.8 | 3.2 | - | |
| 16:19 | 12.5 | 19.05 | 6.54 | -147 | 0.536 | 0.35 | 13.0 | 5.7 | - | |
| 16:25 | 13.0 | 19.08 | 6.53 | -147 | 0.540 | 0.34 | 13.1 | 5.5 | - | |
| | | | | | | | | | | |
| NOTES: | | | | SAMPLED BY: | | | | | | |
| | dspace (ppm): | 512. | | TIME: | 16:30 | | | | | |
| Sample Sample | | Strong Petro | | Notes: | | | | | | |
| | | | | At 13:00 depth to product =14.71 and depth to water = 14.72; bailed ~150 water with sheen (no product); collected Duplicate GM-MW49-W101 at 16 | | | | | | |
| • | sediment content: | | taken after oper | ing well, bai | iling, and then clo of 879.9 ppm on 1 | sing well pl | ug and letting | g sit; | | |
| | Weather: 60s, cloudy, breezy Did well go dry: No | | | | | 1 F | | 0.0 | | |
| | go ary: ume purged: | <u>No</u> 13.0 ga | | | | | | rightField | 5, Inc. | |
| QA/QC s | | Duplic | | | | | | Vilmington | | |
| | | | | | | (302 | ?) 656-9600 | - Fax (302) | 656-9700 | |

| | WELL SAMPLIN | G LOG (Horiba | J52) | SHEET: | 1 of 1 | | | | | | |
|---------------------|------------------------------------|--------------------------|---------------|---------------------------|------------------|----------------------------|-----------------------------|---------------|---------------------------------|--|--|
| | | GM-MW50 | | | | Avenue - OU4 Ch | aracterizati | ion | | | |
| DATE: | 10/14/2015 | START TIME: | 10:50 | PROJECT NO: | 2734.04.5 | 1 | | | | | |
| | DESIGNATION: | GM-MW50-W00 | 1 | ANALYSES: | | s & TCL SVOCs (| olus 1,2,4-T | TMB) | | | |
| | OF WATER TO E to bottom of casi | - | | SAMPLE ORDE | R: | TCL VOCs, TCL | DCs, TCL SVOCs | | | | |
| | (from TOC) | 25.9 | <u>3</u> ft. | Metals: | | Not Applicable | | | | | |
| 2) Depth | to water (from TOC) | 14.4 | c # | Sampling Meth | bd: | Peristaltic Pump | | | | | |
| 3) Colum | (nom TOC) in of water | 14.4 | <u>6</u> ft. | VOL | | ERSION TABLE | • | Always Us | e This One | | |
| , | (#1 - #2) | 11.4 | 7 <u></u> ft. | casing dia | meter | gallons/f | | w/ sa | nd pack | | |
| 4) Casin | g diameter | 2 | in. | 0.75 inc | hes | 0.023 | 3 | 0. | 044 | | |
| , | 0 | | | 1 inch | es | 0.041 | | 0. | 078 | | |
| 5) Volum (from t | e conversion table) | 0.55 | 5 gal/ft. | 2 inch | es | 0.163 | 3 | 0. | 555 | | |
| 6) Volum well (3 | the of water within 3×5 | 6.37 | ' gal. | 4 inch | es | 0.653 | 3 | 1 | .24 | | |
| 7) Numb | er of volumes | | gui. | | | | | | | | |
| | vacuated volume to be | 3 | | 6 inch | es | 1.47 | | 2 | .25 | | |
| -, | red (6 x 7) | 19.1 | 0 gal. | 8 inch | es | 2.61 | | 3.59 | | | |
| 9) Purgir | ng Method | Peristaltic | Pump | | | | | | | | |
| | | | | | | | | | | | |
| FIELD ME | ASUREMENTS: | | | | | | | | <u> </u> | | |
| TIME | Purge Volume (in gallons) | Temperature (Celsius) | рН | ORP (mV) | Cond (mS/cm) | Dissolved Oxygen (mg/L) | Turbidity (NTU) | PID (ppm) | Depth to Water (if poss.) | | |
| 11:14 | 0.0 | 17.53 | 6.63 | -63 | 0.724 | 3.05 | 72.6 | 5.5 | - | | |
| 11:39 | 2.5 | 18.34 | 6.54 | -118 | 0.734 | 0.60 | 54.6 | 6.7 | - | | |
| 11:56 | 5.0 | 18.44 | 6.57 | -130 | 0.737 | 0.50 | 45.9 | 7.8 | - | | |
| 12:23 | 7.5 | 18.34 | 6.58 | -140 | 0.742 | 0.42 | 40.4 | 6.9 | - | | |
| 12:50 | 10.0 | 18.34 | 6.61 | -147 | 0.747 | 0.38 | 26.8 | 0.6 | - | | |
| 13:16 | 12.5 | 18.37 | 6.60 | -150 | 0.748 | 0.38 | 20.8 | 2.4 | - | | |
| 13:42 | 15.0 | 18.49 | 6.61 | -154 | 0.746 | 0.36 | 20.6 | 12.7 | - | | |
| | | | | | | | | | | | |
| NOTES | | | | | | | | | | | |
| NOTES: PID Hea | dspace (ppm): | 455. | 4 | SAMPLED BY: TIME: | KEP 13:45 | | | | | | |
| Sample of | odor: | Strong Petro | leum-like | | | | | | | | |
| Sample of | color: | Clea | ir | Notes: Stopped purging | due to stat | ilization of param | eters; sliah | t sheen obse | erved on firs | | |
| Sample s | sediment content: | 1 | | purging; co | llected Equipmen | | | | | | |
| Weather | Weather: 60s, sunny, breezy | | | | | | | | | | |
| Did well | go dry: | No | | | | | | rightField | s. Inc. | | |
| Total vol | ume purged: | 15.0 ga | llons | | | | | vironmental S | | | |
| QA/QC s | samples: | t Blank | | | | | Nilmington) - Fax (302) | | | | |



Appendix A.5 Pilot Test Logs and Graphs September 2015

| Extraction V | /ell: SVE-04 | | | | | Time: 12:49 | | Time: 13:06 | | Time: 13:28 | | Time: 13:44 | | Time: 14:10 | |
|-----------------|--|---------------|--------------------------------|---|------------------------------|--|-------------------------------|--|-------------------------------|--|-------------------------------|--|-------------------------------|--|-------------------------------|
| | | | | | | Date: 9/22/15 | | Date: 9/22/15 | | Date: 9/22/15 | | Date: 9/22/15 | | Date: 9/22/15 | |
| Depth to Water | at Start (ft bgs) | : 14.69 | | | | | | | | | | | | | |
| Screen Interval | (ft bgs): 11.5 to : | 19.5 | | | | PID (ppm): Not Measured | | PID (ppm): Not Measured | | PID (ppm): Not Measured | | PID (ppm): 6.2 in SVE Effluent | | PID (ppm): Not Measured | |
| Screen Interval | Available at Sta | rt (ft): 3.19 | | | | Air Velocity (fpm) (2",4"): | 432 1,354 | Air Velocity (fpm) (2",4"): | 1,300 2,303 | Air Velocity (fpm) (2",4"): | 292 186 | Air Velocity (fpm) (2"): | 252 | Air Velocity (fpm) (2",4"): | 695 360 |
| Pre-test Pressu | re (in wc): 0.0 | | | | | Calculated Flow (cfm) (2",4") | 10.1 119.7 | Calculated Flow (cfm) (2",4") | 30.3 203.6 | Calculated Flow (cfm) (2",4") | 6.8 16.4 | Calculated Flow (cfm) (2"): | 5.9 | Calculated Flow (cfm) (2",4") | 16.2 31.8 |
| | | | | | | Vacuum Measured at Well (" | wc): 12.0 | Vacuum Measured at Well (" | wc): 12.0 | Vacuum Measured at Well (" | wc): 12.0 | Vacuum Measured at Well (" | 12.0 | Vacuum Measured at Well (" | wc): 12.0 |
| | | | | | | Vacuum Measured at Blower | (" wc): 45.0 | Vacuum Measured at Blower | (" wc): 45.0 | Vacuum Measured at Blower | (" wc): 45.0 | Vacuum Measured at Blower | 45.0 | Vacuum Measured at Blower | r (" wc): 45.0 |
| | | | | | | Change in DTW (ft): | 0.14 | Change in DTW (ft): | 0.16 | Change in DTW (ft): | 0.23 | Change in DTW (ft): | 0.19 | Change in DTW (ft): | 0.22 |
| Well ID | Distance from Extraction Well (ft) | | Pre-Test Headspace (ppm) | Depth to Water Prior to Test (ft) | Pre-Test Vacuum (" wc) | Inflence Vacuum/ Pressure Reading (" wc) | Change in Water Table (ft) | Inflence Vacuum/ Pressure Reading (" wc) | Change in Water Table (ft) | Inflence Vacuum/ Pressure Reading (" wc) | Change in Water Table (ft) | Inflence Vacuum/ Pressure Reading (" wc) | Change in Water Table (ft) | Inflence Vacuum/ Pressure Reading (" wc) | Change in Water Table (ft) |
| SVE-03 | 40.5 | 11.6 - 19.6 | 1,898 | 14.42*/14.81 | 0.05 | 0.15 | 0.51 | 0.30 | 0.51 | 0.30 | 0.53 | 0.35 | 0.53 | 0.35 | 0.49 |
| SVE-05 | 35.5 | 11.6 - 19.6 | 26.5 | 15.00 | 0.2 | 0.60 | 0.042 | 0.60 | 0.042 | 0.60 | 0.056 | 0.60 | 0.062 | 0.60 | 0.024 |
| MW-36S | 7.0 | 13.0 - 23.0 | 0.0 | 14.81 | 0.1 | 0.70 | -0.011 | 0.70 | -0.004 | 0.70 | 0.010 | 0.75 | 0.014 | 0.75 | -0.045 |
| MW-36D | 13.4 | 35.0- 40.0 | 379.4 | 15.80 | 0.05 | 0.10 | 0.052 | 0.10 | 0.052 | 0.15 | 0.074 | 0.20 | 0.072 | 0.25 | 0.034 |
| SVE-02 | - | 11.7 - 19.7 | 111.4 | 14.28 | - | - | - | - | - | - | - | - | - | - | - |
| SVE-01 | - | 11.7 - 19.7 | 50.3 | 14.30 | - | - | - | - | - | - | - | - | - | - | - |
| SVE-06 | - | 11.7 - 19.7 | 1,041 | 15.41 | - | - | - | - | - | - | - | - | - | - | - |

Notes:

* - Depth to product

bgs - Below ground surface

Bailed \sim 2/3 gal product and 1/3 gal wate out of SVE-03 prior to pilot test

Turned on SVE system at 11:42; Blower startup at 11:48

Positive influence reading indicates rise in groundwater elevation

| Extraction W | Vell: SVE-04 | | | Time: 14:35 | | Time: 15:15 | | Time: 15:29 | |
|-----------------|--|------------------------------------|------------------------------|--|-------------------------------|--|-------------------------------|--|-------------------------------|
| | | | | Date: 9/22/15 | | Date: 9/22/15 | | Date: 9/22/15 | |
| Depth to Water | r at Start (ft bgs) | : | | | | | | | |
| Screen Interval | (ft bgs): 11.5 to | 19.5 | | PID (ppm): Not Measured | | PID (ppm): Not Measured | | PID (ppm): Not Measured | |
| Screen Interval | Available at Sta | rt (ft): | | Air Velocity (fpm) (2",4"): | 569 1,420 | Air Velocity (fpm) (2",4"): | 744 617 | Air Velocity (fpm) (2",4"): | 1,077 993 |
| Pre-test Pressu | re (in wc): | | | Calculated Flow (cfm) (2",4") | 13.3 125.5 | Calculated Flow (cfm) (2",4") | 17.3 54.5 | Calculated Flow (cfm) (2",4") | 25.1 87.8 |
| | | | | Vacuum Measured at Well (" | wc): 22.0 | Vacuum Measured at Well (" | wc): 23.0 | Vacuum Measured at Well (" | wc): 23.0 |
| | | | | Vacuum Measured at Blower | (" wc): 56.0 | Vacuum Measured at Blower | (" wc): 56.0 | Vacuum Measured at Blower | r (" wc): 56.0 |
| | | | | Change in DTW (ft): | 0.32 | Change in DTW (ft): | 0.19 | Change in DTW (ft): | 0.29 |
| Well ID | Distance from Extraction Well (ft) | Screen Interval (ft -ft bgs) | Pre-Test Vacuum (" wc) | Inflence Vacuum/ Pressure Reading (" wc) | Change in Water Table (ft) | Inflence Vacuum/ Pressure Reading (" wc) | Change in Water Table (ft) | Inflence Vacuum/ Pressure Reading (" wc) | Change in Water Table (ft) |
| SVE-03 | 40.5 | 11.6 - 19.6 | 0.40 | 0.40 | 0.50 | 0.40 | 0.50 | 0.35 | 0.52 |
| SVE-05 | 35.5 | 11.6 - 19.6 | 0.80 | 0.80 | 0.032 | 0.75 | 0.043 | 0.75 | 0.055 |
| MW-36S | 7.0 | 13.0 - 23.0 | 1.1 | 1.05 | -0.024 | 1.00 | -0.026 | 0.95 | -0.006 |
| MW-36D | 13.4 | 35.0- 40.0 | 0.20 | 0.20 | 0.042 | 0.20 | 0.037 | 0.20 | 0.057 |

Notes:

bgs - Below ground surface

Step change at 14:15

Positive influence reading indicates rise in groundwater elevation

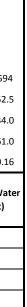
Data collected using Schlumberger Diver water level loggers

September 2015

| Extraction V | Vell: SVE-04 | | Time: 15:52 | | Time: 16:15 | | Time: 16:45 | | |
|-----------------|--|------------------------------------|--|------------------------------|--|-------------------------------|--|-------------------|------|
| | | | Date: 9/22/15 | | Date: 9/22/15 | | Date: 9/22/15 | | |
| Depth to Wate | r at Start (ft bgs) | : | | | | | | | |
| Screen Interval | (ft bgs): 11.5 to | 19.5 | PID (ppm): Not Measured | | PID (ppm): Not Measured | | PID (ppm): 11.7 in SVE Efflue | nt | |
| Screen Interval | Available at Sta | rt (ft): | Air Velocity (fpm) (2",4"): | 1,278 940 | Air Velocity (fpm) (2",4"): | 1,829 438 | Air Velocity (fpm) (2",4"): | 1,456 | 594 |
| Pre-test Pressu | re (in wc): | | Calculated Flow (cfm) (2",4") | 29.8 83.1 | Calculated Flow (cfm) (2",4" |): 42.6 38.7 | Calculated Flow (cfm) (2",4") |): 33.9 | 52.5 |
| | | | Vacuum Measured at Well (" | wc): 34.0 | Vacuum Measured at Well (' | " wc): 34.0 | Vacuum Measured at Well (" | ' wc): | 34.0 |
| | | | Vacuum Measured at Blower | (" wc): 61.0 | Vacuum Measured at Blowe | r (" wc): 61.0 | Vacuum Measured at Blowe | r (" wc): | 61.0 |
| | | | Change in DTW (ft): | 0.40 | Change in DTW (ft): | 0.17 | Change in DTW (ft): | | 0.16 |
| Well ID | Distance from Extraction Well (ft) | Screen Interval (ft -ft bgs) | Inflence Vacuum/ Pressure Reading (" wc) | Change in Wate Table (ft) | n Inflence Vacuum/ Pressure Reading (" wc) | Change in Water Table (ft) | Inflence Vacuum/ Pressure Reading (" wc) | Change i Table | |
| SVE-03 | 40.5 | 11.6 - 19.6 | 0.40 | 0.50 | 0.40 | 0.51 | 0.35 | 0.4 | 19 |
| SVE-05 | 35.5 | 11.6 - 19.6 | 0.80 | 0.033 | 0.75 | 0.035 | 0.70 | 0.0 | 29 |
| MW-36S | 7.0 | 13.0 - 23.0 | 1.05 | -0.013 | 1.00 | -0.019 | 0.95 | -0.0 | 28 |
| MW-36D | 13.4 | 35.0- 40.0 | 0.20 | 0.045 | 0.20 | 0.031 | 0.15 | 0.0 | 33 |

Notes:

bgs - Below ground surface Step change at 15:35 At end of pilot test T1=330°C, T2=333°C, T3=343°C, Run Time= 2,902.5 hrs Turned SVE system off at 16:54 Positive influence reading indicates rise in groundwater elevation Data collected using Schlumberger Diver water level loggers



| Extraction V | Vell: SVE-05 | | | Time: 09:30 | | Time: 10:02 | | Time: 10:33 | | Time: 11:00 | |
|-----------------|--|------------------------------------|------------------------------|--|-------------------------------|--|-------------------------------|--|-------------------------------|--|-------------------------------|
| | | | | Date: 9/23/15 | | Date: 9/23/15 | | Date: 9/23/15 | | Date: 9/23/15 | |
| Depth to Wate | er at Start (ft bgs) | : | | | | | | | | | |
| Screen Interval | l (ft bgs): 11.6 to | 19.6 | | PID (ppm): Not Measured | | PID (ppm): Not Measured | | PID (ppm): Not Measured | | PID (ppm): 79.0 in SVE Effluer | nt |
| Screen Interval | l Available at Sta | rt (ft): | | Air Velocity (fpm) (2",4"): | 547 283 | Air Velocity (fpm) (2",4"): | 472 404 | Air Velocity (fpm) (2",4"): | 437 220 | Air Velocity (fpm) (2",4"): | 579 216 |
| Pre-test Pressu | ure (in wc): 0.0 | | | Calculated Flow (cfm) (2",4") | 12.7 25.0 | Calculated Flow (cfm) (2",4") | 11.0 35.7 | Calculated Flow (cfm) (2",4") | 10.2 19.4 | Calculated Flow (cfm) (2",4") | 13.5 19.1 |
| | | | | Vacuum Measured at Well (" | wc): 10.0 | Vacuum Measured at Well (" | wc): 10.0 | Vacuum Measured at Well (" | wc): 10.0 | Vacuum Measured at Well (" | ' wc): 10.0 |
| | | | | Vacuum Measured at Blower | • (" wc): 27.5 | Vacuum Measured at Blower | . (" wc): 27.5 | Vacuum Measured at Blower | (" wc): 27.5 | Vacuum Measured at Blower | r (" wc): 27.5 |
| | | | | Change in DTW (ft): | 0.051 | Change in DTW (ft): | 0.068 | Change in DTW (ft): | 0.073 | Change in DTW (ft): | 0.10 |
| Well ID | Distance from Extraction Well (ft) | Screen Interval (ft -ft bgs) | Pre-Test Vacuum (" wc) | Inflence Vacuum/ Pressure Reading (" wc) | Change in Water Table (ft) | Inflence Vacuum/ Pressure Reading (" wc) | Change in Water Table (ft) | Inflence Vacuum/ Pressure Reading (" wc) | Change in Water Table (ft) | Inflence Vacuum/ Pressure Reading (" wc) | Change in Water Table (ft) |
| SVE-03 | 75.9 | 11.6 - 19.6 | 0.15 | 0.45 | 0.027 | 0.50 | 0.013 | 0.50 | 0.028 | 0.50 | 0.07 |
| SVE-04 | 35.6 | 11.5 - 19.5 | 0.25 | 2.10 | 0.095 | 2.35 | 0.076 | 2.40 | 0.09 | 2.35 | 0.117 |
| MW-36S | 36.2 | 13.0 - 23.0 | 0.2 | 1.45 | 0.041 | 1.60 | 0.041 | 1.65 | 0.058 | 1.65 | 0.085 |
| MW-36D | 47.8 | 35.0- 40.0 | 0.15 | 0.15 | 0.005 | 0.15 | 0.001 | 0.20 | 0.006 | 0.20 | 0.033 |

Notes:

bgs - Below ground surface

SVE system vapor control valve opening at 09:02

Used different air velocity meter for fourth reading

Positive influence reading indicates rise in groundwater elevation

| Extraction W | /ell: SVE-05 | | Time: 11:40 | | Time: 11:55 | | Time: 12:10 | | Time: 12:25 | | Time: 12:40 | | Time: 12:56 | |
|-----------------|--|------------------------------------|--|-------------------------------|--|-------------------------------|--|-------------------------------|--|-------------------------------|--|-------------------------------|--|-------------------------------|
| | | | Date: 9/23/15 | | Date: 9/23/15 | | Date: 9/23/15 | | Date: 9/23/15 | | Date: 9/23/15 | | Date: 9/23/15 | |
| Depth to Water | at Start (ft bgs) | : | | | | | | | | | | | | |
| Screen Interval | (ft bgs): 11.6 to | 19.6 | PID (ppm): Not Measured | | PID (ppm): 145.6 in SVE Efflue | ent |
| Screen Interval | Available at Sta | rt (ft): | Air Velocity (fpm) (2",4"): | 1,226 520 | Air Velocity (fpm) (2",4"): | 551 354 | Air Velocity (fpm) (2",4"): | 643 571 | Air Velocity (fpm) (2",4"): | 617 419 | Air Velocity (fpm) (2",4"): | 694 414 | Air Velocity (fpm) (2",4"): | 553 458 |
| Pre-test Pressu | re (in wc): | | Calculated Flow (cfm) (2",4") | 28.6 46.0 | Calculated Flow (cfm) (2",4"): | 12.8 31.3 | Calculated Flow (cfm) (2",4") | 15.0 50.5 | Calculated Flow (cfm) (2",4") | 14.4 37.0 | Calculated Flow (cfm) (2",4") | 16.2 36.6 | Calculated Flow (cfm) (2",4") | 12.9 40.5 |
| | | | Vacuum Measured at Well (" | wc): 22.0 | Vacuum Measured at Well (" | wc): 23.0 | Vacuum Measured at Well (" | wc): 23.0 | Vacuum Measured at Well (' | wc): 23.0 | Vacuum Measured at Well (" | wc): 23.0 | Vacuum Measured at Well (" | ' wc): 23.0 |
| | | | Vacuum Measured at Blower | (" wc): 38.0 | Vacuum Measured at Blower | (" wc): 38.0 | Vacuum Measured at Blower | (" wc): 38.0 | Vacuum Measured at Blowe | r (" wc): 38.0 | Vacuum Measured at Blower | · (" wc): 38.0 | Vacuum Measured at Blower | r (" wc): 38.0 |
| | | | Change in DTW (ft): | 0.16 | Change in DTW (ft): | 0.22 | Change in DTW (ft): | 0.22 | Change in DTW (ft): | 0.22 | Change in DTW (ft): | 0.21 | Change in DTW (ft): | 0.22 |
| Well ID | Distance from Extraction Well (ft) | Screen Interval (ft -ft bgs) | Inflence Vacuum/ Pressure Reading (" wc) | Change in Water Table (ft) | Inflence Vacuum/ Pressure Reading (" wc) | Change in Water Table (ft) | Inflence Vacuum/ Pressure Reading (" wc) | Change in Water Table (ft) | Inflence Vacuum/ Pressure Reading (" wc) | Change in Water Table (ft) | Inflence Vacuum/ Pressure Reading (" wc) | Change in Water Table (ft) | Inflence Vacuum/ Pressure Reading (" wc) | Change in Water Table (ft) |
| SVE-03 | 75.9 | 11.6 - 19.6 | 1.30 | 0.037 | 1.35 | 0.074 | 1.35 | 0.093 | 1.35 | 0.097 | 1.25 | 0.086 | 1.25 | 0.089 |
| SVE-04 | 35.6 | 11.5 - 19.5 | 7.0 | 0.21 | 7.0 | 0.25 | 7.0 | 0.24 | 7.0 | 0.25 | 7.0 | 0.15 | 7.0 | 0.20 |
| MW-36S | 36.2 | 13.0 - 23.0 | 4.45 | 0.08 | 4.45 | 0.14 | 4.50 | 0.15 | 4.65 | 0.17 | 4.15 | 0.15 | 4.10 | 0.14 |
| MW-36D | 47.8 | 35.0- 40.0 | 0.20 | -0.008 | 0.20 | 0.045 | 0.25 | 0.033 | 0.25 | 0.037 | 0.25 | 0.034 | 0.25 | 0.029 |

Notes:

bgs - Below ground surface

Step change at 11:15

Positive influence reading indicates rise in groundwater elevation

| Extraction Well: SVE-05 | | Time: 13:25 | | Time: 13:40 | | Time: 13:55 | | |
|---|--|------------------------------------|---|-------------------------------|--|-------------------------------|--|-----------------------------|
| | | | Date: 9/23/15 | | Date: 9/23/15 | | Date: 9/23/15 | |
| Depth to Water at Start (ft bgs): Screen Interval (ft bgs): 11.6 to 19.6 Screen Interval Available at Start (ft): Pre-test Pressure (in wc): | | | | | | | | |
| | | | PID (ppm): Not Measured | | PID (ppm): Not Measured | | PID (ppm): 214.5 in SVE Effluent | |
| | | | Air Velocity (fpm) (2",4"): Calculated Flow (cfm) (2",4"): | | Air Velocity (fpm) (2",4"): | 585 228 | Air Velocity (fpm) (2",4"): | 439 273 |
| | | | | | Calculated Flow (cfm) (2",4"): | 13.6 20.2 | Calculated Flow (cfm) (2",4") | 10.2 24. |
| | | | Vacuum Measured at Well (" | wc): 31.0 | Vacuum Measured at Well (" | wc): 31.0 | Vacuum Measured at Well (" | ' wc): 31. |
| | | | Vacuum Measured at Blower | · (" wc): 44.0 | Vacuum Measured at Blower | r (" wc): 44.0 | Vacuum Measured at Blowe | r (" wc): 44. |
| | | | Change in DTW (ft): | 0.26 | Change in DTW (ft): | 0.25 | Change in DTW (ft): | 0.2 |
| Well ID | Distance from Extraction Well (ft) | Screen Interval (ft -ft bgs) | Inflence Vacuum/ Pressure Reading (" wc) | Change in Water Table (ft) | Inflence Vacuum/ Pressure Reading (" wc) | Change in Water Table (ft) | Inflence Vacuum/ Pressure Reading (" wc) | Change in Wat Table (ft) |
| SVE-03 | 75.9 | 11.6 - 19.6 | 1.60 | 0.10 | 1.60 | 0.10 | 1.60 | 0.11 |
| SVE-04 | 35.6 | 11.5 - 19.5 | 8.0 | 0.24 | 8.0 | 0.25 | 8.0 | 0.26 |
| MW-36S | 36.2 | 13.0 - 23.0 | 7.0 | 0.16 | 7.0 | 0.16 | 7.0 | 0.18 |
| MW-36D | 47.8 | 35.0- 40.0 | 0.25 | 0.037 | 0.25 | 0.039 | 0.25 | 0.051 |

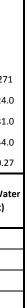
Notes:

bgs - Below ground surface

Step change at 13:10

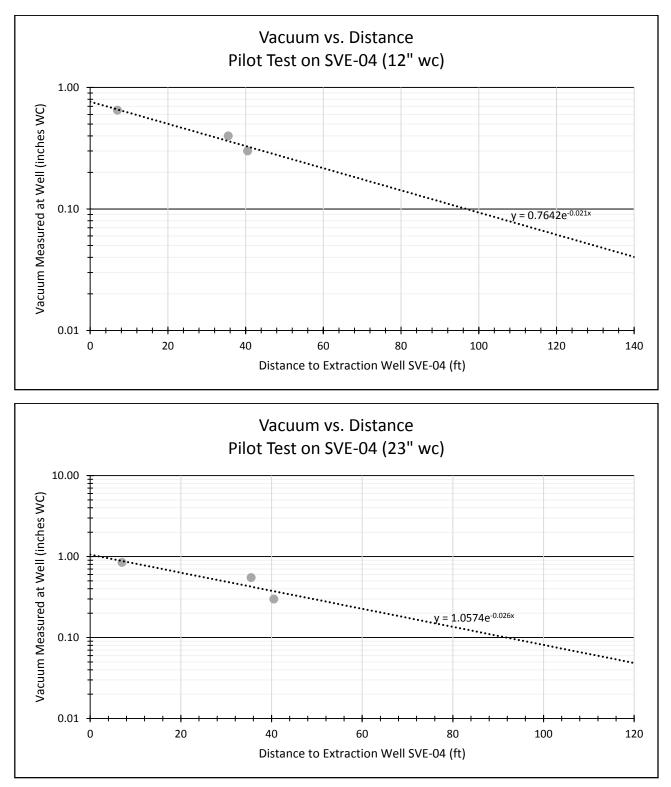
Collected SVE effluent and influent air bag samples, DA-EFF-092315 at 14:16 and DA-INF-092315 at 14:21

Positive influence reading indicates rise in groundwater elevation



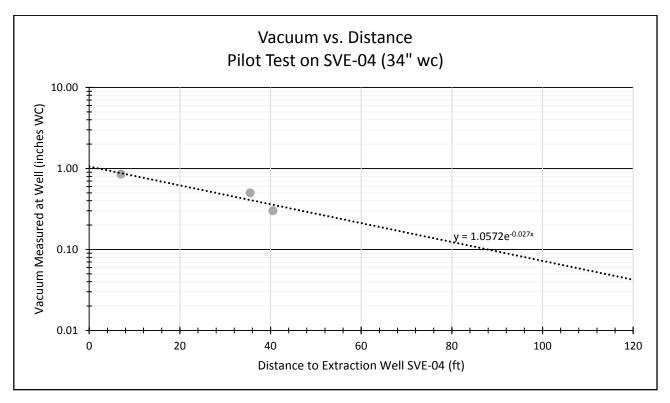
APPENDIX A.6

Pilot Test Graphs Former Wilmington Assembly Plant – Operable Unit 4 Wilmington, Delaware



APPENDIX A.6

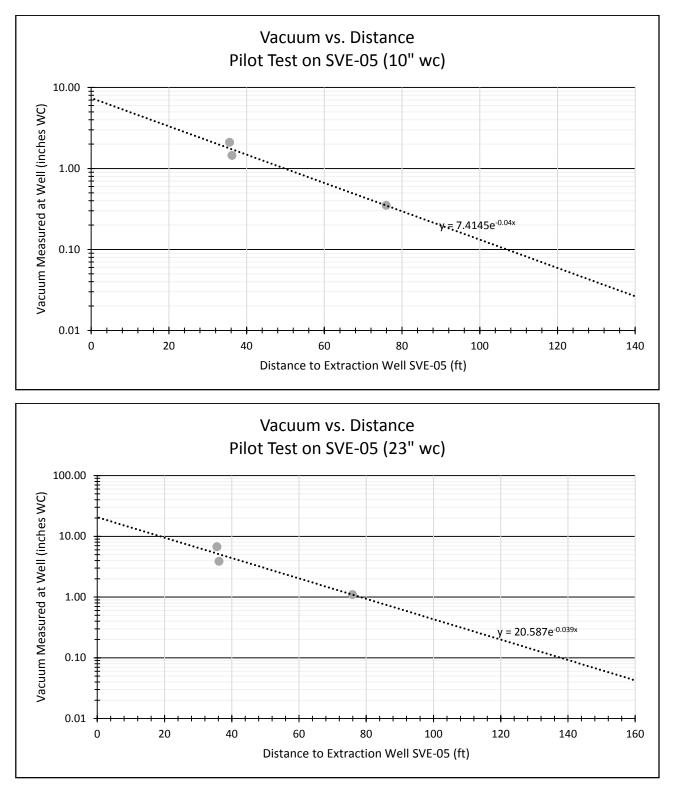
Pilot Test Graphs Former Wilmington Assembly Plant – Operable Unit 4 Wilmington, Delaware



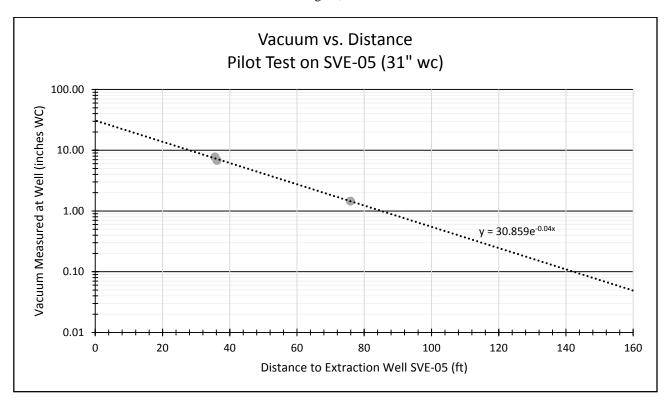
| Vacuum at SVE-04 (''wc) | Calculated Radius of Influence (ft) |
|----------------------------|--|
| 12.0 | 96.8 |
| 23.0 | 90.7 |
| 34.0 | 87.3 |

APPENDIX A.6

Pilot Test Graphs Former Wilmington Assembly Plant – Operable Unit 4 Wilmington, Delaware



APPENDIX A.6 Pilot Test Graphs Former Wilmington Assembly Plant – Operable Unit 4 Wilmington, Delaware



| Vacuum at SVE-05 (''wc) | Calculated Radius of Influence (ft) |
|----------------------------|--|
| 10.0 | 107.7 |
| 23.0 | 136.6 |
| 31.0 | 143.3 |



Appendix A.6 Soil Analytical Data Package September & October 2015 (Electronic Only)



Appendix A.7 Groundwater Analytical Data Package October 2015 (Electronic Only)



Appendix A.8

Monitoring Well Completion Reports

STATE OF DELAWARE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL

WELL COMPLETION REPORT

County:

http://www.dnrec.state.de.us/

APPLICATION MUST BE SUBMITTED AND PERMIT RECEIVED BEFORE DRILLING IS STARTED.

- OFFICIAL USE ONLY -

| PAGE # | OF | PAGES |
|--------|-------|-------|
| PERMIT | #2492 | 60_ |

LOCATION MAP - ROAD MAP

New Castle

PHONE: 302-739-9944 FAX: 302-739-7764 Owner: Delaware Real Estate Holdings Co Llc Address: 3080 Airway Avenue

| Address: 3080 Airway A | | | County: New Castle |
|------------------------------|--------------------|-------------|--|
| Costa Mesa C | CA US 92626 | | Tax Parcel: 07-042.10-055 |
| Telephone: | | | Lot #: |
| Email: | | | WELL HEAD COMPLETION |
| Permit #: 249260 | | | Type: Pad Mount |
| Local ID: | | | Other: |
| Licensed Preparer / WC: | Eichelbergers Inc | | Well Head Completed: 1.00 in. |
| License #: 4218 | | | Below Ground Surface |
| Well Driller in Charge: | | | Was the Well Tag attached in accordance with current regulations? |
| License #: 4326 | | | Yes |
| Construction Method: | Augered | | Comments: |
| Total Depth of Excavation: | 20.00 feet | | |
| Construction Date: | 12/17/2014 | | |
| Casing Top | Bottom Diameter | Material | |
| Inner Casing 0.00 | 12.00 2.00 | PVC | 1 |
| Screen Material: PVC | Diameter: 2.0 | 00 | |
| Top: 12.00 | Bottom: 20 | .00 | |
| Type of Grout: Neat Cem | ent | | 7 |
| Top: 1.00 | Bottom: 8.0 | 00 | |
| Gravel Pack Interval: | | | 1 |
| Top: 10.00 | Bottom: 20 | .00 | |
| Type of Non-Grout Backfill o | f Well Annulus: Be | entonite | |
| Top: 8.00 | | .00 | |
| Screen Slot Size: 20 | | | 1 |
| Gravel Pack Size: 1 | | | 1 |
| Static Water Level: 20.0 | 0 ft. Below Grou | und Surface | 1 |
| | 7/2014 | | 1 |
| Pumping Water Level: 20.0 | | | |
| | 7/2014 | | -X: 183580.68 |
| | 0 hrs. | | Y: 191840.74 |
| | GPM | | |
| Was a Geophysical Log Take | | | |
| I HEREBY AFFIRM THE INFO | | TTED IS | |
| ACCURATE AND CORRECT. | | - | |
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| Signature - Licensed Prepare | er/Well Contractor | Date | |
| | | | |
| Signature - Property Owner | | Date | The Astronomy Constant of the Astronomy Cons |
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Gravel

Clay

0.00

gray

Coarse Sand

Coarse Sand

Quartz

12.00

brown

Coarse

Coarse

Clay

2.00

gray

Coarse

Coarse

STATE OF DELAWARE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL

WELL COMPLETION REPORT

To:

Other:

Other:

Other

Other:

Other:

http://www.dnrec.state.de.us/

APPLICATION MUST BE SUBMITTED AND PERMIT RECEIVED BEFORE DRILLING IS STARTED.

- OFFICIAL USE ONLY -

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| To: | 12.00 | | | |
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| Other: | - | | | |
| Other: | | | | |
| Other | | | | |
| Other: | | | | |
| Other: | | | | |
| | | | | |
| Other: | | | | |
| Other: | | | | |

20.00

STATE OF DELAWARE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL

WELL COMPLETION REPORT

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| PHONE: 302-739-9944 |
|---------------------|
| FAX: 302-739-7764 |

PAGE # _____ OF ____ PAGES PERMIT #: 249261___

| Owner: | Delaware | Real Estate Holdin | igs Co Llo | ; | | LOCATION MAP - ROAD MAP |
|-----------------|-------------|---------------------|------------|----------|----------|---|
| Address: | 3080 Airw | /ay Avenue | | | | County: New Castle |
| | Costs Me | sa CA US 92626 | | | | Tax Parcel: 07-042.10-055 |
| Telephone: | | | | | | Lot #: |
| Email: | | | | | | WELL HEAD COMPLETION |
| Permit #: | 249261 | | | | | Type: Pad Mount |
| Local ID: | | | | | | Other: |
| Licensed Prep | parer / WC: | Eichelberger | s Inc | | | Well Head Completed: 1.00 in. |
| License #: | 4218 | | | | | Below Ground Surface |
| Well Driller in | Charge: | | | | | Was the Well Tag attached in accordance with current regulations? |
| License #: | 4326 | | | | | Yes |
| Construction | Method: | Augered | | | | Comments: |
| Total Depth of | f Excavatio | n: 20.00 feet | | | | |
| Construction | Date: | 12/18/2014 | | | | |
| Casing | То | p Bottom | Diamet | er | Material | |
| Inner Casing | g 0.0 | 00 8.00 | 2.00 | | PVC | |
| Screen Materi | ial: PVC | Diam | neter: | 2.00 | | |
| Тор: | 8.00 | Botte | om: | 20.00 | | |
| Type of Grout | : Bentor | nite/Cement Mixture | е | | | |
| Тор: | 1.00 | Botte | om: | 6.00 | | |
| Gravel Pack Ir | nterval: | | | | | |
| Тор: | 9.00 | Botte | | 20.00 | | |
| Type of Non-G | Grout Backf | ill of Well Annulus | s: | Bentoni | te | |
| Тор: | 6.00 | Botte | om: | 9.00 | | |
| Screen Slot S | | 20 | | | | |
| Gravel Pack S | | 1 | | | | |
| Static Water L | | 20.00 ft. | Below G | Ground S | Surface | |
| Date: | | 12/18/2014 | | | | |
| Pumping Wate | | | | | | X: 183587.03 |
| Date: | | 12/18/2014 | | | | Y: 191910.59 |
| After: | | 20.00 hrs. | | | | |
| Pumping at: | | 1.00 GPM | | | | |
| Was a Geophy | | | No | | | |
| I HEREBY AFI | | NFORMATION I H | AVE SUB | MITTED | IS | |
| | | | | | | |
| Signature - Lie | censed Pre | parer/Well Contra | ctor | Date | 9 | |
| Signature - Pr | operty Owr | ner | | Dat | te | |
| | | | | | | |
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| | | | | | | |

Hardness:

Comment:

WATER SUPPLY SECTION **DIVISION OF WATER** RESOURCES 89 KINGS HIGHWAY DOVER, DELAWARE 19901

STATE OF DELAWARE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL

WELL COMPLETION REPORT

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PHONE: 30 FAX: 302-

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| PHONE: 302-739-9944 | | | PAGE # OF PAGES |
|----------------------|-------------|---------------|-----------------|
| FAX: 302-739-7764 | | | PERMIT #: |
| | | FORMATION LOG | |
| Formation Type: | Coarse Sand | Other: | |
| Formation Type With: | Sand | Other: | |
| From: | 0.00 | To: | 6.00 |
| Color: | brown | | |
| Texture | Coarse | Other: | |
| То: | Coarse | Other: | |
| Cement: | | Other | |
| Sorting: | | Other: | |
| Hardness: | | Other: | |
| Comment: | | | |
| Formation Type: | Clay | Other: | |
| Formation Type With: | Sand | Other: | |
| From: | 6.00 | To: | 15.00 |
| Color: | Brown | | |
| Texture | | Other: | |
| То: | | Other: | |
| Cement: | | Other | |
| Sorting: | | Other: | |
| Hardness: | | Other: | |
| Comment: | | | |
| Formation Type: | Coarse Sand | Other: | |
| Formation Type With: | Quartz | Other: | |
| From: | 15.00 | To: | 20.00 |
| Color: | Brown | | |
| Texture | Coarse | Other: | |
| То: | Coarse | Other: | |
| Cement: | | Other | |
| Sorting: | | Other: | |

Other:

STATE OF DELAWARE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL

WELL COMPLETION REPORT

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| PA | GE # | OF | PAGES |
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| PE | RMIT #: | 2492 | 62 |

PHONE: 302-739-9944 FAX: 302-739-7764

| | D I E I I I I I I I I I I | | | |
|--|----------------------------------|--------------|----------|--|
| | re Real Estate Holdin | igs Co Llc | | LOCATION MAP - ROAD MAP |
| | rway Avenue | | | County: New Castle |
| | lesa CA US 92626 | | | Tax Parcel: 07-042.10-055 |
| Telephone: | | | | Lot #: |
| Email: | | | | WELL HEAD COMPLETION |
| Permit #: 249262 | | | | Type: Pad Mount |
| Local ID: SVE-03 | | | | Other: |
| Licensed Preparer / WC | Eichelberger | 's inc | | Well Head Completed: 1.00 in. |
| License #: 4218 Well Driller in Charge: | | | | Below Ground Surface |
| License #: 4326 | | | | Was the Well Tag attached in accordance with current regulations? Yes |
| Construction Method: | Augered | | | Comments: |
| Total Depth of Excavat | | | | |
| Construction Date: | 12/18/2014 | | | |
| | Top Bottom | Diameter | Material | |
| | 0.00 12.00 | 2.00 | PVC | |
| Screen Material: PVC | | neter: 2.00 | | - |
| Top: 12.0 | | | | |
| - | tonite/Cement Mixture | | | 4 |
| Top: 1.00 | | | | |
| Gravel Pack Interval: | | 5.00 | | 4 |
| Top: 10.0 | 0 Botte | om: 20.00 | | |
| Type of Non-Grout Bac | | | nite | 1 |
| Top: 8.00 | | | | |
| Screen Slot Size: | 20 | | | 1 |
| Gravel Pack Size: | 1 | | | 1 |
| Static Water Level: | 20.00 ft. | Below Ground | Surface | 1 |
| Date: | 12/18/2014 | 1 | | 1 |
| Pumping Water Level: | 20.0000 ft. | | | X : 183574.33 |
| Date: | 12/18/2014 | | | X: 183574.33 Y: 191802.64 |
| After: | 20.00 hrs. | | | 1. 191602.04 |
| Pumping at: | 1.00 GPM | | | |
| Was a Geophysical Log | j Taken? | No | | |
| I HEREBY AFFIRM THE ACCURATE AND CORF | RECT. | | | |
| Signature - Licensed P | - | | - | |
| Signature - Property Ov | wher | Da | ate | |
| | | | | |
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WATER SUPPLY SECTION **DIVISION OF WATER** RESOURCES 89 KINGS HIGHWAY DOVER, DELAWARE 19901

STATE OF DELAWARE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL

WELL COMPLETION REPORT

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| PHONE: 302-739-9944 | | | PAGE # | OF | PAGES |
|----------------------|-------------|---------------|-------------|----|-------|
| FAX: 302-739-7764 | | | PERMIT #: _ | | |
| | | FORMATION LOG | I | | |
| Formation Type: | Coarse Sand | Other: | | | |
| Formation Type With: | Sand | Other: | | | |
| From: | 0.00 | To: | 5.00 | | |
| Color: | Yellow | | | | |
| Texture | Coarse | Other: | | | |
| То: | Coarse | Other: | | | |
| Cement: | | Other | | | |
| Sorting: | | Other: | | | |
| Hardness: | | Other: | | | |
| Comment: | | | | | |
| Formation Type: | Clay | Other: | | | |
| Formation Type With: | Clay | Other: | | | |
| From: | 5.00 | То: | 12.00 | | |
| Color: | Gray | | | | |
| Texture | | Other: | | | |
| То: | | Other: | | | |
| Cement: | | Other | | | |
| Sorting: | | Other: | | | |
| Hardness: | | Other: | | | |
| Comment: | | | | | |
| Formation Type: | Fine Sand | Other: | | | |
| Formation Type With: | Sand | Other: | | | |
| From: | 12.00 | To: | 15.00 | | |
| Color: | gray | | | | |
| Texture | Fine | Other: | | | |
| То: | Fine | Other: | | | |
| Cement: | | Other | | | |
| Sorting: | | Other: | | | |
| Hardness: | | Other: | | | |
| Comment: | | | | | |
| Formation Type: | Fine Sand | Other: | | | |
| Formation Type With: | Quartz | Other: | | | |
| From: | 15.00 | То: | 20.00 | | |
| Color: | gray | | | | |
| Texture | Fine | Other: | | | |
| То: | Fine | Other: | | | |
| Cement: | | Other | | | |
| Sorting: | | Other: | | | |
| Hardness: | | Other: | | | |
| Comment: | | | | | |

STATE OF DELAWARE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL

WELL COMPLETION REPORT

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|-----------|------|-------|
| PERMIT #: | 2492 | 263 |

PHONE: 302-739-9944 FAX: 302-739-7764

| | 0.11 | | |
|---------------------|--|---|--|
| | gs Co Lic | | LOCATION MAP - ROAD MAP |
| | | | County: New Castle |
| Mesa CA US 92626 | | | Tax Parcel: 07-042.10-055 |
| | | | Lot #: |
| | | | WELL HEAD COMPLETION |
| | | | Type: Pad Mount |
| | | | Other: |
| VC: Eichelbergers | s Inc | | Well Head Completed: 1.00 in. |
| | | | Below Ground Surface |
| | | | Was the Well Tag attached in accordance with current regulations? |
| | | | Yes |
| 0 | | | Comments: |
| | | | |
| | | | |
| | | | |
| | | PVC | |
| | | | |
| | | | _ |
| | | | |
| | m: 8.00 | | |
| | | | |
| | | | |
| | | nite | |
| | om: 10.00 | | |
| - | | | |
| 1 | | | |
| | Below Ground | Surface | |
| | | | |
| | | | X: 183555.28 |
| | | | Y: 191688.34 |
| | | | |
| | | | |
| HE INFORMATION I HA | VE SUBMITTE | | |
| | | | |
| Owner | Da | ate | |
| | | | |
| | Airway Avenue a Mesa CA US 92626 53 04 WC: Eichelbergers E: Augered ation: 20.00 feet 12/18/2014 Top Bottom 1.00 12.00 VC Diam 2.00 Botto 2.00 Botto ackfill of Well Annulus 00 Botto 20 1 20.00 ft. 12/18/2014 1: 20.000 ft. 12/18/2014 1: 20.000 ft. 12/18/2014 1: 20.000 ft. 12/18/2014 1: 20.000 ft. 12/18/2014 1: 20.000 ft. 12/18/2014 1: 20.000 ft. 1.00 GPM .og Taken? HE INFORMATION I HARRECT. | a Mesa CA US 92626 63 04 WC: Eichelbergers Inc ation: 20.00 feet 12/18/2014 Top Bottom 1.00 12.00 2.00 Koreer 1.00 12.00 2.00 Bottom 2.00 Bottom: 1.00 20 1 20.000 ft. 1.2/18/2014 20.00 hrs. 1.00 GPM No HE INFORMATION I HAVE SUBMITTE RRECT. Preparer/Well Contractor | Airway Avenue a Mesa CA US 92626 33 04 WC: Eichelbergers Inc : : Augered ation: 20.00 feet 12/18/2014 Top Bottom Diameter Material 1.00 12.00 2.00 PVC VC Diameter: 2.00 2.00 Bottom: 20.00 entonite/Cement Mixture 00 Bottom: 8.00 0.00 Bottom: 8.00 0.00 Bottom: 10.00 20 1 20.00 ft. Below Ground Surface 12/18/2014 I: 20.000 ft. 12/18/2014 I: 20.000 ft. 12/18/2014 I: 20.000 ft. 12/18/2014 I: 20.000 ft. 12/18/2014 I: 20.000 ft. 12/18/2014 I: 20.000 ft. 12/18/2014 I: 20.000 ft. 10.00 GPM No HE INFORMATION I HAVE SUBMITTED IS RRECT. Preparer/Well Contractor Date |

STATE OF DELAWARE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL

WELL COMPLETION REPORT

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Cement:

Sorting: Hardness:

Comment:

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|----------------------|-------------|---|-------------------|
| PHONE: 302-739-9944 | | | PAGE # OF PAGES |
| FAX: 302-739-7764 | | | PERMIT #: |
| | | | |
| | | FORMATION LOG | |
| Formation Type: | Coarse Sand | Other: | |
| Formation Type With: | Sand | Other: | |
| From: | 0.00 | To: | 5.00 |
| Color: | yellow | | |
| Texture | Coarse | Other: | |
| То: | Coarse | Other: | |
| Cement: | | Other | |
| Sorting: | | Other: | |
| Hardness: | | Other: | |
| Comment: | | | |
| Formation Type: | Clay | Other: | |
| Formation Type With: | Clay | Other: | |
| From: | 5.00 | To: | 12.00 |
| Color: | gray | | |
| Texture | | Other: | |
| То: | | Other: | |
| Cement: | | Other | |
| Sorting: | | Other: | |
| Hardness: | | Other: | |
| Comment: | | | |
| Formation Type: | Fine Sand | Other: | |
| Formation Type With: | Sand | Other: | |
| From: | 12.00 | To: | 15.00 |
| Color: | gray | | |
| Fexture | Fine | Other: | |
| То: | Fine | Other: | |
| Cement: | | Other | |
| Sorting: | | Other: | |
| Hardness: | | Other: | |
| Comment: | | | |
| Formation Type: | Fine Sand | Other: | |
| Formation Type With: | Quartz | Other: | |
| From: | 15.00 | То: | 20.00 |
| Color: | gray | | |
| Texture | Fine | Other: | |
| То: | Fine | Other: | |

Other Other:

Other:

STATE OF DELAWARE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL

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PHONE: 302-739-9944 FAX: 302-739-7764

| | 0.11 | | |
|------------------|---|--|--|
| | gs Co Llc | | LOCATION MAP - ROAD MAP |
| | | | County: New Castle |
| esa CA US 92626 | | | Tax Parcel: 07-042.10-055 |
| | | | Lot #: |
| | | | WELL HEAD COMPLETION |
| | | | Type: Pad Mount |
| | - h | | Other: |
| Eichelberger | SINC | | Well Head Completed: 1.00 in. Below Ground Surface |
| | | | |
| | | | Was the Well Tag attached in accordance with current regulations? |
| Augorod | | | Yes Comments: |
| | | | |
| | | | _ |
| | Diamatan | Matarial | _ |
| | | | - |
| | | PVC | - |
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| Botto | 8.00 Since | | 4 |
| 0 0-44 | | | |
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| | | | |
| | III. 10.00 | | - |
| | | | 4 |
| | Rolow Cround | Surface | - |
| | Below Ground | Sunace | - |
| | | | - |
| | | | X: 183536.23 |
| | | | Y: 191599.44 |
| | | | |
| | No | | |
| INFORMATION I HA | AVE SUBMITTE | - | |
| - | | | SAN PARTY STREED |
| mer | D | ale | |
| | | | |
| | Avenue lesa CA US 92626 istail Augered on: 20.00 feet 12/18/2014 istail Bottom 0 Bottom 12/18/2014 20.000 ft. 12/18/2014 20.00 hrs. 1.00 GPM Taken? INFORMATION I H/RECT. | Iesa CA US 92626 Augered on: 20.00 feet 12/18/2014 op Bottom Diameter: 2.00 Diameter: 2.00 0 12.00 20.00 feet 20.00 Diameter: 2.00 0 Bottom: 20.00 0 Bottom: 20.00 0 Bottom: 20.00 0 Bottom: 20.00 0 Bottom: 10.00 20 1 20.00 ft. Below Ground 12/18/2014 20.00 hrs. 1.00 GPM 12/18/2014 20.00 hrs. 1.00 GPM Taken? No INFORMATION I HAVE SUBMITTE ECT. Teparer/Well Contractor Data | Iesa CA US 92626 E: Eichelbergers Inc Augered on: 20.00 feet 12/18/2014 iop Bottom Diameter: 2.00 PVC Diameter: 2.00 0 Bottom: 20.00 onite/Cement Mixture Bottom: 20.00 Kfill of Well Annulus: Bentonite Bottom: 10.00 20 1 20.00 Intervention ite 20 1 20.00 12/18/2014 20.000 ft. 12/18/2014 20.000 ft. Below Ground Surface 12/18/2014 20.00 hrs. 1.00 GPM Taken? No INFORMATION I HAVE SUBMITTED IS Rectr. Taken? No |

WATER SUPPLY SECTION **DIVISION OF WATER** RESOURCES 89 KINGS HIGHWAY DOVER, DELAWARE 19901

STATE OF DELAWARE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL

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| PHONE: 302-739-9944 FAX: 302-739-7764 | | | PAGE # OF | PAGES |
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| TAX. 302-739-7704 | | | PERMIT #: | |
| | | FORMATION LOG | Ш | |
| Formation Type: | Fine Sand | Other: | | |
| Formation Type With: | Sand | Other: | | |
| From: | 0.00 | To: | 5.00 | |
| Color: | yellow | | | |
| Texture | Fine | Other: | | |
| То: | Fine | Other: | | |
| Cement: | | Other | | |
| Sorting: | | Other: | | |
| Hardness: | | Other: | | |
| Comment: | | | | |
| Formation Type: | Clay | Other: | | |
| Formation Type With: | Clay | Other: | | |
| From: | 5.00 | То: | 12.00 | |
| Color: | gray | | | |
| Texture | | Other: | | |
| То: | | Other: | | |
| Cement: | | Other | | |
| Sorting: | | Other: | | |
| Hardness: | | Other: | | |
| Comment: | | | | |
| Formation Type: | Fine Sand | Other: | | |
| Formation Type With: | Sand | Other: | | |
| From: | 12.00 | To: | 15.00 | |
| Color: | gray | | | |
| Texture | Fine | Other: | | |
| То: | Fine | Other: | | |
| Cement: | | Other | | |
| Sorting: | | Other: | | |
| Hardness: | | Other: | | |
| Comment: | | | | |
| Formation Type: | Coarse Sand | Other: | | |
| Formation Type With: | Quartz | Other: | | |
| From: | 15.00 | То: | 20.00 | |
| Color: | gray | | | |
| Texture | Coarse | Other: | | |
| То: | Coarse | Other: | | |
| Cement: | | Other | | |
| Sorting: | | Other: | | |
| Hardness: | | Other: | | |
| Comment: | | | | |

PHONE: 302-739-9944

FAX: 302-739-7764

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| PERMIT #: | 2492 | 65 |

Owner: Delaware Real Estate Holdings Co Llc LOCATION MAP - ROAD MAP Address: 3080 Airway Avenue County: New Castle Costa Mesa CA US 92626 Tax Parcel: 07-042.10-055 Lot #: Telephone: WELL HEAD COMPLETION Email: Permit #: 249265 Pad Mount Type: Local ID: SVE-06 Other: Licensed Preparer / WC: Eichelbergers Inc Well Head Completed: 1.00 in. License #: 4218 **Below Ground Surface** Well Driller in Charge: Was the Well Tag attached in accordance with current regulations? License #: 4326 Yes Construction Method: Augered Comments: Total Depth of Excavation: 20.00 feet **Construction Date:** 12/18/2014 Casing Тор Bottom Diameter Material 1.00 Inner Casing 12.00 2.00 PVC Screen Material: PVC Diameter: 2.00 Top: 12.00 Bottom: 20.00 Type of Grout: **Bentonite/Cement Mixture** 1.00 Bottom: 8.00 Top: Gravel Pack Interval: 10.00 Bottom: 20.00 Top: Type of Non-Grout Backfill of Well Annulus: Bentonite Top: 8.00 Bottom: 10.00 Screen Slot Size: 20 Gravel Pack Size: 1 Static Water Level: Below Ground Surface 20.00 ft. Date: 12/18/2014 Pumping Water Level: 20.0000 ft. 183593.38 Χ: Date: 12/18/2014 **Y**: 191948.69 After: 20.00 hrs. Pumping at: 1.00 GPM Was a Geophysical Log Taken? No I HEREBY AFFIRM THE INFORMATION I HAVE SUBMITTED IS ACCURATE AND CORRECT. Signature - Licensed Preparer/Well Contractor Date Signature - Property Owner Date

WATER SUPPLY SECTION **DIVISION OF WATER** RESOURCES 89 KINGS HIGHWAY DOVER, DELAWARE 19901

STATE OF DELAWARE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL

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|----------------------|-----------|---------------|-----------|---------|
| FAX: 302-739-7764 | | | PERMIT #: | |
| | | FORMATION LOG | U | |
| Formation Type: | Fine Sand | Other: | | |
| Formation Type With: | Sand | Other: | | |
| From: | 0.00 | To: | 5.00 | |
| Color: | yellow | | | |
| Texture | Fine | Other: | | |
| То: | Fine | Other: | | |
| Cement: | | Other | | |
| Sorting: | | Other: | | |
| Hardness: | | Other: | | |
| Comment: | | | | |
| Formation Type: | Clay | Other: | | |
| Formation Type With: | Clay | Other: | | |
| From: | 5.00 | То: | 12.00 | |
| Color: | gray | | | |
| Texture | | Other: | | |
| То: | | Other: | | |
| Cement: | | Other | | |
| Sorting: | | Other: | | |
| Hardness: | | Other: | | |
| Comment: | | | | |
| Formation Type: | Fine Sand | Other: | | |
| Formation Type With: | Sand | Other: | | |
| From: | 12.00 | To: | 15.00 | |
| Color: | gary | | | |
| Texture | Fine | Other: | | |
| То: | Fine | Other: | | |
| Cement: | | Other | | |
| Sorting: | | Other: | | |
| Hardness: | | Other: | | |
| Comment: | | | | |
| Formation Type: | Fine Sand | Other: | | |
| Formation Type With: | Quartz | Other: | | |
| From: | 15.00 | To: | 20.00 | |
| Color: | gray | | | |
| Texture | Fine | Other: | | |
| То: | Fine | Other: | | |
| Cement: | | Other | | |
| Sorting: | | Other: | | |
| Hardness: | | Other: | | |
| Comment: | | | | |

STATE OF DELAWARE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL

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|-----------|------|-------|
| PERMIT #: | 2522 | 248 |

PHONE: 302-739-9944 FAX: 302-739-7764

| vare Real Estate Holding vay Avenue sa CA US 92626 | | | County: Tax Parcel: | New Cas 07-042.1 | |
|--|--|--|--|---|---|
| | | | | | |
| JU UN UU JZUZU | | | | | 0-055 |
| | | | Lot #: | 07-042.1 | 0-000 |
| | | | | \//EI | L HEAD COMPLETION |
| | | | Туре: | Pad Mount | |
| | | | Other: | Fau Mount | |
| Fishelbergere Inc | | | | omploted. | 6.00 in |
| Elcheibergers inc | | | | | 6.00 in. |
| | | | | | Lin accordance with ourrent regulations? |
| | | | | rag allached | In accordance with current regulations? |
| Augorod | | | | | |
| | | | - Comments: | | |
| | | | - | | |
| | | Matailal | - | | |
| | | | - | | |
| | | PVC | | | |
| | | | | | |
| | 25.00 | | 4 | | |
| | | | | | |
| Bottom: | 8.00 | | 4 | | |
| - | 6- 6- | | | | |
| | | | 4 | | |
| | | nite | | | |
| | 9.00 | | 4 | | |
| - | | | 4 | | |
| - | | | 4 | | |
| | ow Ground | Surface | 4 | | |
| | | | 1 | | |
| | | | X : 1 | 83542.58 | |
| 10/5/2015 | | | | | |
| 10.00 hrs. | | | · · · | 01110.03 | |
| 1.00 GPM | | | Bucking | CULH III | CALL MARKEN Y LL MA |
| | | | 1 Ball | 1-77 | STORES V ASSAN BY BEER |
| CT. | | | | | |
| - | | - | | | Contraction of the second |
| her | Da | ate | In I WARS | St No | |
| | | | | | Aveport |
| | Augered n: 25.00 feet 10/5/2015 Diameter: 0 10.00 2 0 10.00 2 0 10.00 2 Diameter: Bottom: 1 nite Bottom: 1 Bottom: Bottom: 1 10 1 1 1 10.00 ft. Below 1 1 10.00 ft. Below 1 1 10.00 ft. 1 1 1 1 10.00 ft. 1 </td <td>n: 25.00 feet 10/5/2015 p Bottom Diameter 0 10.00 2.00 Diameter: 2.00 Bottom: 25.00 nite Bottom: 8.00 Bottom: 25.00 ill of Well Annulus: Bentor Bottom: 9.00 10 10 10.00 ft. Below Ground 10/5/2015 10.00 0 ft. 10/5/2015 10.00 hrs. 1.00 GPM Faken? No NFORMATION I HAVE SUBMITTEL CT. Data</td> <td>Augered n: 25.00 feet 10/5/2015 mater p Bottom Diameter 0 10.00 2.00 PVC Diameter: 2.00 Bottom: 25.00 nite Bottom: 25.00 Bottom: 25.00 10 Diameter: 25.00 10 Bottom: 25.00 10 Bottom: 25.00 10 10 Bottom: 9.00 10 10 10 10 10 10 10 Below Ground Surface 10/5/2015 10.000 ft. Below Ground Surface 10/5/2015 10.00 hrs. 1.00 GPM 10 Faken? No No NFORMATION I HAVE SUBMITTED IS CT. parer/Well Contractor Date</td> <td>Below Groun Was the Well Yes Augered n: 25.00 feet 10/5/2015 p Bottom Diameter Augered 0 10/5/2015 p Bottom Diameter: 2.00 Bottom: 25.00 nite Bottom: 25.00 nite Bottom: 25.00 ill of Well Annulus: Bentonite Bottom: 9.00 10 10.00 ft. Below Ground Surface 10/5/2015 10.00 oft. 10.00 ft. 10/5/2015 10.00 ors. 1.00 GPM Faken? No NFORMATION I HAVE SUBMITTED IS GT. parer/Well Contractor Date</td> <td>Below Ground Surface Augered n: 25.00 feet 10/5/2015 p Bottom Diameter: 2.00 Bottom: 25.00 ill of Well Annulus: Bentonite Bottom: 9.00 10 10.00 10 10.00 ill of Well Annulus: Bentonite Bottom: 9.00 10 10.00 10.00 ft. Below Ground Surface 10/5/2015 10.0000 ft. 10.00 prs. 1.00 GPM Taken? No NFORMATION I HAVE SUBMITTED IS CT. X: parer/Well Contractor Date</td> | n: 25.00 feet 10/5/2015 p Bottom Diameter 0 10.00 2.00 Diameter: 2.00 Bottom: 25.00 nite Bottom: 8.00 Bottom: 25.00 ill of Well Annulus: Bentor Bottom: 9.00 10 10 10.00 ft. Below Ground 10/5/2015 10.00 0 ft. 10/5/2015 10.00 hrs. 1.00 GPM Faken? No NFORMATION I HAVE SUBMITTEL CT. Data | Augered n: 25.00 feet 10/5/2015 mater p Bottom Diameter 0 10.00 2.00 PVC Diameter: 2.00 Bottom: 25.00 nite Bottom: 25.00 Bottom: 25.00 10 Diameter: 25.00 10 Bottom: 25.00 10 Bottom: 25.00 10 10 Bottom: 9.00 10 10 10 10 10 10 10 Below Ground Surface 10/5/2015 10.000 ft. Below Ground Surface 10/5/2015 10.00 hrs. 1.00 GPM 10 Faken? No No NFORMATION I HAVE SUBMITTED IS CT. parer/Well Contractor Date | Below Groun Was the Well Yes Augered n: 25.00 feet 10/5/2015 p Bottom Diameter Augered 0 10/5/2015 p Bottom Diameter: 2.00 Bottom: 25.00 nite Bottom: 25.00 nite Bottom: 25.00 ill of Well Annulus: Bentonite Bottom: 9.00 10 10.00 ft. Below Ground Surface 10/5/2015 10.00 oft. 10.00 ft. 10/5/2015 10.00 ors. 1.00 GPM Faken? No NFORMATION I HAVE SUBMITTED IS GT. parer/Well Contractor Date | Below Ground Surface Augered n: 25.00 feet 10/5/2015 p Bottom Diameter: 2.00 Bottom: 25.00 ill of Well Annulus: Bentonite Bottom: 9.00 10 10.00 10 10.00 ill of Well Annulus: Bentonite Bottom: 9.00 10 10.00 10.00 ft. Below Ground Surface 10/5/2015 10.0000 ft. 10.00 prs. 1.00 GPM Taken? No NFORMATION I HAVE SUBMITTED IS CT. X: parer/Well Contractor Date |

PHONE: 302-739-9944 FAX: 302-739-7764

STATE OF DELAWARE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL

WELL COMPLETION REPORT

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| PAGE # | OF | PAGES |
|-----------|----|-------|
| PERMIT #: | | |
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| | | |
| | | |

| Formation Type: | Clay | Other: | | |
|----------------------------------|--------|--------|-------|--|
| Formation Type With: | Clay | Other: | | |
| From: | 0.00 | To: | 20.00 | |
| Color: | Brown | | | |
| Texture | | Other: | | |
| То: | | Other: | | |
| Cement: | | Other | | |
| Sorting: | | Other: | | |
| Hardness: | | Other: | | |
| Comment: | | | | |
| Formation Type: | Gravel | Other: | | |
| Formation Type With: | Quartz | Other: | | |
| From: | 20.00 | To: | 25.00 | |
| Color: | Oramge | | | |
| Texture | | Other: | | |
| То: | | Other: | | |
| Cement: | | Other | | |
| Sorting: | | Other: | | |
| Hardness: | | Other: | | |
| Cement: Sorting: Hardness: | | Other: | | |

PHONE: 302-739-9944 FAX: 302-739-7764 STATE OF DELAWARE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL

WELL COMPLETION REPORT

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| PAGE # | OF | PAGES |
|--------|--------|-------|
| PERMIT | # 2522 | 249 |

| Address: 3080 Airwa Costa Mess Telephone: Email: Permit #: 252249 Local ID: MW-50 Licensed Preparer / WC: License #: 4218 Well Driller in Charge: | a CA US 92626 | oldings Co Lic | | LOCATION MAP - ROAD MAP County: New Castle Tax Parcel: 07-042.10-055 Lot #: County: |
|---|----------------|----------------|----------|---|
| Costa Mess Telephone: Email: Permit #: 252249 Local ID: MW-50 Licensed Preparer / WC: License #: 4218 Well Driller in Charge: | a CA US 92626 | | | Tax Parcel: 07-042.10-055 |
| Telephone: Email: Permit #: 252249 Local ID: MW-50 Licensed Preparer / WC: License #: 4218 Well Driller in Charge: | | | | |
| Email: Permit #: 252249 Local ID: MW-50 Licensed Preparer / WC: License #: 4218 Well Driller in Charge: | | | | ILOT #: |
| Permit #: 252249 Local ID: MW-50 Licensed Preparer / WC: License #: 4218 Well Driller in Charge: | | | | |
| Local ID: MW-50 Licensed Preparer / WC: License #: 4218 Well Driller in Charge: | | | | |
| Licensed Preparer / WC: License #: 4218 Well Driller in Charge: | | | | Type: Pad Mount |
| License #: 4218 Well Driller in Charge: | | | | Other: |
| Well Driller in Charge: | Eichelberger | 's Inc | | Well Head Completed: 6.00 in. |
| | | | | Below Ground Surface |
| 11 In a war at 5040 | | | | Was the Well Tag attached in accordance with current regulations? |
| License #: 5348 | | | | Yes |
| Construction Method: | Augered | | | Comments: |
| Total Depth of Excavation | | | | - |
| Construction Date: | 10/5/2015 | Diamatan | | - |
| Casing Top | | Diameter | Material | - |
| Inner Casing 0.00 | | 2.00 | PVC | - |
| Screen Material: PVC | | neter: 2.00 | | |
| Top: 10.00 | Botto | om: 25.00 | | 4 |
| Type of Grout: Bentoni | | 0.00 | | |
| Top: 1.00 | Botto | om: 8.00 | | 4 |
| Gravel Pack Interval: Top: 9.00 | D-44 | om: 25.00 | | |
| | Botto | | - 't - | - |
| Type of Non-Grout Backfil | | | nite | |
| Top: 8.00 Screen Slot Size: 10 | Botto | om: 9.00 | | - |
| Screen Slot Size: 10 Gravel Pack Size: 1 | - | | | - |
| | 0.00 ft. | Below Ground | Surface | - |
| | 0/5/2015 | Below Ground | Sunace | - |
| | 0.0000 ft. | | | - |
| | 0/5/2015 | | | X: 183542.58 |
| | 0.00 hrs. | | | Y: 191758.19 |
| | .00 GPM | | | |
| Was a Geophysical Log Ta | | No | | C Dealer CHATER CAR AND THE S |
| I HEREBY AFFIRM THE IN ACCURATE AND CORREC | FORMATION I HA | AVE SUBMITTE | | |
| Signature - Licensed Prep | | | | |
| Signature - Property Owne | er | D | ate | |
| | | | | |

Clay

PHONE: 302-739-9944 FAX: 302-739-7764

Formation Type:

STATE OF DELAWARE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL

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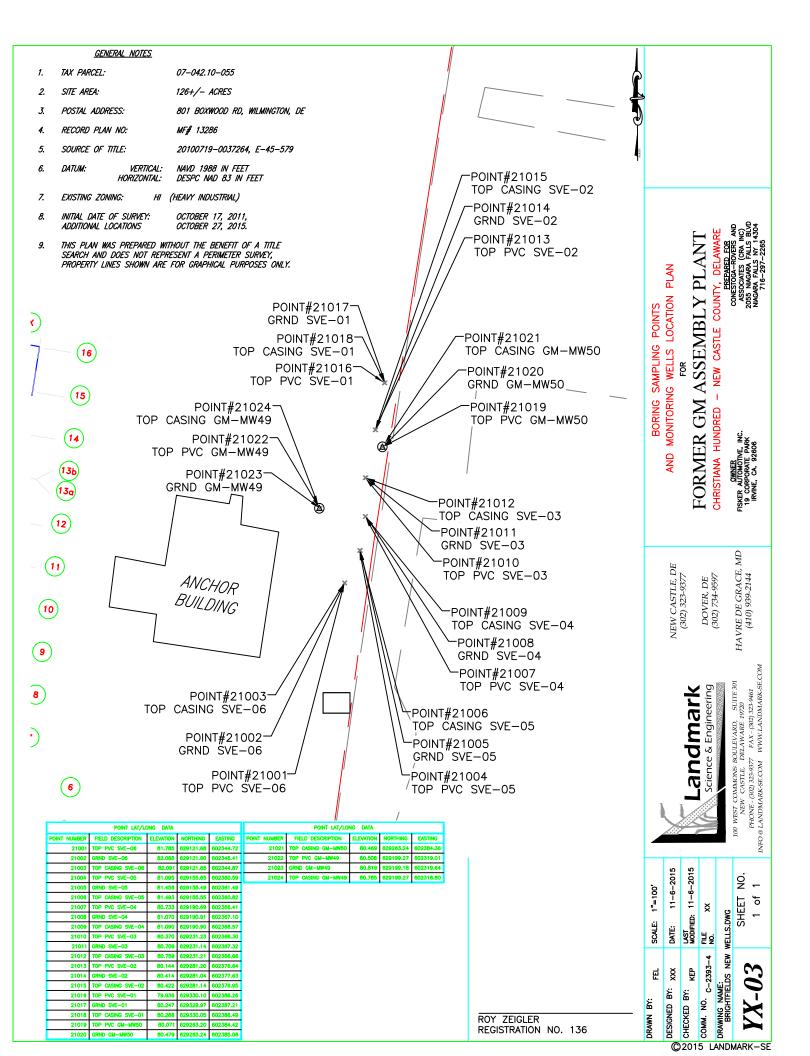
| | PAGE # OF | PAGES |
|---------------|-----------|-------|
| | PERMIT #: | |
| FORMATION LOG | Ш | |
| Other: | | |
| Other: | | |
| To: | 20.00 | |

| Formation Type With: | Clay | Other: | |
|----------------------|--------|--------|-------|
| From: | 0.00 | To: | 20.00 |
| Color: | Brown | | |
| Texture | | Other: | |
| То: | | Other: | |
| Cement: | | Other | |
| Sorting: | | Other: | |
| Hardness: | | Other: | |
| Comment: | | | |
| Formation Type: | Gravel | Other: | |
| Formation Type With: | Quartz | Other: | |
| From: | 20.00 | To: | 25.00 |
| Color: | Orange | | |
| Texture | | Other: | |
| То: | | Other: | |
| Cement: | | Other | |
| Sorting: | | Other: | |
| Hardness: | | Other: | |
| Comment: | | | |



Appendix A.9

Monitoring Well Survey Report





APPENDIX B Grab Influent and Effluent Air Analytical Data Packages



Appendix B.1 Air Analytical Data Package July 6, July 9, & July 11, 2018



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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: July 20, 2018 14:22

Project: Dodson Ave/2734.07.51

Account #: 04549 Group Number: 1964400 PO Number: 15174 Release Number: 2734.07.51 State of Sample Origin: DE

To view our laboratory's current scopes of accreditation please go to <u>http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/</u>. Historical copies may be requested through your project manager.

Electronic Copy To Brightfields, Inc. Electronic Copy To Brightfields, Inc. Attn: Kelly Wilkinson Attn: Ken Hannon

Respectfully Submitted,

Elisabeth a.

Élisabeth A. Knisley Project Manager

(717) 556-7262



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SAMPLE INFORMATION

| Client Sample Description | Sample Collection | <u>ELLE#</u> |
|---------------------------|-------------------|--------------|
| | Date/Time | |
| DA-EFF-070618 Grab Air | 07/06/2018 10:09 | 9697761 |
| DA-INF-070618 Grab Air | 07/06/2018 10:10 | 9697762 |
| DA-EFF-070918 Grab Air | 07/09/2018 10:32 | 9697763 |
| DA-INF-070918 Grab Air | 07/09/2018 10:33 | 9697764 |
| DA-EFF-071118 Grab Air | 07/11/2018 09:27 | 9697765 |
| DA-INF-071118 Grab Air | 07/11/2018 09:28 | 9697766 |

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.



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| Sample Description: DA-EFF-070618 Grab Air Dodson Ave/2734.07.51 | | Brightfields, Inc. ELLE Sample #: AQ 969776 ELLE Group #: 1964400 | |
|---|--------------------------------------|---|--------------------|
| Project Name: | Dodson Ave/2734.07.51 | Matrix: Air | |
| Submittal Date/Time: Collection Date/Time: | 07/11/2018 17:45 07/06/2018 10:09 | | |
| CAT No. Analysis Name | CAS Number Result | Method | Dilution Factor |

| 110. | - | | Result | Detection Limit | 1 40101 | |
|----------|--------------------------|-----------------------|--------|-----------------|---------|--|
| Volatile | es in Air I | EPA 18 mod/EPA 25 mod | ppm(v) | ppm(v) | | |
| 07090 | Benzene | 71-43-2 | N.D. | 0.5 | 1 | |
| 07090 | C2-C4 Hydrocarbons as he | kane n.a. | N.D. | 5 | 1 | |
| 07090 | >C4-C10 Hydrocarbons hex | ane n.a. | N.D. | 5 | 1 | |
| 07090 | Ethylbenzene | 100-41-4 | N.D. | 0.4 | 1 | |
| 07090 | Methane | 74-82-8 | 3 J | 2 | 1 | |
| 07090 | Toluene | 108-88-3 | N.D. | 0.8 | 1 | |
| 07090 | Xylene (total) | 1330-20-7 | N.D. | 0.7 | 1 | |
| | | | | | | |

Sample Comments

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 |
|------------|------------------------------|--------------------------|--------|------------|---------------------------|----------------------|--------------------|
| 07090 | BTEX/MTBE/Hydrocarbons by GC | EPA 18 mod/EPA 25 mod | 1 | M1819330AA | 07/12/2018 19:37 | Alexander D Sechrist | 1 |



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| Sample Description: DA-INF-070618 Grab Air Dodson Ave/2734.07.51 | | | Brightfields, Inc. ELLE Sample #: AQ 9697762 ELLE Group #: 1964400 | | |
|---|--------------------------------------|---------------|--|-------------------|--|
| Project Name: | Dodson Ave/2734.07.51 | | Matrix: Air | 1304400 | |
| Submittal Date/Time: Collection Date/Time: | 07/11/2018 17:45 07/06/2018 10:10 | | | | |
| CAT No. Analysis Name | CAS Number R | Result Method | | pilution actor | |

| No. | Analysis Name | CAS Number | Result | Detection Limit | Factor |
|----------|------------------------------|--------------|--------|-----------------|--------|
| Volatile | es in Air EPA 18 mod | l/EPA 25 mod | ppm(v) | ppm(v) | |
| 07090 | Benzene | 71-43-2 | N.D. | 0.5 | 1 |
| 07090 | C2-C4 Hydrocarbons as hexane | n.a. | N.D. | 5 | 1 |
| 07090 | >C4-C10 Hydrocarbons hexane | n.a. | N.D. | 5 | 1 |
| 07090 | Ethylbenzene | 100-41-4 | N.D. | 0.4 | 1 |
| 07090 | Methane | 74-82-8 | 3 J | 2 | 1 |
| 07090 | Toluene | 108-88-3 | N.D. | 0.8 | 1 |
| 07090 | Xylene (total) | 1330-20-7 | N.D. | 0.7 | 1 |
| | | | | | |

Sample Comments

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 |
|------------|------------------------------|--------------------------|--------|------------|---------------------------|----------------------|--------------------|
| 07090 | BTEX/MTBE/Hydrocarbons by GC | EPA 18 mod/EPA 25 mod | 1 | M1819330AA | 07/12/2018 20:05 | Alexander D Sechrist | 1 |



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| Sample Description: DA-EFF-070918 Grab Air Dodson Ave/2734.07.51 | | Brightfields, Inc. ELLE Sample #: AQ 9697763 ELLE Group #: 1964400 | |
|---|--------------------------------------|--|--------------------|
| Project Name: | Dodson Ave/2734.07.51 | Matrix: Air | 1304400 |
| Submittal Date/Time: Collection Date/Time: | 07/11/2018 17:45 07/09/2018 10:32 | | |
| CAT No. Analysis Name | CAS Number Result | Method | Dilution Factor |

| NO. | - | | Result | Detection Limit | |
|----------|---------------------------|-----------------------|--------|-----------------|---|
| Volatile | es in Air E | EPA 18 mod/EPA 25 mod | ppm(v) | ppm(v) | |
| 07090 | Benzene | 71-43-2 | N.D. | 0.5 | 1 |
| 07090 | C2-C4 Hydrocarbons as hey | kane n.a. | N.D. | 5 | 1 |
| 07090 | >C4-C10 Hydrocarbons hex | ane n.a. | N.D. | 5 | 1 |
| 07090 | Ethylbenzene | 100-41-4 | N.D. | 0.4 | 1 |
| 07090 | Methane | 74-82-8 | 3 J | 2 | 1 |
| 07090 | Toluene | 108-88-3 | N.D. | 0.8 | 1 |
| 07090 | Xylene (total) | 1330-20-7 | N.D. | 0.7 | 1 |
| | | | | | |

Sample Comments

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 |
|------------|------------------------------|--------------------------|--------|------------|---------------------------|----------------------|--------------------|
| 07090 | BTEX/MTBE/Hydrocarbons by GC | EPA 18 mod/EPA 25 mod | 1 | M1819330AA | 07/12/2018 20:34 | Alexander D Sechrist | 1 |



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| Sample Description: DA-INF-070918 Grab Air Dodson Ave/2734.07.51 | | | Brightfields, Inc. ELLE Sample #: AQ 9697764 ELLE Group #: 1964400 | | |
|---|--------------------------------------|--------|--|--------------------|--|
| Project Name: | Dodson Ave/2734.07.51 | | Matrix: Air | 1004400 | |
| Submittal Date/Time: Collection Date/Time: | 07/11/2018 17:45 07/09/2018 10:33 | | | | |
| CAT No. Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor | |

| NO. | - | | Result | Detection Limit | i dotoi | |
|----------|---------------------------|-----------------------|--------|-----------------|---------|--|
| Volatile | es in Air E | EPA 18 mod/EPA 25 mod | ppm(v) | ppm(v) | | |
| 07090 | Benzene | 71-43-2 | N.D. | 0.5 | 1 | |
| 07090 | C2-C4 Hydrocarbons as hex | ane n.a. | N.D. | 5 | 1 | |
| 07090 | >C4-C10 Hydrocarbons hex | ane n.a. | N.D. | 5 | 1 | |
| 07090 | Ethylbenzene | 100-41-4 | N.D. | 0.4 | 1 | |
| 07090 | Methane | 74-82-8 | 3 J | 2 | 1 | |
| 07090 | Toluene | 108-88-3 | N.D. | 0.8 | 1 | |
| 07090 | Xylene (total) | 1330-20-7 | N.D. | 0.7 | 1 | |
| | | | | | | |

Sample Comments

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 |
|------------|------------------------------|--------------------------|--------|------------|---------------------------|----------------------|--------------------|
| 07090 | BTEX/MTBE/Hydrocarbons by GC | EPA 18 mod/EPA 25 mod | 1 | M1819330AA | 07/12/2018 21:02 | Alexander D Sechrist | 1 |



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| Sample Description: | Brightfields, Inc. ELLE Sample #: AQ 9697765 ELLE Group #: 1964400 | | | |
|---|--|---|--|--|
| Project Name: | Dodson Ave/2734.07.51 | Matrix: Air | | |
| Submittal Date/Time: Collection Date/Time: | 07/11/2018 17:45 07/11/2018 09:27 | | | |
| CAT No. Analysis Name | CAS Number Result | Method Dilution Detection Limit Factor | | |
| | | | | |

| | | | | Detection Limit | | |
|--|------------------------------|-----------|--------|-----------------|---|--|
| Volatiles in Air EPA 18 mod/EPA 25 mod | | ppm(v) | ppm(v) | | | |
| 07090 | Benzene | 71-43-2 | N.D. | 0.5 | 1 | |
| 07090 | C2-C4 Hydrocarbons as hexane | n.a. | N.D. | 5 | 1 | |
| 07090 | >C4-C10 Hydrocarbons hexane | n.a. | N.D. | 5 | 1 | |
| 07090 | Ethylbenzene | 100-41-4 | N.D. | 0.4 | 1 | |
| 07090 | Methane | 74-82-8 | 3 J | 2 | 1 | |
| 07090 | Toluene | 108-88-3 | N.D. | 0.8 | 1 | |
| 07090 | Xylene (total) | 1330-20-7 | N.D. | 0.7 | 1 | |

Sample Comments

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 |
|------------|------------------------------|--------------------------|--------|------------|---------------------------|----------------------|--------------------|
| 07090 | BTEX/MTBE/Hydrocarbons by GC | EPA 18 mod/EPA 25 mod | 1 | M1819330AA | 07/12/2018 21:31 | Alexander D Sechrist | 1 |



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| Sample Description: | DA-INF-071118 Grab Air Dodson Ave/2734.07.51 | Brightfields, Inc. ELLE Sample #: AQ 9697766 ELLE Group #: 1964400 | | |
|---|---|--|--|--|
| Project Name: | Dodson Ave/2734.07.51 | Matrix: Air | | |
| Submittal Date/Time: Collection Date/Time: | 07/11/2018 17:45 07/11/2018 09:28 | | | |
| CAT No. Analysis Name | CAS Number Result | Method Dilution Detection Limit Factor | | |
| | | | | |

| | | | | | Detection Limit | |
|--|-------|------------------------------|--------------|--------|-----------------|---|
| Volatiles in Air EPA 18 mod/EPA 25 mod | | | d/EPA 25 mod | ppm(v) | ppm(v) | |
| | 07090 | Benzene | 71-43-2 | N.D. | 0.5 | 1 |
| | 07090 | C2-C4 Hydrocarbons as hexane | n.a. | N.D. | 5 | 1 |
| | 07090 | >C4-C10 Hydrocarbons hexane | n.a. | N.D. | 5 | 1 |
| | 07090 | Ethylbenzene | 100-41-4 | N.D. | 0.4 | 1 |
| | 07090 | Methane | 74-82-8 | 3 J | 2 | 1 |
| | 07090 | Toluene | 108-88-3 | N.D. | 0.8 | 1 |
| | 07090 | Xylene (total) | 1330-20-7 | N.D. | 0.7 | 1 |
| | | | | | | |

Sample Comments

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 |
|------------|------------------------------|--------------------------|--------|------------|---------------------------|----------------------|--------------------|
| 07090 | BTEX/MTBE/Hydrocarbons by GC | EPA 18 mod/EPA 25 mod | 1 | M1819330AA | 07/12/2018 21:59 | Alexander D Sechrist | 1 |



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Quality Control Summary

Client Name: Brightfields, Inc. Reported: 07/20/2018 14:22 Group Number: 1964400

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 |
|------------------------------|-------------|-------------------------|
| | ppm(v) | ppm(v) |
| Batch number: M1819330AA | Sample numb | per(s): 9697761-9697766 |
| Benzene | N.D. | 0.5 |
| C2-C4 Hydrocarbons as hexane | N.D. | 5 |
| >C4-C10 Hydrocarbons hexane | N.D. | 5 |
| Ethylbenzene | N.D. | 0.4 |
| Methane | N.D. | 2 |
| Toluene | N.D. | 0.8 |
| Xylene (total) | N.D. | 0.7 |

LCS/LCSD

| Analysis Name | LCS Spike Added ppm(v) | LCS Conc ppm(v) | LCSD Spike Added ppm(v) | LCSD Conc ppm(v) | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|--------------------------|------------------------------|-----------------------------------|-------------------------------|------------------------|-------------|--------------|--------------------|-----|------------|
| Batch number: M1819330AA | Sample number | Sample number(s): 9697761-9697766 | | | | | | | |
| Benzene | 10 | 9.13 | 10 | 9.01 | 91 | 90 | 65-118 | 1 | 30 |
| Ethylbenzene | 10 | 10.97 | 10 | 10.85 | 110 | 108 | 62-123 | 1 | 30 |
| Toluene | 10 | 12.42 | 10 | 12.37 | 124 | 124 | 79-149 | 0 | 30 |
| Xylene (total) | 30 | 34.69 | 30 | 33.49 | 116 | 112 | 58-125 | 4 | 30 |

*- Outside of specification

(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

| | 🐝 eurofins | Lancaster Labo | oratories | Acct. # | 1549 | | | | caster La | | | | | | | -1. | Ja | | | С | OC # | 6 55 | 2226 | |
|----------------------------|---|------------------|--------------------------|---------------|-------------------------------|-------------------------|---------------------------------------|--|---------------|------------|--------------|--------------|----------|-----|----------------|--------------------|----------------------------|---------|------|---|-------------------------|---------------------------------------|--|-----|
| | Environmental | | | | | | | | Matrix | | е# | | | | | Requested | | | | For Lab Use Only | | | | |
| | Client: BRIGHTFIELDS, INC Acct. #: | | | | ta nadalar kuyan kuka kiranan | | | | - | T | | | | | | d Filtration Codes | | | | FSC: | | | | |
| | 1 | TELDS, I | NC | | | | | l e | | | | | | | | | | | | | scr#:_2 | | | 829 |
| 75 | Project Name/#: <u>DOCSON</u> AVE/2734,07,51 Project Manager: KEN HANNON Sampler: MGE LANGREHT Quote #: | | | | Ц | | nent 🗌 Tissue | le 🗌 Ground | _ _ | Containers | C4, 7C4-C10. | _ | | | | | | | | H=HCI N=HNO₃ S=H₂SO₄ F=Field Fil | B= P= | Thiosulfate NaOH H₃PO₄ Other | | |
| 36 | State where samples were DCIAW 6 | collected: | For Compliance: Yes 🕅 | No 🗆 | | | site | Sedin | Potable | R | of Cor | 0.02- | METHOD | | | | | | | | | | - | - |
| بتعمیر م بر بینتیمیر | Samp | le Identificatio | on | Colle Date | ected Time | Grab | Composite | Soil 🔲 Sediment | Water | Other: | Total # | BTEX | | | | | | | | | | | | |
| eal | DA-EFF- | 070618 | | 7/6/18 | | Ř | | | | Ň | | \mathbf{i} | | | | | | | | | | | | |
| S | DA-INF- | | Ś | 7/6/18 | | \bowtie | | | | \times | 11 | \mathbb{X} | 1 | | | | | | | | | | |] |
| 5 | DA-EFF- | | | 7/9/18 | 1032 | \bowtie | · | | | | 11 | \mathbb{X} | 1 | | | | | | | | | | | |
| ybuty | DA-INF. | -070918 | | 7/9/18 | | \geq | | | | \geq | 11 | \mathbb{X} | <u> </u> | | | | | | | | | | | |
| F | DA-EFF | - 071118 | | 7/11/18 | 0927 | \bowtie | | | | | 11 | $>$ | × | | | | | | | | | | | |
| 50 | DA-INF | -071118 | | 7/11/18 | 0928 | $\left \times \right $ | | | | \geq | | \bowtie | | | | | | | | | | | | |
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| | and the second se | nd Time (TAT) | | | e) | Relinq | (shed | by [] | 05 | - hr | 740 | 0- | Date | 10 | Time | 40 | Regive | ed by | 2 | | | Date | Time 0', 00 | 1 |
| | | | | | | | | | $\frac{1}{1}$ | | | 9 C7 6 8 | | | 70 . i Time | | Receive | a di by | | | | Dáte | Time | - |
| | , (Rush TAT is subject to laboratory approval and surcharge.) [▶] | | | | | 1 | Chan - 74/1252 Left 5 | | | | | | | | | - - / | dlie | | 1010 | 12:52 | | | | |
| | Date results are nee | eded: | | | | Relinqu | uished | by/ | \neg | | | yelana an | Date | 1.0 | Time | | Receive | d by | 1 | The second | $\overline{\mathbf{A}}$ | Dale | Time, | L |
| | | | | | | | Д | ar | M | U× | | | 7/1 | /18 | 10 | 15 | 1 | Ű | D | M | V | 11-12 | | F |
| | | | | | | | Relinquished by Date Time Received by | | | | | | | | | | Date Time | | | | | | | |
| | Data Package Options (circle if required) Type I (EPA Level 3 Type VI (Raw Data Only) | | | | | Relingu | Relinquished by Date Time Received by | | | | | | | | | | Date Time | | | | | | | |
| | | | | | | Date Thire Received by | | | | | | | | | | 741-18 1745 | | | | | | | | |
| | | | | | | | EDD Required? Yes No Relinquish | | | | | | | | | quishe | ed by Commercial Carrier: | | | | | | | |
| | Type III (Reduced non-CLP) NJ DKQP TX TRRP-13 | | | | | | If yes, format: UPS | | | | | | | | | | | | | | | | | |
| | 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.) | | | | | | | | | Temperature upon receipt^C | | | | | | | |

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The white copy should accompany samples to Eurofins Lancaster Laboratories Environmental. The yellow copy should be retained by the client. Page 10 of 13

7044 0717

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Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 221278

Client: Brightfields, Inc

Group Number(s): 1964400

| Delivery Method: <u>E</u> | LLE Courier | Arrival Timestamp: | <u>07/11/2018</u> | <u>17:45</u> |
|------------------------------------|-------------|--------------------------|-------------------|--------------|
| Number of Packages: <u>1</u> | | Number of Projects: | <u>1</u> | |
| State/Province of Origin: D | <u>E</u> | | | |
| | Arrival C | ondition Summary | | |
| Shipping Container Sealed: | Yes | Sample IDs on COC ma | atch Containers: | Yes |
| Custody Seal Present: | Yes | Sample Date/Times ma | tch COC: | Yes |
| Custody Seal Intact: | Yes | VOA Vial Headspace ≥ | 6mm: | N/A |
| Samples Chilled: | N/A | Total Trip Blank Qty: | | 0 |
| Paperwork Enclosed: | Yes | Air Quality Samples Pre | esent: | Yes |
| Samples Intact: | Yes | Air Quality Flow Control | llers Present: | No |
| Missing Samples: | No | Air Quality Returns: | | No |
| Extra Samples: | No | | | |
| Discrepancy in Container Qty on Co | OC: No | | | |

Unpacked by Cory Jeremiah (10469) at 18:41 on 07/11/2018

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) |
|---------------------|----------------------------------|------------------------|--|
| С | 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 |
| IŬ | 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 | | pe equivalent to milli | kilogram (mg/kg) or one gram per million grams. For grams per liter (mg/l), because one liter of water has a weigh juivalent to one microliter per liter of gas. |
| ppb | parts per billion | | |
| Dry weight basis | | | pisture content. This increases the analyte weight ample without moisture. All other results are reported on an |

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.

as-received basis.

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.

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Data Qualifiers

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| Qualifier | Definition |
|----------------|---|
| С | 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 >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL) |
| Р | 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.



Appendix B.2 Air Analytical Data Package July 18, 2018



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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: July 25, 2018 14:08

Project: Dodson Ave/2734.07.51

Account #: 04549 Group Number: 1968256 PO Number: 15186 Release Number: 2734.07.51 State of Sample Origin: DE

To view our laboratory's current scopes of accreditation please go to <u>http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/</u>. Historical copies may be requested through your project manager.

Electronic Copy ToBrightfields, Inc.Electronic Copy ToBrightfields, Inc.Electronic Copy ToBrightfields, Inc.

Attn: Ken Hannon Attn: Kelly Wilkinson Attn: Mae Langrehr

Respectfully Submitted,

Elisabulh a. 15

Élisabeth A. Knisley Project Manager

(717) 556-7262





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SAMPLE INFORMATION

| Client Sample Description | Sample Collection | <u>ELLE#</u> |
|---------------------------|-------------------|--------------|
| | Date/Time | |
| DA-EFF-071818 Grab Air | 07/18/2018 09:38 | 9715287 |
| DA-INF-071818 Grab Air | 07/18/2018 09:39 | 9715288 |

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.



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| Sample Description: | DA-EFF-071818 Grab Air Dodson Ave/2734.07.51 | Brightfields, Inc ELLE Sample #: ELLE Group #: | | |
|---|---|--|---------------------------|--------------------|
| Project Name: | Dodson Ave/2734.07.51 | | Matrix: Air | 1300200 |
| Submittal Date/Time: Collection Date/Time: | 07/20/2018 18:25 07/18/2018 09:38 | | | |
| CAT No. Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |

| Volatile | es in Air EPA 18 | 3 mod/EPA 25 mod | ppm(v) | ppm(v) | |
|----------|------------------------------|------------------|--------|--------|---|
| 07090 | Benzene | 71-43-2 | N.D. | 0.5 | 1 |
| 07090 | C2-C4 Hydrocarbons as hexane | n.a. | N.D. | 5 | 1 |
| 07090 | >C4-C10 Hydrocarbons hexane | n.a. | N.D. | 5 | 1 |
| 07090 | Ethylbenzene | 100-41-4 | N.D. | 0.4 | 1 |
| 07090 | Methane | 74-82-8 | 8 | 2 | 1 |
| 07090 | Toluene | 108-88-3 | N.D. | 0.8 | 1 |
| 07090 | Xylene (total) | 1330-20-7 | N.D. | 0.7 | 1 |

Sample Comments

| | | Labo | oratory S | Sample Analysi | s Record | | |
|------------|------------------------------|--------------------------|-----------|----------------|---------------------------|----------------------|--------------------|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
| 07090 | BTEX/MTBE/Hydrocarbons by GC | EPA 18 mod/EPA 25 mod | 1 | M1820530AA | 07/24/2018 17:55 | Alexander D Sechrist | 1 |



07090

07090

07090

07090

07090

07090

07090

Benzene

Methane

Toluene

Ethylbenzene

Xylene (total)

C2-C4 Hydrocarbons as hexane

>C4-C10 Hydrocarbons hexane

Lancaster Laboratories Environmental

71-43-2

100-41-4

108-88-3

1330-20-7

74-82-8

n.a.

n.a.

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1

1

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1

| Sample Description: | DA-INF-071818 Grab Air Dodson Ave/2734.07.51 | | Brightfields, In ELLE Sample # ELLE Group #: | #: AQ 9715288 |
|---|---|--------|--|--------------------|
| Project Name: | Dodson Ave/2734.07.51 | | Matrix: Air | 1000200 |
| Submittal Date/Time: Collection Date/Time: | 07/20/2018 18:25 07/18/2018 09:39 | | | |
| CAT No. Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
| Volatiles in Air | EPA 18 mod/EPA 25 mod | ppm(v) | ppm(v) | |

N.D.

N.D.

N.D.

N.D.

N.D.

N.D.

4 J

Sample Comments

0.5

5

5

2

0.4

0.8

0.7

| | | Labo | oratory S | Sample Analysi | s Record | | |
|------------|------------------------------|--------------------------|-----------|----------------|---------------------------|----------------------|--------------------|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
| 07090 | BTEX/MTBE/Hydrocarbons by GC | EPA 18 mod/EPA 25 mod | 1 | M1820530AA | 07/24/2018 18:24 | Alexander D Sechrist | 1 |



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Quality Control Summary

Client Name: Brightfields, Inc. Reported: 07/25/2018 14:08 Group Number: 1968256

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 |
|------------------------------|-------------|-------------------------|
| | ppm(v) | ppm(v) |
| Batch number: M1820530AA | Sample numb | per(s): 9715287-9715288 |
| Benzene | N.D. | 0.5 |
| C2-C4 Hydrocarbons as hexane | N.D. | 5 |
| >C4-C10 Hydrocarbons hexane | N.D. | 5 |
| Ethylbenzene | N.D. | 0.4 |
| Methane | N.D. | 2 |
| Toluene | N.D. | 0.8 |
| Xylene (total) | N.D. | 0.7 |

LCS/LCSD

| Analysis Name | LCS Spike Added ppm(v) | LCS Conc ppm(v) | LCSD Spike Added ppm(v) | LCSD Conc ppm(v) | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|--------------------------|------------------------------|-----------------------|-------------------------------|------------------------|-------------|--------------|--------------------|-----|------------|
| Batch number: M1820530AA | Sample number | (s): 9715287-9 | 9715288 | | | | | | |
| Benzene | 10 | 7.89 | 10 | 8.38 | 79 | 84 | 65-118 | 6 | 30 |
| Ethylbenzene | 10 | 9.04 | 10 | 8.48 | 90 | 85 | 62-123 | 6 | 30 |
| Toluene | 10 | 10.64 | 10 | 10.59 | 106 | 106 | 79-149 | 1 | 30 |
| Xylene (total) | 30 | 28.14 | 30 | 27.27 | 94 | 91 | 58-125 | 3 | 30 |

*- Outside of specification

(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

| Carlos Carlos Carlos Lancaster Laboratories Environmental | Acct. # 4 | 1549 | For Eu | irofin: oup ‡ | s Lan ≇ĺ(| ncaster Lab 1U025 | oratori | ies En ;ample | vironrr # | nental | use o 52 | ₿ ¹ 7- | - Ø | Ũ | | | I | C | OC # | 552 | 2387 |
|---|--------------------|---------|---------------------------|------------------|-------------------|--|--------------------------|------------------|----------------|-----------|-------------|---|--------|---------------|---|-------|----------------------|-----------------------------|----------------------------------|---------------------------------|------------------------------|
| Client Information | on | | | | | Matrix | | | I | | | and the second se | | Reque | and the state of the | | | F | For Lab Use | Only | |
| ^{Client:} BRIGHT <i>F</i> /ELDS; INC | Acct. #: | | Contraction of the second | | | | | | | Pro | eserv | ation | and | Filtra | tion C | ode | S | | FSC: | | |
| | | | | | e | | | | | | | | | | | | | | SCR#: | | |
| Project Name##: DODSON AVE/2734.07.51 | PWSID #: | | | | Tissue | Ground Surface | | | 30 | × | | | | | | | | | Preserv H=HCI | | C odes Thiosulfate |
| Project Menager | P.O. #: | | | \neg | | Sur Sur | | | 000 | - | | | | | | | | | N=HNO ₃ | | NaOH |
| KEN HANNON | | 5186 | 2 | | | | 1 | ราจ | 19 | | | | | | | | | | S=H ₂ SO ₄ | | H₃PO₄ |
| Sampler: MAE LANGREHR | Quote #: | | MARKED BALLER | | ent | | 12 | ain | K J | Į | | | | | | | | | F=Field Filter | | |
| | | | | | Ĕ | ble DES | AIR | ont | C L J | Ł | | | | | | | | - | R | emarks | <u>;</u> |
| State where samples were collected: For Compliance: Yes | No 🗆 | | | site | Sediment | Potable NPDES | | of Containers | 55 | | | | | | | | | | | | |
| Sample Identification | Coll | ected | qg | Composite | | Water | Other: | tal # | BTEX, Metha | | | | | | | | | | | | |
| | Date | Time | Grab | ဗီ | Soil | Na | Ğ | Total | ωŽ | | | | | | | | | | | | |
| DA-EFF-071818 | 7/18/18 | 0938 | \boxtimes | | | | \mathbb{X} | | \boxtimes | | | | | | | | | | | | |
| DA-EFF-071818 DA-INF-071818 | 7/18/18 | | \ge | | | | \mathbb{X} | | \ge | | | | | | | | | | | | |
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| Standard | Rush | | 14 | 4 | U | the | 2 | , | | 7/2 | 418 | 13 | | | | ØR | $\underline{}$ | <i>v</i> | <u> </u> | <u>70 8</u> | 1319 |
| (Rush TAT is subject to laboratory approval and surchar | ge.) | | Relinquis | afied t | y / | MAR |) | | 1 | Date M | 7/10 | Time | 19 | Receive | d by | 1 | | | / Da | ite r | Time |
| Data reculta are peoded: | | | Rélinquis | | <u>[][]</u> by | 4V V | 1871 - 1972 - 1993 - 199 | | 10 | Date | -/74 | | 11- | Receive | d by | | | \sim | Da | ate | Time |
| Date results are needed: | | - | Tromação | 216-2- | 75 | ~ | | | | Duis | | 1 | | 1.002.1 | 1, | | | | | | 1 |
| E-mail address: MLANGREHR@BRIGHTFIG | LOSINC. (| OM | Relinquis | ished ! | by | lenner and the second s | $\overline{}$ | | | Date | | Time | | Receive | d by | | | 10-10-12, ACC | Da | ite | Time |
| Data Package Options (circle if | | | 1 | | | | | | | | | | | | | | | | | | |
| Type I (EPA Level 3 | (Raw Data | Only) | Relinquis | shed t | ya | | | | | Date | | Time | | Beceive | d by | | | | Da | te Arriv | Time 1825 |
| Equivalent/non-CLP) | Inter Data | Ully/ | | | | | | | | | | | 4 | - V | Z | 2 | | <u>Noomidana sa ining</u> i | | 1-2018 | 182 |
| Type III (Reduced non-CLP) NJ DKG | ↓P TX ⁻ | TRRP-13 | | | If you | EDD Re | quirea | : ?t | Yes | No | | | | Relinq UPS | • | - | | | cial Carrier: Other | | |
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| NYSDEC Category A or B MA MC | > CTI | RCP | (! | | | ate QC samp | | | | | | | | | Temp | oerat | ure u | pon | receipt <u>I</u> | <u>//</u> | _°C |

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Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 222131

Client: Brightfields, Inc

Group Number(s): 1968256

| Delivery Method: <u>E</u> | LLE Courier | Arrival Timestamp: | 07/20/2018 1 | 18:25 |
|-----------------------------------|-------------|--------------------------|-----------------|-------|
| Number of Packages: <u>1</u> | | Number of Projects: | <u>1</u> | |
| | Arrival (| Condition Summary | | |
| Shipping Container Sealed: | Yes | Sample IDs on COC ma | tch Containers: | Yes |
| Custody Seal Present: | No | Sample Date/Times ma | ch COC: | Yes |
| Samples Chilled: | N/A | VOA Vial Headspace ≥ | Smm: | N/A |
| Paperwork Enclosed: | Yes | Total Trip Blank Qty: | | 0 |
| Samples Intact: | Yes | Air Quality Samples Pre | sent: | Yes |
| Missing Samples: | No | Air Quality Flow Control | ers Present: | No |
| Extra Samples: | No | Air Quality Returns: | | No |
| Discrepancy in Container Qty on C | OC: No | | | |

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) |
|---------------------|----------------------------------|------------------------|---|
| С | 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 | | be equivalent to milli | kilogram (mg/kg) or one gram per million grams. For igrams per liter (mg/l), because one liter of water has a weigh juivalent to one microliter per liter of gas. |
| ppb | parts per billion | | |
| Dry weight basis | | | pisture content. This increases the analyte weight ample without moisture. All other results are reported on an |

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.

as-received basis.

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

Lancaster Laboratories Environmental

| Qualifier | Definition |
|----------------|---|
| С | 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 >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL) |
| Р | 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.



Appendix B.3 Air Analytical Data Package July 26, 2018



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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: August 01, 2018 16:04

Project: Dodson Ave/2734.07.51

Account #: 04549 Group Number: 1970594 PO Number: 15208 Release Number: 2734.07.51 State of Sample Origin: DE

Electronic Copy To Attn: Ken Hannon Attn: Kelly Wilkinson Attn: Mae Langrehr

Respectfully Submitted,

Elisabeth a.

Élisabeth 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

| Client Sample Description | Sample Collection | ELLE# |
|---------------------------|-------------------|---------|
| | Date/Time | |
| DA-EFF-072618 Grab Air | 07/26/2018 12:06 | 9725854 |
| DA-INF-072618 Grab Air | 07/26/2018 12:08 | 9725855 |

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.



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| Sample Description: | DA-EFF-072618 Grab Air Dodson Ave/2734.07.51 | Brightfields, I ELLE Sample ELLE Group # | #: AQ 9725854 |
|---|---|--|---------------|
| Project Name: | Dodson Ave/2734.07.51 | Matrix: Air | |
| Submittal Date/Time: Collection Date/Time: | 07/27/2018 16:58 07/26/2018 12:06 | | |
| CAT | | Mathad | Dilution |

| No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|----------|------------------------------|--------------|--------|---------------------------|--------------------|
| Volatile | es in Air EPA 18 mod | l/EPA 25 mod | ppm(v) | ppm(v) | |
| 07090 | Benzene | 71-43-2 | N.D. | 0.5 | 1 |
| 07090 | C2-C4 Hydrocarbons as hexane | n.a. | N.D. | 5 | 1 |
| 07090 | >C4-C10 Hydrocarbons hexane | n.a. | N.D. | 5 | 1 |
| 07090 | Ethylbenzene | 100-41-4 | N.D. | 0.4 | 1 |
| 07090 | Methane | 74-82-8 | 3 J | 2 | 1 |
| 07090 | Toluene | 108-88-3 | N.D. | 0.8 | 1 |
| 07090 | Xylene (total) | 1330-20-7 | N.D. | 0.7 | 1 |
| | | | | | |

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|------------|---------------------------------|--------------------------|--------|------------|---------------------------|-----------------|--------------------|
| 07090 | BTEX/MTBE/Hydrocarbons by GC | EPA 18 mod/EPA 25 mod | 1 | M1821130AA | 07/30/2018 18:06 | Jeffrey B Smith | 1 |



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| Sample Description: | DA-INF-072618 Grab Air Dodson Ave/2734.07.51 | Brightfields, Inc. ELLE Sample #: AQ 9725855 ELLE Group #: 1970594 |
|---|---|--|
| Project Name: | Dodson Ave/2734.07.51 | Matrix: Air |
| Submittal Date/Time: Collection Date/Time: | 07/27/2018 16:58 07/26/2018 12:08 | |
| CAT | | Dilution |

| No. | Analysis Name | CAS Number | Result | Method Detection Limit | Factor | |
|----------|------------------------------|--------------|--------|---------------------------|--------|--|
| Volatile | es in Air EPA 18 moo | l/EPA 25 mod | ppm(v) | ppm(v) | | |
| 07090 | Benzene | 71-43-2 | N.D. | 0.5 | 1 | |
| 07090 | C2-C4 Hydrocarbons as hexane | n.a. | N.D. | 5 | 1 | |
| 07090 | >C4-C10 Hydrocarbons hexane | n.a. | N.D. | 5 | 1 | |
| 07090 | Ethylbenzene | 100-41-4 | N.D. | 0.4 | 1 | |
| 07090 | Methane | 74-82-8 | 4 J | 2 | 1 | |
| 07090 | Toluene | 108-88-3 | N.D. | 0.8 | 1 | |
| 07090 | Xylene (total) | 1330-20-7 | N.D. | 0.7 | 1 | |
| | | | | | | |

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|------------|---------------------------------|--------------------------|--------|------------|---------------------------|-----------------|--------------------|
| 07090 | BTEX/MTBE/Hydrocarbons by GC | EPA 18 mod/EPA 25 mod | 1 | M1821130AA | 07/30/2018 14:17 | Jeffrey B Smith | 1 |



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Quality Control Summary

Client Name: Brightfields, Inc. Reported: 08/01/2018 16:04 Group Number: 1970594

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 |
|------------------------------|-------------|-------------------------|
| | ppm(v) | ppm(v) |
| Batch number: M1821130AA | Sample numb | per(s): 9725854-9725855 |
| Benzene | N.D. | 0.5 |
| C2-C4 Hydrocarbons as hexane | N.D. | 5 |
| >C4-C10 Hydrocarbons hexane | N.D. | 5 |
| Ethylbenzene | N.D. | 0.4 |
| Methane | N.D. | 2 |
| Toluene | N.D. | 0.8 |
| Xylene (total) | N.D. | 0.7 |

LCS/LCSD

| Analysis Name | LCS Spike Added ppm(v) | LCS Conc ppm(v) | LCSD Spike Added ppm(v) | LCSD Conc ppm(v) | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|--------------------------|------------------------------|-----------------------|-------------------------------|------------------------|-------------|--------------|--------------------|-----|------------|
| Batch number: M1821130AA | Sample number | (s): 9725854-9 | 9725855 | | | | | | |
| Benzene | 10 | 9.30 | 10 | 8.82 | 93 | 88 | 65-118 | 5 | 30 |
| Ethylbenzene | 10 | 10.3 | 10 | 9.47 | 103 | 95 | 62-123 | 8 | 30 |
| Toluene | 10 | 12.22 | 10 | 11.58 | 122 | 116 | 79-149 | 5 | 30 |
| Xylene (total) | 30 | 32.34 | 30 | 28.97 | 108 | 97 | 58-125 | 11 | 30 |

*- Outside of specification

(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

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|---|----------------------------------|-------------------------|------------------|--------|---------|-----------|-------------|------------------------------|--------------|-----------------------|-------------|---------|--------------|-------------------------|--------|-------------|----------|-------|----------------------|--|-----------------------------|--|----------------|---|
| | Lancaster Labor Environmental | atories | Acct. # <u> </u> | 544 | G | roup f | <u>‡ 17</u> | 7059 | <u>4</u> s | ample | # | 77 | 25 | دلا | Ч- | 27 | | | | | UU | # : |)52 | 390 |
| | Client | Information | | | | | | Matrix | nganay kaona | l | | | A | nalys | sis F | Requ | este | d | | | For Lal | b Use O | niy | |
| Client: PRICUT | COLLING I | NIC | Acct. #: | | | | | | TT | | | Pr | | /ation | | | | | es | | FSC: | | | |
| | TFIELDS, 1 | | | | | | e | | | | | | | | | | | | | | SCR#:_ | | | |
| Project Name/#: DODSON A Project Manager: | NE. /2734.0 | 07.51 | PWSID #: | | | | Tissue | Ground Surface | | CHICK WE COMMAND | C4,7C4-C10 | | | | | | | | | | Pr H=HCl | reserva | | odes hiosulfate |
| Sampler: | HANNON | | P.O. #: | 520 | 8 | | | 0 0 | | lers | Ę | 81 p | | | | | | | | | N=HNC S=H ₂ S | ïO₄ | P=H | aOH ₃PO₄ |
| M. LANG | | | Quote #; | | | | Sediment | ble [ES [| AIR | ntair | 50 | Method | | | | | | | | | F=Field | d Filtered Rer | d 0=0 narks | 000000000000000000000000000000000000000 |
| State where samples were DEIQWAVE | | or Compliance: Yes | No 🛛 | | | site | Sed | Potable NPDES | | of Co | 5 | 5 Z | | | | | | | | | | | | |
| Samp | le Identificatior | 1 | | ected | Grab | Composite | Soil 🗌 | Water | Other: | Total # of Containers | BTEX, | کو ۲ | | | | | | | | | | | | |
| DA-EFF- | 072018 | | Date 7/20/18 | | 19 N | ျ | Ś | 5 | ŝ | LĔ L I | Ř | | aiduna ana i | anning the state of the | **** | | | | glasson fallandinar. | (78999972996) | | ann san kana kana kana kana kana kana ka | | deniki seta menokatap |
| DA-INF- | 072618 | | 7/26/18 | | X | | | | × | | \boxtimes | | | | | | | | | | | | | |
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| | nd Time (TAT) I | Ru ested (Ru | | e) | Relinqu | | N/a | e La |) IM | Ub | K | Date | Alis | Time 115 | 54 | Receive | D | 11 | N | h | 1 | Date | 27 | Time 1154 |
| (Rush TAT is subj | ect to laboratory approv | al and surcharge. |) | | Relinqu | | | v.M | D | V | 7. | Date | h | Time | | Rečeive | ed by | | | | / | Date | -1 | Time / |
| Date results are ne | eded: | | | | Relinqu | uished | by | - | . | *** | | Date | | Time | | Receive | ed by | | | Conception of the local division of the loca | COLUMN CONTRACTOR | Date | | Time |
| E-mail address: | | | | | Relinqu | uished | by | | | <u> </u> | | Date | | Time | | Receive | ed by | | | | | Date | | Time |
| | Package Optio | ns (circle if red | quired) | | | · | | | | \geq | ~ | | w | | | | <u> </u> | | | | | | | |
| Type I (EPA L Equivalent/nor | | Type VI (F | Raw Data (| Oniy) | Relinqu | uished | ру | 2070007000700070007000700000 | | ¢ | | Date | | Time | (| Receive | by | | | ~ | | Date 74 | 27-18 | Time 1658 |
| Type III (Redu | ced non-CLP) | NJ DKQP | т хт | RRP-13 | | | If yes, | EDD Re | quire | d? | Yes | No | | | | Relin UP | | ied b | y Col Fedl | | cial Ca Ol | arrier: ther | | |
| NYSDEC Cate | egory A or B | MA MCP | CT F | ₹CP | | | | ecific QC ate QC sam | • | | . , | | | No lume.) | | | Ter | nper | ature | upor | n receip | ∍t_N | /A | °C |

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Sample Administration Receipt Documentation Log

Doc Log ID: 222722

Client: Brightfields, Inc

Group Number(s): 1970594

| Delivery Method: E | LLE Courier | Arrival Timestamp: | 07/27/2018 1 | <u>6:58</u> |
|------------------------------------|-------------|--------------------------|------------------|-------------|
| Number of Packages: <u>1</u> | | Number of Projects: | <u>1</u> | |
| State/Province of Origin: D | <u>E</u> | | | |
| | Arrival C | ondition Summary | | |
| Shipping Container Sealed: | No | Sample IDs on COC ma | atch Containers: | Yes |
| Custody Seal Present: | No | Sample Date/Times ma | tch COC: | Yes |
| Samples Chilled: | N/A | VOA Vial Headspace ≥ | 6mm: | N/A |
| Paperwork Enclosed: | Yes | Total Trip Blank Qty: | | 0 |
| Samples Intact: | Yes | Air Quality Samples Pre | esent: | Yes |
| Missing Samples: | No | Air Quality Flow Control | llers Present: | No |
| Extra Samples: | No | Air Quality Returns: | | No |
| Discrepancy in Container Qty on Co | DC: No | | | |

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) |
|---------------------|----------------------------------|------------------------|---|
| С | 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 | | be equivalent to milli | kilogram (mg/kg) or one gram per million grams. For igrams per liter (mg/l), because one liter of water has a weigh juivalent to one microliter per liter of gas. |
| ppb | parts per billion | | |
| Dry weight basis | | | pisture content. This increases the analyte weight ample without moisture. All other results are reported on an |

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.

as-received basis.

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

Lancaster Laboratories Environmental

| Qualifier | Definition |
|----------------|---|
| С | 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 >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL) |
| Р | 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.



Appendix B.4 Air Analytical Data Package July 30, 2018



2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv



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: August 07, 2018 14:42

Project: Dodson Ave/2734.07.51

Account #: 04549 Group Number: 1971474 PO Number: 15209 Release Number: 2734.07.51 State of Sample Origin: DE

Electronic Copy To Attn: Ken Hannon Attn: Kelly Wilkinson Attn: Mae Langrehr

Respectfully Submitted,

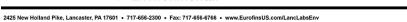
Elisabeth a.

Élisabeth A. Knisley Project Manager

(717) 556-7262

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SAMPLE INFORMATION

| Client Sample Description | Sample Collection | ELLE# |
|---------------------------|-------------------|---------|
| | Date/Time | |
| DA-EFF-073018 Grab Air | 07/30/2018 12:00 | 9730321 |
| DA-INF-073018 Grab Air | 07/30/2018 12:02 | 9730322 |

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.



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| Sample Description: | DA-EFF-073018 Grab Air Dodson Ave/2734.07.51 | Brightfields, In ELLE Sample # ELLE Group #: | t: AQ 9730321 |
|---|---|--|---------------|
| Project Name: | Dodson Ave/2734.07.51 | Matrix: Air | |
| Submittal Date/Time: Collection Date/Time: | 07/31/2018 17:00 07/30/2018 12:00 | | |
| CAT | | | Dilution |

| No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|----------|------------------------------|--------------|--------|---------------------------|--------------------|
| Volatile | es in Air EPA 18 mod | l/EPA 25 mod | ppm(v) | ppm(v) | |
| 07090 | Benzene | 71-43-2 | N.D. | 0.5 | 1 |
| 07090 | C2-C4 Hydrocarbons as hexane | n.a. | N.D. | 5 | 1 |
| 07090 | >C4-C10 Hydrocarbons hexane | n.a. | N.D. | 5 | 1 |
| 07090 | Ethylbenzene | 100-41-4 | N.D. | 0.4 | 1 |
| 07090 | Methane | 74-82-8 | 3 J | 2 | 1 |
| 07090 | Toluene | 108-88-3 | N.D. | 0.8 | 1 |
| 07090 | Xylene (total) | 1330-20-7 | N.D. | 0.7 | 1 |
| | | | | | |

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|------------|---------------------------------|--------------------------|--------|------------|---------------------------|----------------------|--------------------|
| 07090 | BTEX/MTBE/Hydrocarbons by GC | EPA 18 mod/EPA 25 mod | 1 | M1821330AA | 08/01/2018 19:31 | Alexander D Sechrist | 1 |



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| Sample Description: | DA-INF-073018 Grab Air Dodson Ave/2734.07.51 | Brightfields, ELLE Sample ELLE Group | #: AQ 9730322 |
|---|---|--|---------------|
| Project Name: | Dodson Ave/2734.07.51 | Matrix: Air | |
| Submittal Date/Time: Collection Date/Time: | 07/31/2018 17:00 07/30/2018 12:02 | | |
| CAT | | | Dilution |

| No. | Analysis Name | CAS Number | Result | Method Detection Limit | Factor |
|----------|------------------------------|--------------|--------|---------------------------|--------|
| Volatile | es in Air EPA 18 mod | l/EPA 25 mod | ppm(v) | ppm(v) | |
| 07090 | Benzene | 71-43-2 | N.D. | 0.5 | 1 |
| 07090 | C2-C4 Hydrocarbons as hexane | n.a. | N.D. | 5 | 1 |
| 07090 | >C4-C10 Hydrocarbons hexane | n.a. | N.D. | 5 | 1 |
| 07090 | Ethylbenzene | 100-41-4 | N.D. | 0.4 | 1 |
| 07090 | Methane | 74-82-8 | 3 J | 2 | 1 |
| 07090 | Toluene | 108-88-3 | N.D. | 0.8 | 1 |
| 07090 | Xylene (total) | 1330-20-7 | N.D. | 0.7 | 1 |
| | | | | | |

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|------------|---------------------------------|--------------------------|--------|------------|---------------------------|----------------------|--------------------|
| 07090 | BTEX/MTBE/Hydrocarbons by GC | EPA 18 mod/EPA 25 mod | 1 | M1821330AA | 08/01/2018 19:59 | Alexander D Sechrist | 1 |



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Quality Control Summary

Client Name: Brightfields, Inc. Reported: 08/07/2018 14:42 Group Number: 1971474

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 |
|------------------------------|-------------|-------------------------|
| | ppm(v) | ppm(v) |
| Batch number: M1821330AA | Sample numb | per(s): 9730321-9730322 |
| Benzene | N.D. | 0.5 |
| C2-C4 Hydrocarbons as hexane | N.D. | 5 |
| >C4-C10 Hydrocarbons hexane | N.D. | 5 |
| Ethylbenzene | N.D. | 0.4 |
| Methane | N.D. | 2 |
| Toluene | N.D. | 0.8 |
| Xylene (total) | N.D. | 0.7 |

LCS/LCSD

| Analysis Name | LCS Spike Added ppm(v) | LCS Conc ppm(v) | LCSD Spike Added ppm(v) | LCSD Conc ppm(v) | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|--------------------------|------------------------------|-----------------------|-------------------------------|------------------------|-------------|--------------|--------------------|-----|------------|
| Batch number: M1821330AA | Sample number | (s): 9730321-9 | 9730322 | | | | | | |
| Benzene | 10 | 7.90 | 10 | 8.49 | 79 | 85 | 65-118 | 7 | 30 |
| Ethylbenzene | 10 | 8.00 | 10 | 8.72 | 80 | 87 | 62-123 | 9 | 30 |
| Toluene | 10 | 10.01 | 10 | 11.03 | 100 | 110 | 79-149 | 10 | 30 |
| Xylene (total) | 30 | 23.68 | 30 | 28.14 | 79 | 94 | 58-125 | 17 | 30 |

*- Outside of specification

(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

| 🐝 eurofins | Lancaster Laborat | tories | Acct. # | 4549 | For E | iurofin Iroup 1 | 15 Lan # <u> 9</u> | icaster 7(4 | Labora 74 | atorie Sa | əs Env ample | vironn # | nental | use o 303 | nly [2]- | 27 | 7 | | | | С | 00 | # 5 | 52 | 389 |
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| | | nformation |) | | | | | Mat | rix | | | | | A | nalys | sis F | Reque | ester | d | | | For Lal | b Use Or | nly | |
| Client: | | T | Acct. #: | | anana tau | | | | | | | | Pro | | ation | | | | | les | | FSC: | | | |
| BRIGHT | FIELDS, II | NC. | I | | | | | | | | | | Π | | | | | | | | T | SCR#:_ | | | |
| BRIGHT Project Name/#: DUDSON A Project Manager: KEN HI | VE / 2734. | 07.51 | PWSID #: P.O. #: | A | | | Tissue | Ground | Surface | | | | ethane | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | | | | | | | | Pr H=HCI N=HNC | | | hiosulfate |
| KEN HI | ANNON | | | 520 | 4 | | | | | | ers | | 33 | | | | | | | | | S=H2S | | P=H | · · |
| Sampler: | | | Quote #: | | <u></u> | | ent | | | <u>A</u> IR | ain | CY | 5 | ĥ | | | | | | | | F=Field | d Filtered | | |
| M. LAN | IGREHR | O | L | | 1 | | Sediment | Potable | NPDES | \triangleleft | ont | | 000 | p~ | | | | | | | | | Ren | narks | |
| State where samples were DCI A W A | + collected: For | Compliance: | No 🖾 | I | | fe | Sec | ota | <u> </u> | | Ŭ | IC I | P | | | | | | | | | | | | |
| <u> </u> | | | | - | | losi | | | | | 。 | 5 | 1 | | | | | | | | | | | | |
| - | ole Identification | | Colle Date | ected Time | Grab | Composite | Soil | Water | | Other: | Total # of Containers | BTEX | F | | | | | | | | | | | | |
| DA-EFF-C | 173018 |] | 7/30/18 | 1200 | \mathbb{X} | | | | | X | 1 | $\mathbf{\mathbf{k}}$ | \$ | | | | | | | | Ţ | | | | |
| DA-INF- | 073018 -073018 | | 7/30/18 | 1202 | $\mathbf{\nabla}$ | | | | | \mathbf{X} | 11 | \bowtie | | | | | | | | | | | | | |
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| an a | | | | | † | | | | | Ĩ | | | | | | | | Ī | | | 1 | 1 | | | |
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| | andard | - | ush | -, | | M | al | .LC | nf | N | 1/2_ | | 43 | ?1/1g | 110 |)()_ | 10 | VIA | All | 1/2 | \angle | | 10 | -18 | 1100 |
| | ject to laboratory approva | al and surcharge. | .) | | Relinq | uished | by | To1 | M | Ĩ | 2 | 1 | Date 1919 | 1.10 | Tipte | 100 | Receive | ed by | | | | | Date | | Time |
| Date results are ne | eded: | | | - | Relinq | ushed | 5A | オハハ | | \langle | | | Date | | Time | | Receive | ∍d by | | | | | Date | | Time |
| E-mail address: | | | | _ | Reling | quished | by | | | 2008-2009-0 ⁰ | 1 | • | Date | | Time | | Receive | ed by | | | | | Date | | Time |
| Data | a Package Option | ns (circle if rea | quired) | | 1 | | | | | | | | <u> </u> | | | | | <u>}</u> | | | | | | | |
| Type I (EPA L | | Type VI (F | Raw Data | Onlv) | Relinq | quished | by | | | | | | Date | | Time | | Receiv | ed by | and the second | | | | Date | 5112 | 1700 |
| Equivalent/no | n-CLP) | ·) (" - · · · · · | | <i></i> | | | | | ~ | • | | | | C | | <u> </u> | \leq | 4 | | 2 | | Cr | | <u>'ש'</u> | 100 |
| Type III (Redu | uced non-CLP) | NJ DKQP | т ХТ | TRRP-13 | | | If ves | EDD , forma | Requ | uirea | 1? | Yes | No | | | | Relin UP | • | nea r | y Co Fed | | ercial Ca Ol | ther | | |
| NYSDEC Cate | egory A or B | MA MCP | CT F | RСР | | Sit | te-Sp | ecific (ate QC | QC (N | | | | | | – No lume.) | | | | mper | | | n receip | M | <u>/A</u> | _°C |

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The white copy should accompany samples to Eurofins Lancaster Laboratories Environmental. The yellow copy should be retained by the client.

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Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 222918

Group Number(s): 1971474

Client: Brigjhtfields, Inc

| Delivery Method: | ELLE Courier | Arrival Timestamp: | <u>07/31/2018 17</u> | <u>)18 17:00</u> | | | | |
|---------------------------------|--------------|--------------------------|------------------------------|------------------|--|--|--|--|
| Number of Packages: | <u>1</u> | Number of Projects: | Number of Projects: <u>1</u> | | | | | |
| State/Province of Origin: | <u>DE</u> | | | | | | | |
| | Arrival C | Condition Summary | | | | | | |
| Shipping Container Sealed: | Yes | Sample IDs on COC ma | atch Containers: | Yes | | | | |
| Custody Seal Present: | No | Sample Date/Times ma | tch COC: | Yes | | | | |
| Samples Chilled: | N/A | VOA Vial Headspace ≥ | 6mm: | N/A | | | | |
| Paperwork Enclosed: | Yes | Total Trip Blank Qty: | | 0 | | | | |
| Samples Intact: | Yes | Air Quality Samples Pre | esent: | Yes | | | | |
| Missing Samples: | No | Air Quality Flow Control | lers Present: | No | | | | |
| Extra Samples: | No | Air Quality Returns: | | No | | | | |
| Discrepancy in Container Qty on | COC: No | | | | | | | |

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) | | | | | | |
|---------------------|---|----------|---|--|--|--|--|--|--|
| С | 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 weigh 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 | | | pisture content. This increases the analyte weight ample without moisture. All other results are reported on an | | | | | | |

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.

as-received basis.

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.

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Data Qualifiers

Lancaster Laboratories Environmental

| Qualifier | Definition |
|----------------|---|
| С | 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 >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL) |
| Р | 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.



Appendix B.5 Air Analytical Data Package August 9, 2018



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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: August 14, 2018 15:36

Project: Dodson Ave/2734.07.51

Account #: 04549 Group Number: 1975547 PO Number: 15210 Release Number: 2734.07.51 State of Sample Origin: DE

Electronic Copy To Attn: Ken Hannon Attn: Kelly Wilkinson Attn: Mae Langrehr

Respectfully Submitted,

Elisabeth a.

Élisabeth 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

| Client Sample Description | Sample Collection | ELLE# |
|---------------------------|-------------------|---------|
| | Date/Time | |
| DA-EFF-080918 Grab Air | 08/09/2018 08:34 | 9749058 |
| DA-INF-080918 Grab Air | 08/09/2018 08:35 | 9749059 |

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.



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| Sample Description: | DA-EFF-080918 Grab Air Dodson Ave/2734.07.51 | Brightfields, Inc. ELLE Sample #: ELLE Group #: | | | |
|---|---|---|--------|--|--|
| Project Name: | Dodson Ave/2734.07.51 | Matrix: Air | | | |
| Submittal Date/Time: Collection Date/Time: | 08/10/2018 18:40 08/09/2018 08:34 | | | | |
| CAT | | | lution | | |

| No. | Analysis Name | CAS Number | Result | Method Detection Limit | Factor |
|----------|------------------------------|--------------|--------|---------------------------|--------|
| Volatile | es in Air EPA 18 mod | l/EPA 25 mod | ppm(v) | ppm(v) | |
| 07090 | Benzene | 71-43-2 | N.D. | 0.5 | 1 |
| 07090 | C2-C4 Hydrocarbons as hexane | n.a. | N.D. | 5 | 1 |
| 07090 | >C4-C10 Hydrocarbons hexane | n.a. | N.D. | 5 | 1 |
| 07090 | Ethylbenzene | 100-41-4 | N.D. | 0.4 | 1 |
| 07090 | Methane | 74-82-8 | 3 J | 2 | 1 |
| 07090 | Toluene | 108-88-3 | N.D. | 0.8 | 1 |
| 07090 | Xylene (total) | 1330-20-7 | N.D. | 0.7 | 1 |
| | | | | | |

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|------------|---------------------------------|--------------------------|--------|------------|---------------------------|----------------------|--------------------|
| 07090 | BTEX/MTBE/Hydrocarbons by GC | EPA 18 mod/EPA 25 mod | 1 | M1822530AA | 08/13/2018 16:30 | Alexander D Sechrist | 1 |



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| Sample Description: | DA-INF-080918 Grab Air Dodson Ave/2734.07.51 | Brightfields, ELLE Sample ELLE Group | e #: AQ 9749059 |
|---|---|--|-----------------|
| Project Name: | Dodson Ave/2734.07.51 | Matrix: Air | |
| Submittal Date/Time: Collection Date/Time: | 08/10/2018 18:40 08/09/2018 08:35 | | |
| CAT | | | Dilution |

| No. | Analysis Name | CAS Number | Result | Method Detection Limit | Factor |
|----------|------------------------------|-------------|--------|---------------------------|--------|
| Volatile | es in Air EPA 18 mod | /EPA 25 mod | ppm(v) | ppm(v) | |
| 07090 | Benzene | 71-43-2 | N.D. | 0.5 | 1 |
| 07090 | C2-C4 Hydrocarbons as hexane | n.a. | N.D. | 5 | 1 |
| 07090 | >C4-C10 Hydrocarbons hexane | n.a. | N.D. | 5 | 1 |
| 07090 | Ethylbenzene | 100-41-4 | N.D. | 0.4 | 1 |
| 07090 | Methane | 74-82-8 | 3 J | 2 | 1 |
| 07090 | Toluene | 108-88-3 | N.D. | 0.8 | 1 |
| 07090 | Xylene (total) | 1330-20-7 | N.D. | 0.7 | 1 |
| | | | | | |

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|------------|---------------------------------|--------------------------|--------|------------|---------------------------|----------------------|--------------------|
| 07090 | BTEX/MTBE/Hydrocarbons by GC | EPA 18 mod/EPA 25 mod | 1 | M1822530AA | 08/13/2018 15:32 | Alexander D Sechrist | 1 |



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Quality Control Summary

Client Name: Brightfields, Inc. Reported: 08/14/2018 15:36 Group Number: 1975547

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 |
|------------------------------|------------|-------------------------|
| | ppm(v) | ppm(v) |
| Batch number: M1822530AA | Sample num | per(s): 9749058-9749059 |
| Benzene | N.D. | 0.5 |
| C2-C4 Hydrocarbons as hexane | N.D. | 5 |
| >C4-C10 Hydrocarbons hexane | N.D. | 5 |
| Ethylbenzene | N.D. | 0.4 |
| Methane | N.D. | 2 |
| Toluene | N.D. | 0.8 |
| Xylene (total) | N.D. | 0.7 |

LCS/LCSD

| Analysis Name | LCS Spike Added ppm(v) | LCS Conc ppm(v) | LCSD Spike Added ppm(v) | LCSD Conc ppm(v) | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|--------------------------|------------------------------|-----------------------|-------------------------------|------------------------|-------------|--------------|--------------------|-----|------------|
| Batch number: M1822530AA | Sample number | (s): 9749058-9 | 9749059 | | | | | | |
| Benzene | 10 | 8.21 | 10 | 8.24 | 82 | 82 | 65-118 | 0 | 30 |
| Ethylbenzene | 10 | 8.80 | 10 | 9.48 | 88 | 95 | 62-123 | 7 | 30 |
| Toluene | 10 | 10.66 | 10 | 10.65 | 107 | 106 | 79-149 | 0 | 30 |
| Xylene (total) | 30 | 26.79 | 30 | 28.53 | 89 | 95 | 58-125 | 6 | 30 |

*- Outside of specification

(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

| seurofins 🐘 | Lancaster Labor Environmental | atories | Acct. # | 1549 | For E | Eurofir Froup i | is Lan #0 | caster Lab | orator | es En ample | vironi 01- # | nental 149 | use o US (| nly 3-6 | 9 | | | | C | 0C ; | # 55 | 2388 |
|-----------------------------|----------------------------------|--------------------|--|--------|---------------------|--------------------|--------------|-------------------|-----------------|-----------------------|--------------------|--------------------|---------------|----------------------|-----------|---|-------------------|--|---|---|-----------------|---------------------------------|
| | | Information | | | -299039239339303332 | | | Matrix | | l | 1 | | A | nalysis | s Rec | ueste | ed | | | For Lab U | ise Only | |
| Client: | | | Acct. #: | | | | | | TT | | | Pre | | ation a | | | | les | ana | FSC: | - | |
| BRIGHT | TFIELDS, 1 | NC | | | | | | | | | | | | Ī | T | | | | | SCR#: | | |
| Project Name/# | | | PWSID #: | | | | Tissue | b S | | | | | | 1 | | | | | | Pres | ervation | Codes |
| DODSON AN | 6/2734. | 54.51 | | | | | Tis | Ground Surface | | | 2 | | | | | | | | | H=HCI | т | =Thiosulfate |
| Project Manager: | INDAL | | P.O. #: | 521 | 1 | | | ບ ດີ | | 10 | -010 | 00 | | | | | | | | $N=HNO_3$ | В | =NaOH |
| Project Manager: KEN HAN | 111 017 | | and a second | Dal | <u> </u> | | اــــا | | | ē | C4- | ~ | | | | | | | | S=H ₂ SO ₄ | | =H ₃ PO ₄ |
| Sampler: N. BRAD | ICY | | Quote #: | | | | en | | M | air | F | X | | | | | | | | F=Field F | | |
| State where samples were | | or Compliance: | | | | | Sediment | Potable NPDES | \triangleleft | õ | デン | NCH0 | | | | | | | | 445-000-400-60-00-000-00-00-00-00-00-00-00-00-00- | Remar | KS |
| Delawar | 1 | Yes | No 🖾 | | | te | Sec | ota |] | Ŭ | 1 | 星之 | | | | | | | | | | |
| Dernwar | | | | | | osi | | | | <i>本</i> | 5 | 55 | | | | | | | | | | |
| Samp | le Identification | n | Colle | ected | de de | Composite | | Water | Other: | Total # of Containers | BTEX, | Netton Mc | | | | | | | | | | |
| | | | Date | Time | Grab | ပိ | Soil | Ma | 0ţl | Ĕ | 2 | ₽ | | | | | | | | | | |
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| E-mail address: | | | | | Relinq | uished | by | | | the same | | Date | | Time | Rec | eived by | | | | | Date | Time |
| 18 | Package Optic | ons (circle if rec | quired) | | | !_l 1 | L | | | ~ | | | | Time | | eived by | | £ | , | / | <u> </u> | Time |
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| Equivalent/nor | I-CLP) | v | | | ļ | | | | | 10 | Va- | <u> </u> | | | | | bodle | | nmar | | | 0/100 |
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| | | | | | | | | ecific QC | (MS/N | /ISD/I | Dup)' | ? Ye | es | No | 1 | | | | | | MA | |
| NYSDEC Cate | gory A or B | MA MCP | CT F | RCP | | | • | ate QC samp | ` | | • • | | | | | Τe | emper | ature | upon | receipt_ | <u>· v/†</u> | _°C |

Eurofins Lancaster Laboratories Environmental, LLC • 2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300

The white copy should accompany samples to Eurofins Lancaster Laboratories Environmental. The yellow copy should be retained by the client.

🔅 eurofins

Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 223925

Group Number(s):

1975547

Client: Brightfields, Inc.

Delivery and Receipt Information Delivery Method: ELLE Courier Arrival Timestamp: 08/10/2018 18:40 Number of Packages: Number of Projects: 1 1 State/Province of Origin: DE **Arrival Condition Summary** Shipping Container Sealed: Yes Sample IDs on COC match Containers: Yes Custody Seal Present: Yes Sample Date/Times match COC: Yes N/A Custody Seal Intact: Yes VOA Vial Headspace ≥ 6mm: N/A 0 Samples Chilled: Total Trip Blank Qty: Paperwork Enclosed: Air Quality Samples Present: Yes Yes Samples Intact: Yes Air Quality Flow Controllers Present: No No Air Quality Returns: No Missing Samples: Extra Samples: No Discrepancy in Container Qty on COC: No Unpacked by Simon Nies (25112) at 19:58 on 08/10/2018

Lancaster Laboratories Environmental

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) |
|---------------------|----------------------------------|------------------------|---|
| С | 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 | | be equivalent to milli | kilogram (mg/kg) or one gram per million grams. For igrams per liter (mg/l), because one liter of water has a weigh juivalent to one microliter per liter of gas. |
| ppb | parts per billion | | |
| Dry weight basis | | | pisture content. This increases the analyte weight ample without moisture. All other results are reported on an |

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.

as-received basis.

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.

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Lancaster Laboratories Environmental

Data Qualifiers

| Qualifier | Definition |
|----------------|--|
| С | 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 >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL) |
| Р | 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 |
| R | Concentration difference between the primary and confirmation column > 40%. The higher result is reported. |

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 C

Petroleum Scan Laboratory Analysis Report



Results Report

Order ID: 5104059

| BrightfFields, Inc. 801 Indusrial Street Wilmington, DE 19801 | | | Project: Petrole | ∍um Scan | | | | | |
|---|-----------------------|------------------------|------------------|----------|---------|------------------|------|----------------|------|
| Attn: Steve Johnson, Ph.D., P.G. | | Reç | gulatory ID: | | | | | | |
| Sample Number: 5104059-01 Collector: | Site: N/ Collect I | APL Date: 10/22/201 | l5 11:20 am | | mple ID | D: jype: Grab | | | |
| Department / Test / Parameter | Result | Units | Method | R.L. | DF | Prep Date | Ву | Analysis Date | Ву |
| Subcontracted Testing Subcontracted Services | See Attached | N/A | N/A | | 1 | 11/02/15 | SUB* | 11/04/15 18:12 | SUB* |
| Data Qualifiers: | | | | | | | | | |

All results meet the requirements of STL's TNI (NELAC) Accredited Quality System unless otherwise noted. If your results contain any data qualifiers or comments, you should evaluate useability relative to your needs.

If collectors initials include "STL", samples have been collected in accordance with STL SOP SL0015.

All results reported on an As Received (Wet Weight) basis unless otherwise noted.

This laboratory report may not be reproduced, except in full, without the written approval of STL.

Results are considered Preliminary unless report is signed by authorized representative of STL.

Reviewed and Released By:

Deborah Hannum Project Manager

Deborah M. Hanaum

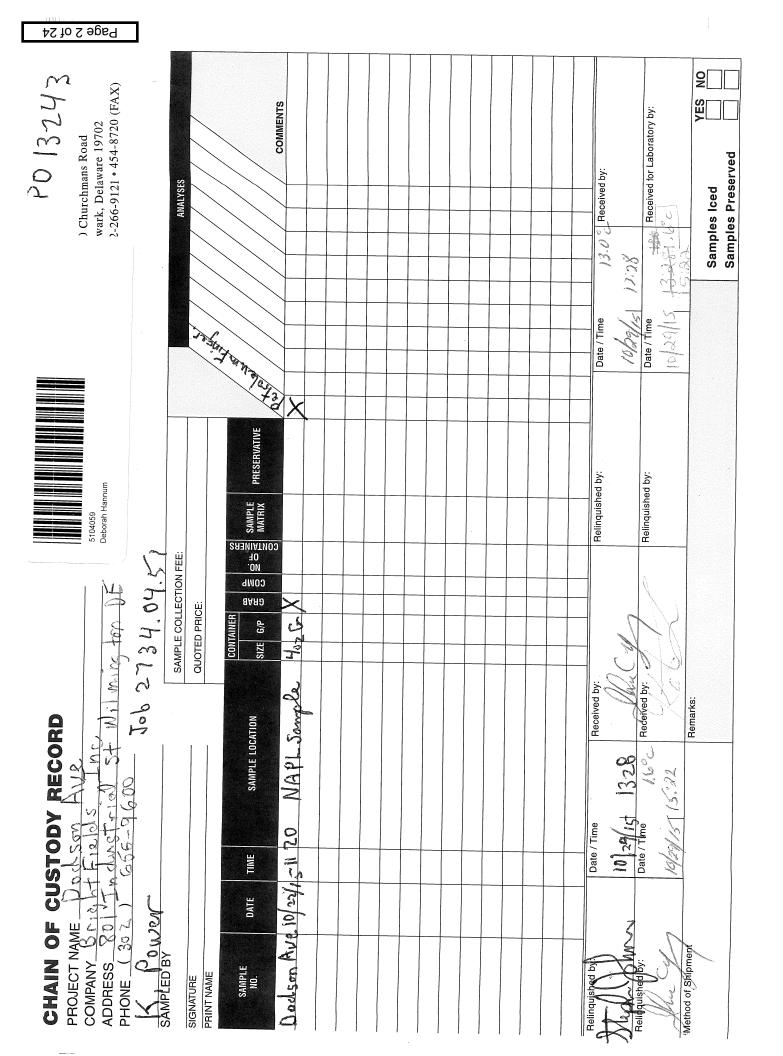
Report Generated On: 11/09/2015 1:37 pm 51 STL_Results Revision #1.6 Eff

5104059 Effective: 07/09/2014



1037F MacArthur Road, Reading, PA 19605 Phone: 800-433-6595

Page 1 of 24



ORIGINAL



11/6/15

Lab sample ID#: 5104059-01 BrightFields, Inc. Petroleum Scan

Review of reported results from analysis by Pace Analytical

Requested analysis: Petroleum Fingerprint

A copy of the analytical report, including raw data, is attached. Also included are chromatographic references used to evaluate the data.

The sample was analyzed by EPA 8015B : GC analysis for gasoline and diesel range organics. A GC fingerprint analysis was performed, comparing the chromatographic results of the sample to chromatography of reference standards. The reference standards used were: #2 diesel fuel, composite motor oil, unweathered unleaded gasoline, composite kerosene, jet fuel, fuel oil #4, and fuel oil #6.

The chromatography of the sample was compared to the reference standards, and the results indicate the sample is an excellent match for diesel fuel #2.

The chromatography identified as an overlay of the sample chromatogram with the chromatogram of the #2 diesel fuel reference standards illustrates the excellent chromatographic match. [see attached report].

It is the conclusion of Pace Analytical that the sample can be identified as #2 diesel fuel, and review of the data by Suburban Testing Labs supports that conclusion.

Respectfully submitted,

Linda Lohr Technical Manager



Fax. 610-375-4090 suburbantestinglab

SUBURBAN TESTING LABS



Pace Analytical Services, Inc. 1638 Roseytown Road - Suites 2,3,4 Greensburg, PA 15601 (724)850-5600

November 05, 2015

Beth Witouski Suburban Testing Labs 1037F MacArthur Road Reading, PA 19605

RE: Project: 5104059 Pace Project No.: 30163565

Dear Beth Witouski:

Enclosed are the analytical results for sample(s) received by the laboratory on October 30, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Janil Pretto

David A. Pichette david.pichette@pacelabs.com Project Manager

Enclosures

cc: Deborah Hannum, Suburban Testing Labs



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

 Project:
 5104059

 Pace Project No.:
 30163565

Pennsylvania Certification IDs Georgia Certification #: C040 1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601 L-A-B DOD-ELAP Accreditation #: L2417 Alabama Certification #: 41590 Arizona Certification #: AZ0734 Arkansas Certification California Certification #: 04222CA Colorado Certification Connecticut Certification #: PH-0694 Delaware Certification Florida/TNI Certification #: E87683 Georgia Certification #: C040 Guam Certification Hawaii Certification Idaho Certification Illinois Certification Indiana Certification Iowa Certification #: 391 Kansas/TNI Certification #: E-10358 Kentucky Certification #: 90133 Louisiana DHH/TNI Certification #: LA140008 Louisiana DEQ/TNI Certification #: 4086 Maine Certification #: PA00091 Maryland Certification #: 308 Massachusetts Certification #: M-PA1457 Michigan/PADEP Certification Missouri Certification #: 235

Montana Certification #: Cert 0082 Nebraska Certification #: NE-05-29-14 Nevada Certification #: PA014572015-1 New Hampshire/TNI Certification #: 2976 New Jersey/TNI Certification #: PA 051 New Mexico Certification #: PA01457 New York/TNI Certification #: 10888 North Carolina Certification #: 42706 North Dakota Certification #: R-190 Oregon/TNI Certification #: PA200002 Pennsylvania/TNI Certification #: 65-00282 Puerto Rico Certification #: PA01457 Rhode Island Certification #: 65-00282 South Dakota Certification Tennessee Certification #: TN2867 Texas/TNI Certification #: T104704188-14-8 Utah/TNI Certification #: PA014572015-5 USDA Soil Permit #: P330-14-00213 Vermont Dept. of Health: ID# VT-0282 Virgin Island/PADEP Certification Virginia/VELAP Certification #: 460198 Washington Certification #: C868 West Virginia DEP Certification #: 143 West Virginia DHHR Certification #: 9964C Wisconsin Certification Wyoming Certification #: 8TMS-L

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SAMPLE ANALYTE COUNT

| Project: | 5104059 | | | | |
|-----------------|-------------|-----------|----------|----------------------|------------|
| Pace Project No | .: 30163565 | | | | |
| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
| 30163565001 | 5104059-01 | EPA 8015B | CWB | 2 | PASI-PA |

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

 Project:
 5104059

 Pace Project No.:
 30163565

Method: EPA 8015B

Description:8015 GCS THC-DieselClient:Suburban Testing LabsDate:November 05, 2015

General Information:

1 sample was analyzed for EPA 8015B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation: The samples were prepared in accordance with EPA 3580A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: OEXT/25907

S4: Surrogate recovery not evaluated against control limits due to sample dilution.

• 5104059-01 (Lab ID: 30163565001)

• o-Terphenyl (S)

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: OEXT/25907

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Additional Comments:

Analyte Comments:

QC Batch: OEXT/25907

- 1c: A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.
 - 5104059-01 (Lab ID: 30163565001)
 - TPH Diesel (C10-C28)

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

 Project:
 5104059

 Pace Project No.:
 30163565

Method:EPA 8015BDescription:8015 GCS THC-DieselClient:Suburban Testing LabsDate:November 05, 2015

Analyte Comments:

QC Batch: OEXT/25907

- 2c: The sample chromatogram most closely resembles the chromatographic pattern of diesel fuel #2.
 - 5104059-01 (Lab ID: 30163565001)
 - TPH Diesel (C10-C28)
- N2: The lab does not hold TNI accreditation for this parameter.
 - 5104059-01 (Lab ID: 30163565001)
 - TPH Diesel (C10-C28)
 - BLANK (Lab ID: 976698)
 - TPH Diesel (C10-C28)
 - LCS (Lab ID: 976699) • TPH - Diesel (C10-C28)

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

 Project:
 5104059

 Pace Project No.:
 30163565

| Sample: 5104059-01 | Lab ID: 301 | 63565001 | Collected: 10/22 | /15 11:20 |) Received: 1 | 0/30/15 10:10 I | vlatrix: Non Aq Liquid | ueous |
|--|-----------------|--------------|------------------|-----------|----------------|-----------------|---------------------------|----------|
| Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions. Comments: • The sampler's name and signature were not listed on the COC. No site ocation noted on the COC. | | | | | | | | |
| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
| 8015 GCS THC-Diesel | Analytical Meth | 10d: EPA 801 | 5B Preparation M | lethod: E | PA 3580A | | | |
| TPH - Diesel (C10-C28) | 692000 | mg/kg | 100000 | 100 | 11/02/15 15:30 | 11/04/15 18:12 | | 1c,2c,N2 |
| <i>Surrogates</i> o-Terphenyl (S) | 1230 | % | 50-150 | 100 | 11/02/15 15:30 | 11/04/15 18:12 | 84-15-1 | S4 |

REPORT OF LABORATORY ANALYSIS



QUALITY CONTROL DATA

| Project: Pace Project No.: | 5104059 30163565 | | | | | | | | |
|-------------------------------|---------------------|--------|----------|--------------|----------|--------------|----------|------------|---|
| QC Batch: | OEXT/25907 | | Analysis | Method: | EF | A 8015B | <u> </u> | | |
| QC Batch Method: | EPA 3580A | | Analysis | Description | : 80 | 15 Solid GCS | SV . | | |
| Associated Lab Sar | nples: 30163568 | 5001 | | | | | | | |
| METHOD BLANK: | 976698 | | Mat | trix: Non Ac | jueous L | iquid | | | |
| Associated Lab Sar | nples: 30163565 | 5001 | | | | | | | |
| _ | | | Blank | Repo | - | | | | |
| Paran | neter | Units | Result | Lir | nit | Analyzec | Q | ualifiers | |
| TPH - Diesel (C10-0 | C28) | mg/kg | | ND | 1000 | 11/04/15 17 | :29 N2 | | |
| o-Terphenyl (S) | | % | | 79 | 50-150 | 11/04/15 17 | :29 | | |
| LABORATORY CON | | 976699 | | ······ | • | | · · · · | | |
| | | 0/0000 | Spike | LCS | | LCS | % Rec | | |
| Paran | neter | Units | Conc. | Result | 0 | % Rec | Limits | Qualifiers | |
| TPH - Diesel (C10-0 | C28) | mg/kg | 2000 | 18 | 70 | 93 | | N2 | - |
| o-Terphenyl (S) | | % | | | | 71 | 50-1 | 50 | |

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

| Project: | 5104059 |
|-------------------|----------|
| Pace Project No.: | 30163565 |

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

BATCH QUALIFIERS

Batch: OEXT/25907

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

- 1c A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.
- 2c The sample chromatogram most closely resembles the chromatographic pattern of diesel fuel #2.
- N2 The lab does not hold TNI accreditation for this parameter.
- S4 Surrogate recovery not evaluated against control limits due to sample dilution.

REPORT OF LABORATORY ANALYSIS



QUALITY CONTROL DATA CROSS REFERENCE TABLE

| 30163565001 | 5104059-01 | EPA 3580A | OEXT/25907 | EPA 8015B | GCSV/8804 |
|-------------------|------------|-----------------|------------|-------------------|---------------------|
| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
| Pace Project No.: | 30163565 | | | | |
| Project: | 5104059 | | | | |

REPORT OF LABORATORY ANALYSIS

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| SUBURBAN TESTING LABS | | | | RACT ORDER 04059 | |
|--|----------|------------------|---|-------------------------|----------------------------|
| SENDING LABORATORY: | | | RECEIVING LA | BORATORY: | |
| Suburban Testing Labs 1037F MacArthur Road Reading, PA 19605 Phone: 1-800-433-6595 Fax: 610-375-4090 Project Manager: Deborah H | annum | | Pace Analytical <u>8-East Tower C</u> Ormond Beach Phone :(386) 67 Fax: | FL 32174 Greensk | ourg 0 1 6 3 5 6 5 |
| Rush | Due: | Results 11/5/ | 15 Data | Package Required : 1 | circle 1 2 3 4 Reduced |
| State of origin for cert. purpos | ses: | | Spec | ial Reporting Requireme | nts: |
| Sample ID: 5104059-01 Sample Name: NAPL | | | Matrix: Non-r | ootable | |
| Analysis | | Sampled | Container | | Comments |
| Subcontracted Testing | | 10/22/2015 | 11:20 *** DEFAULT C | CONTAINER *** | Pet Scan with data package |
| Kale Lill | 10/2 | 9/15 | Mr.M. Mats | 10-30-15 | . 1010 |
| Released By | Date | 1 | Received By | Date | |
| Released By | Date | | Received By | , Date | |
| | of Full | data | package | GC finge | erprint |
| | CK | groma- | tograms | | |
| | ٩ | vant | report w/ | forensics | - |
| | | | : | | |
| | | | | | |
| | | | - - - | | |

| San | nple Conditio | n Upon Receip | t | A |
|--|----------------|--|--|---|
| Pace Analytical Client Name: | <u>Subarb</u> | an | Project # | 30163565 |
| Courier: C Fed Ex 🕅 UPS USPS Clien Tracking #: <u>1241994601638001</u> 70 Custody Seal on Cooler/Box Present: Uyes | | | no Biologica | Tissue is Frozen: Yes No |
| Packing Material: Bubble Wrap Bubble Bag | | | | |
| Thermometer Used & Type | of ice: We B | ue None | Samples on ice, cooling | process has begun |
| Cooler Temp.: Observed Temp.: <u>4, 1</u> °C Co | | | | Date and initials of person 10-30-15 examining contents: <u>MTV</u> |
| Temp should be above freezing to 6°C | | Comments: | | examining contents. |
| Chain of Custody Present: | βίγes ⊡No ⊡N | /A 1. | | |
| Chain of Custody Filled Out: | ØYes ⊡No ⊡N | /A 2. | | |
| Chain of Custody Relinguished: | ∭Yes ⊡No ⊡N | /A 3. | 1777.75 25-0-051-070-051-00-051-00-051-070-05-05-05-05-05-05-05-05-05-05-05-05-05 | |
| Sampler Name & Signature on COC: | | /A 4. | | |
| Samples Arrived within Hold Time: | XYaa ⊡No ⊡N | /A 5. | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | |
| Short Hold Time Analysis (<72hr): | | /A 6, | TT 144 149 1/1 | |
| Rush Turn Around Time Requested: | | IA 7. | | M94/m2/7_m2/7/m2/2/m2/m2/m2/m2/m2/m2/m2/m2/m2/m2/m2/m |
| Sufficient Volume: | ∭Yes ⊡No ⊡N | IA 8. | | |
| Correct Containers Used: | | /A 9. | | |
| -Pace Containers Used: | | /A | | |
| Containers Intact: | | /A 10. | | |
| Flitered volume received for Dissolved tests | DYes DNo 🕅 | M 11. | | |
| Sample Labels match COC: | | | <u></u> | |
| -Includes date/lime/ID/Analysis Matrix: | 0.1 | | | |
| All containers needing preservation have been checked. | | I/A 13. | an a | |
| All containers needing preservation are found to be in compliance with EPA recommendation. | CIYES CINO DIN | | | |
| exceptions: VOA, collform, TOC, O&G, Phenois | ⊡Yes KNo | initial when completed <u>MM</u> | Lot # of added preservative | |
| Samples checked for dechlorination: | | i/A 14. | | ************************************** |
| Headspace in VOA Vials (>6mm): | | ((| | 1992 - 1997 - 199 |
| Trip Blank Present: | | VA 16. | | |
| Trip Blank Custody Seals Present | ⊡Yes ⊡No 🕅 | 1/A | | |
| Pace Trip Blank Lot # (if purchased): | | 411 *** C 22 C 20 C 20 C 20 C 20 C 20 C 20 | ***** | |
| Client Notification/ Resolution: Person Contacted: Comments/ Resolution; | Da | te/Time: | Field Data Requ | vired? Y / N |
| Project Manager Review: | chet | | Date: | 10/20/15 |

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Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

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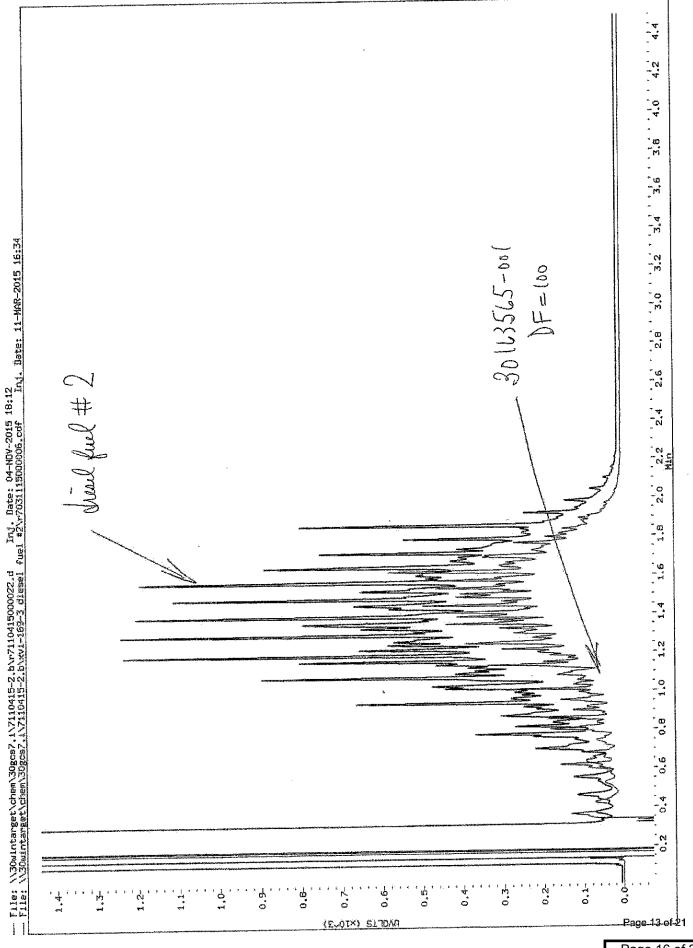
| | | gen mit einen kannalstiere ihnen warmen stiller vor en senser steret still i bate stere oppjeter om steret kan | | 4 | | | | , | | | | |
|----------|---------------------------------|--|----|-------|-----------------------------------|------------------------|--------|--|--------|--|--|-----------------------------------|
| | | Other | | | | | | | | | | |
| | | Other | i | | | | | | | | | slx.(210) |
| | | boldiz | | | | | | | | | | 15May |
|) | | Cubitainer (500 m) / 4L) | | | | | ****** | | | | | (C016-4 |
|) (| Salumban | Radchem Valgene (۱/S gal. / ۱ gal.L) | | | | | | ****** | | | | SCURF Back (Co16-4 15May2012).xls |
|) | N. | (Jr / 005 / 055 / 351) ənaglah mərbafi | | | | | | | | *···· | | SCU |
| | Le l | Mipes / swipe/ smearl filter | | | | | | | | | | |
| : | oject Numbe Client Name: | נות 120 (Im 0St) אוסיסאפון) (Im 0St) אוסיסאפון | | | 6-4949-9-200 LO _D -204 | | | | | | | |
| 1 | Project Number: Client Name: | (Im 008) ebilius | | | | | | | | | | 2 2 2 2 |
| | | Cyanide (250 ml) | | | | | | | | | | |
| page 2 | | (Im 06 Im 04) AOV | | | | | | | | | | |
| | | (1г) нац | | | | | | | | | | |
| | | 0 % 6 (۱۲) | | | | | | | | | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | |
| | | Y bevreserved sleteM bevresiQ N | | | | | | | | · | | |
| | | sleteM istoT | | | | | | | | | | |
| | | TOX (250 ml) | | | | | | | | | | |
| | | 10C (40 ml / 220 ml) | | | | | | | | | | |
| | | (Im 035) soiloned9 | | | | | | | | | | |
| | | Nutrient (250 / 500) | | | | | | | | | Participation (1975) | |
| | | Organics (1L) | | | | ., | | | | | | |
| | | Chemistry (250 / 500 / 1L) | | | | | | | | | | |
| | | Soli kit (2 SB, 1M, soli jar) | | | | W1777.144.00.0.0.0 | | 200 0/001/00 /000000000000000000000000000 | ****** | | | |
| - No. | 2 | Glass Jar (120) 250 / 500 / 11) | | | | | | *********************** | | 2010-00-000-000-000-000-000-000-000-000- | | |
| | kalytra | eboO xitiaM | Ś | | | | | | | | | |
| | | .oN meti | 00 | | | | | | | | | |
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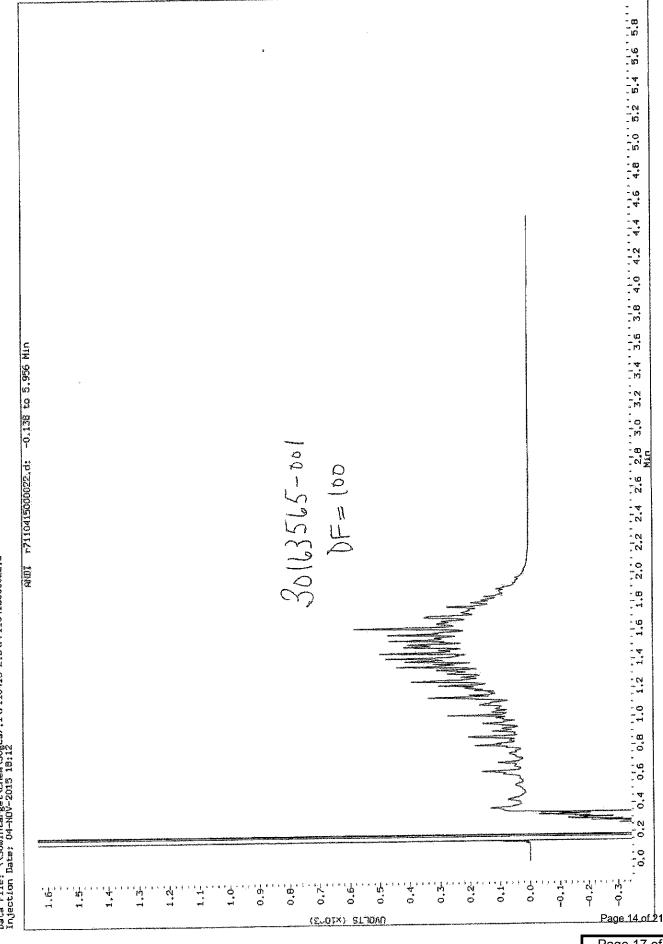
page 2

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Page 12 of 21

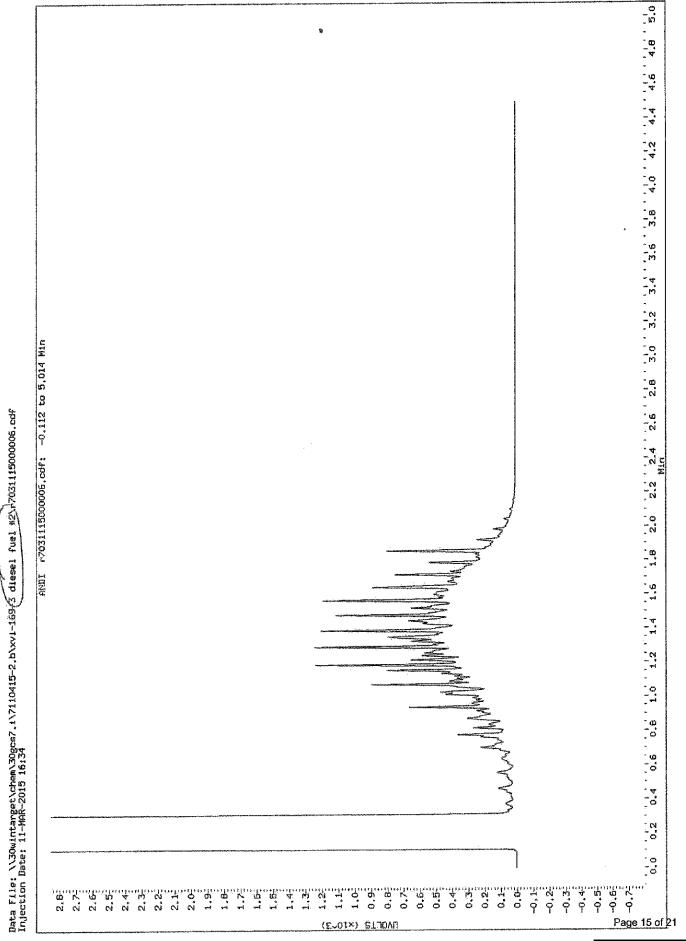


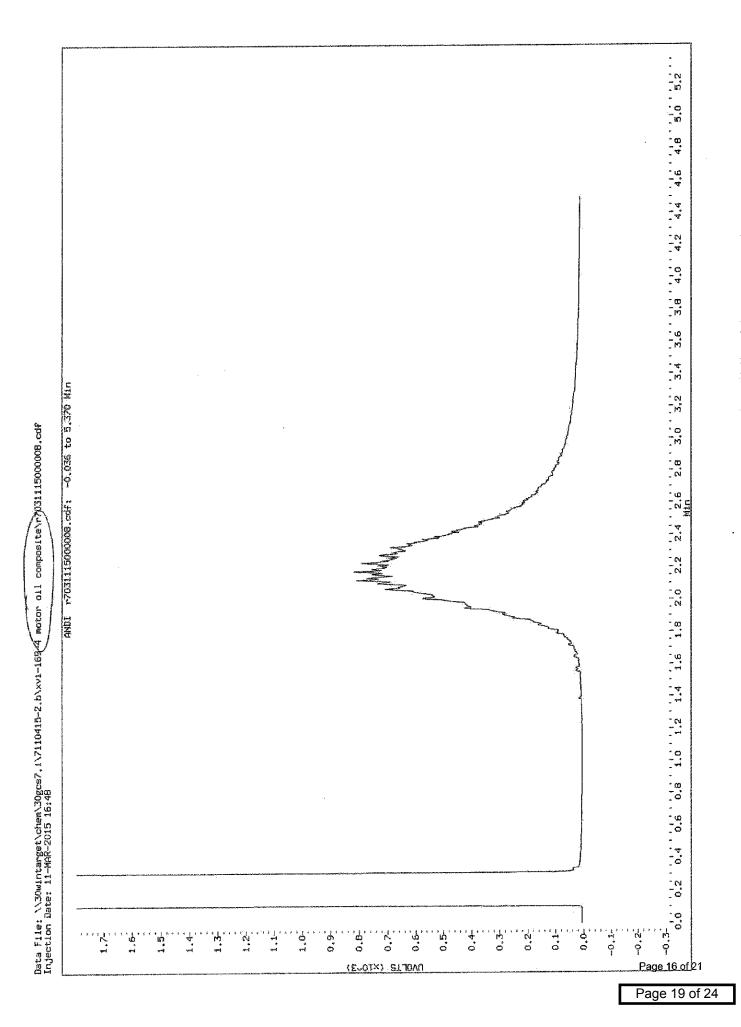
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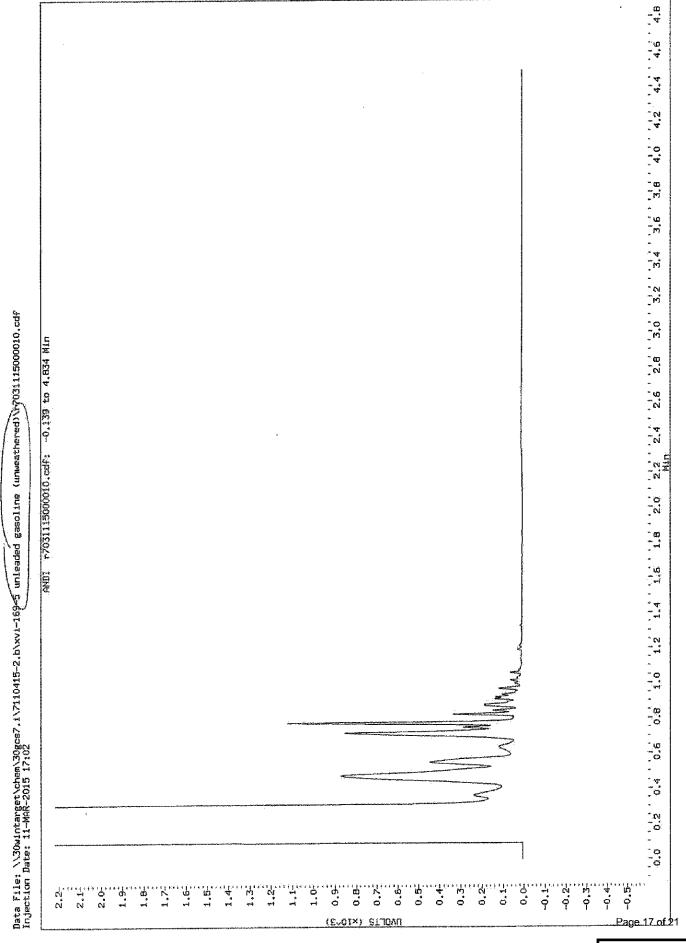
Data File: \\30wintarget\chem\30gcs7.1\7110415-2.b\r7110415000022.d Injection Date: 04-NDV-2015 18:12

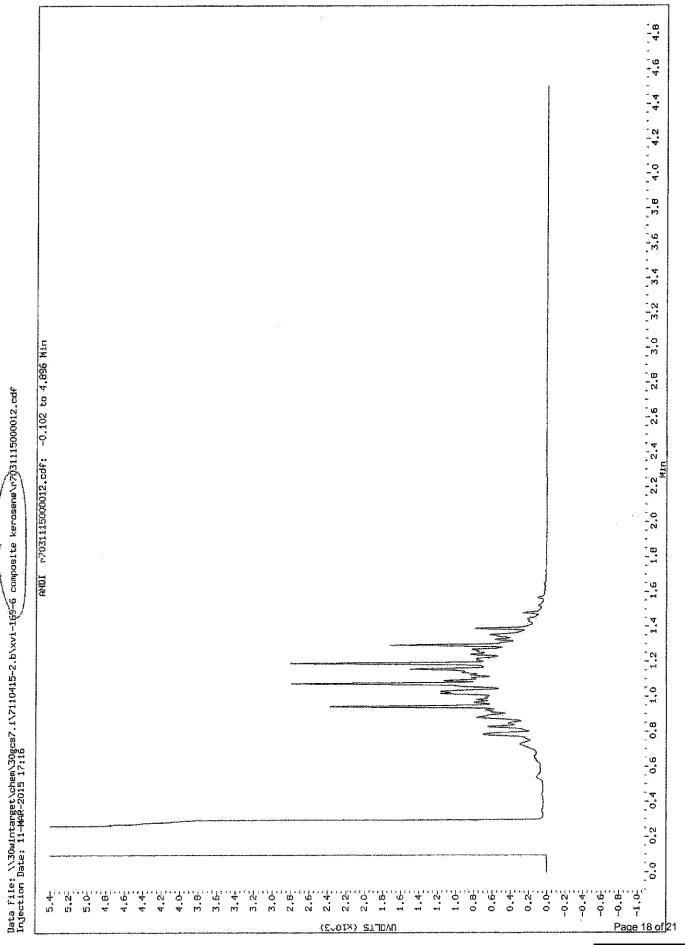
Page 17 of 24



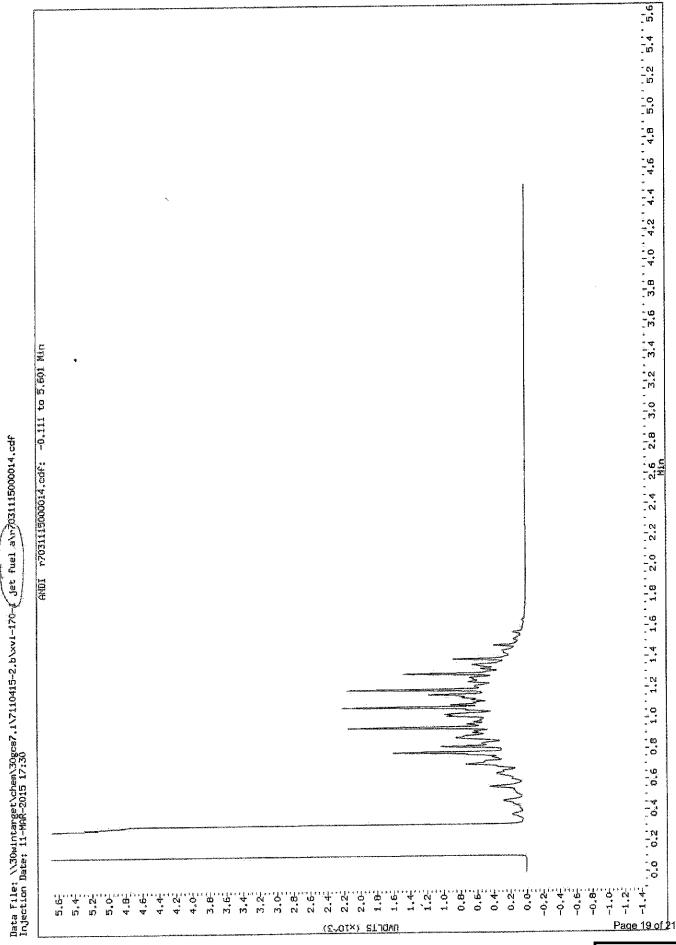


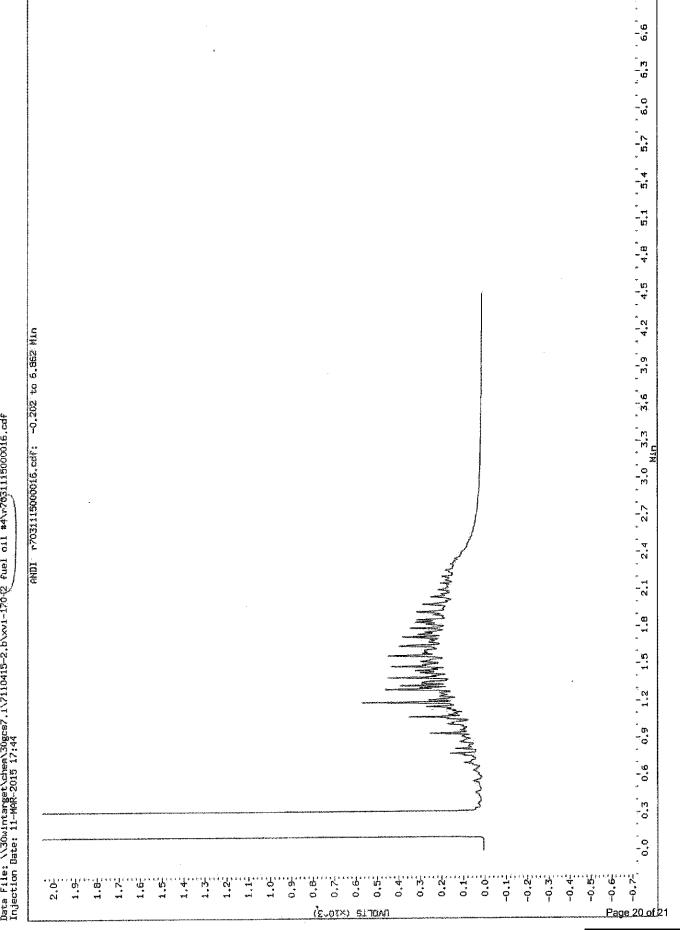
Page 20 of 24



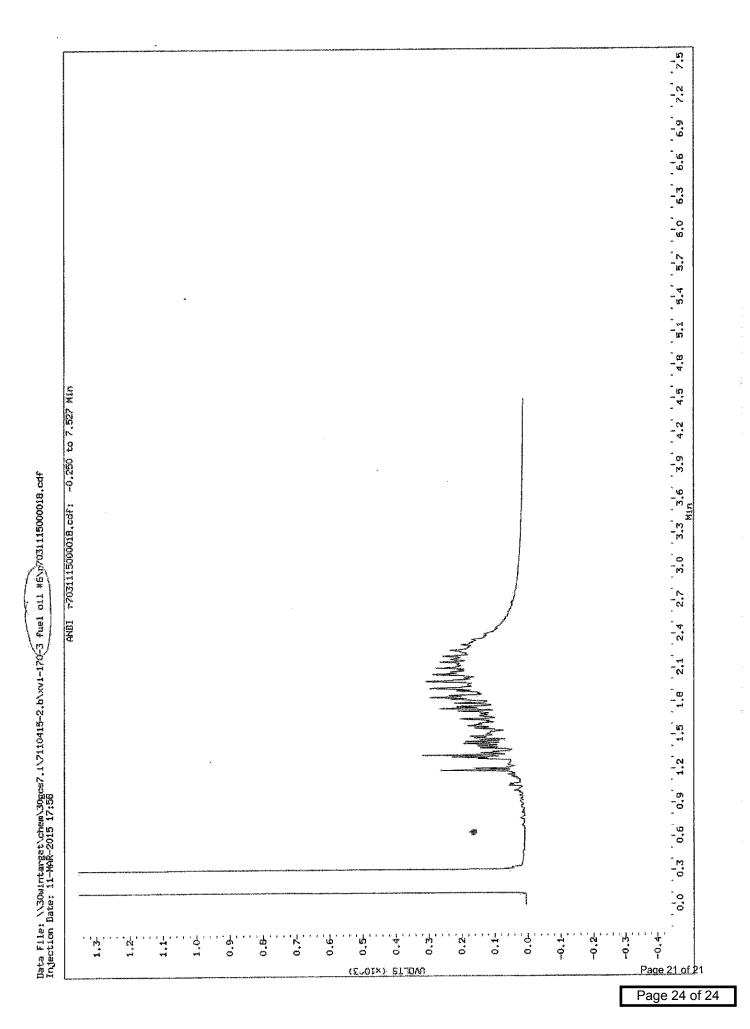








Data File: \\30w1ntarget\chem\30gcs7.1\7110415-2.b\xv1-1702 fuel oil #4\r7031115000016.cdf Injection Date: 11-MAR-2015 17:44





APPENDIX D

Field Documentation



Appendix D.1

Soil Gas Sampling Point Construction Log

| | : | SOIL GAS SAMPLING POIN SOIL GAS ID DA-SG31 | | N LOG |
|-------|----------------------|---|---|--|
| | | | Project Name: Dodson SVI | E 3-Year Evalaution |
| | | | Project Number: | 2734.07.51 |
| | | | Town/City: | Wilmington, DE |
| | | | County: | New Castle |
| Grout | | 0.5 Top of Grout (feet bgs) | State: | Delaware |
| | | Concrete Grout Type 1 Top of Seal (feet bgs) | Ground Surface Elevation (feet NAVD88): | n/a |
| | | Bentonite Seal Type | Installation Date(s): | 12/18/2018 |
| | | | Time: | 1300 |
| | | | Weather: | Clear, 40° |
| | | 2 -inch Diameter Borehole | Drilling Method: | Hand Auger |
| Seal | | | Drilling Contractor: | BrightFields, Inc |
| | | 3/16 -inch ID Diameter Casing | Development Date: | 12/19/2018 |
| | | | Type of Tubing: | Teflon |
| | | | Notes: | |
| | | Teflon tubing Casing Material | | |
| | | 7.5 Top of Sand (feet bgs) | | |
| Sand | | | Abbreviations: | |
| | | <u>#1</u> Sand Size | bgs - below ground surface Developed by: | NSB |
| | ЩЩ I | | Prepared by: | NSB |
| | \mathbf{V} | 8 Bottom Point (feet bgs) | Reviewed by: | ML |
| | Borehole Diameter | Bottom Borehole (feet 9 bgs) | | BrightFields, Inc. Environmental Services ustrial St. Wilmington DE 19801 02) 656-9600 Fax (302) 656-9700 |



Appendix D.2 Soil Gas Sampling Logs July 2018

| | | | MENT LOG | | SHEET: | 1 | of | 1 | | |
|-------------------------------|---------|---------|----------------------|-----------------------------|------------------------|-------------|-------------|---|---------------|--|
| PROJECT N | AME: | SVE 3-Y | ear Evaluatior | Develop | ed By: | N. Bradley/ | J. Lafferty | | | |
| Project No: | | 2734.07 | .51 | Date: | | 7/2/2018 | | | | |
| | | | | | | | | | | |
| ATMOSPHE | | NDITION | | | | | | | | |
| Data Source: | | | DEOS | · · · | Precipitation: 0.0" | | | | | |
| Barometric P | | (mb): | 1017.3 | | Temperature (°F): 85.9 | | | | | |
| Wind Speed | (mph): | | 4.8 | Wind Di | rection: S | SSE | | | | |
| DEVELOPM | | | | | | | | | | |
| Development Method: SKC pump* | | | | Were Any Wells Blocked?: No | | | | | | |
| Volumes Pur | rged: | | 3 Liters | If yes, w | hich one(s) N | N/A | | | | |
| Soil Gas Sci | reening | Results | | | | | | | | |
| Soil Gas ID | Date | Time | PID Reading (ppm) | LEL (%) | H2S (ppm) | CO (ppm) | Oxygen (%) | Helium In Sample Train (ppm unless % is specified) | Odor | |
| DA-SG28 | 7/2/18 | 0830 | 240 | 0 | 0 | 0 | 11.9 | 1,367 | Silicone-like | |
| DA-SG28 | 7/2/18 | 0835 | 113.9 | 0 | 0 | 9.0 | 7.2 | 3,600 | Silicone-like | |
| DA-SG28 | 7/2/18 | 0840 | 56.6 | 0 | 0 | 30.0 | 5.9 | 4,875 | Silicone-like | |
| DA-SG29 | 7/2/18 | 0910 | 6.7 | 0 | 0 | 0 | 18.3 | 0.0 | None | |
| DA-SG29 | 7/2/18 | 0913 | 5.2 | 0 | 0 | 0 | 14.6 | 0.0 | None | |
| DA-SG29 | 7/2/18 | 0915 | 4.7 | 0 | 0 | 0 | 13.6 | 0.0 | None | |
| DA-SG14S | 7/2/18 | 0955 | 34.5 | 0 | 0 | 0 | 19.8 | 0.0 | Silicone-like | |
| DA-SG14S | 7/2/18 | 0958 | 45.1 | 0 | 0 | 0 | 16.8 | 0.0 | Silicone-like | |
| DA-SG14S | 7/2/18 | 1000 | 30.5 | 0 | 0 | 0 | 14.6 | 0.0 | Silicone-like | |
| DA-SG13S | 7/2/18 | 1040 | 331 | 0 | 0 | 0 | 14.7 | 6,900 | Silicone-like | |
| DA-SG13S | 7/2/18 | 1043 | 60.3 | 0 | 0 | 0 | 10.7 | 9,400 | Silicone-like | |
| DA-SG13S | | 1046 | 31.9 | 0 | 0 | 26 | 6.1 | 10,375 | Silicone-like | |
| DA-SG9 | 7/2/18 | 1114 | 100.0 | 0 | 0 | 59 | 18.0 | 12,125 | None | |
| DA-SG9 | 7/2/18 | 1119 | 39.0 | 0 | 0 | 30 | 7.0 | 12,975 | Silicone-like | |
| DA-SG9 | 7/2/18 | 1121 | 8.6 | 0 | 0 | 32 | 5.2 | 15,900 | Silicone-like | |
| DA-SG10 | 7/2/18 | 1148 | 311.0 | 6 | 0 | 12 | 17.9 | 0.0 | Silicone-like | |
| DA-SG10 | 7/2/18 | 1152 | 130.8 | 6 | 0 | 0 | 9.2 | 0.0 | Silicone-like | |
| DA-SG10 Notes: | 7/2/18 | 1156 | 54.5 | 5 | 0 | 0 | 7.8 | 2,000 | Silicone-like | |

| Year Evaluation 734.07.51 7/2/2018 VS: DEOS 1017.2 6.7 ON: 6.0 Silicone Soil gas active e Air Active Soil gas | Sample Designation : Time: Sampled By: Precipitation: Temperature (°F): Wind Direction: Installed Date: Surface Cover: Sampling Rate: | SVE-SG9-G001 1114 N. Bradley 0.0 89.9 SSE 10/15/12 River Rock 0.0125 LPM |
|---|---|--|
| 7/2/2018 NS: DEOS 1017.2 6.7 ON: 6.0 Silicone Soil gas active e Air Active | Time: Sampled By: Precipitation: Temperature (°F): Wind Direction: Installed Date: Surface Cover: | N. Bradley 0.0 89.9 SSE 10/15/12 River Rock |
| NS: DEOS 1017.2 6.7 ON: 6.0 Silicone Soil gas active e Air Active | Precipitation: Temperature (°F): Wind Direction: Installed Date: Surface Cover: | 0.0 89.9 SSE 10/15/12 River Rock |
| DEOS 1017.2 6.7 ON: 6.0 Silicone Soil gas active e Air Active | Temperature (°F): Wind Direction: Installed Date: Surface Cover: | 89.9 SSE 10/15/12 River Rock |
| DEOS 1017.2 6.7 ON: 6.0 Silicone Soil gas active e Air Active | Temperature (°F): Wind Direction: Installed Date: Surface Cover: | 89.9 SSE 10/15/12 River Rock |
| 1017.2 6.7 ON: 6.0 Silicone Soil gas active e Air Active | Temperature (°F): Wind Direction: Installed Date: Surface Cover: | 89.9 SSE 10/15/12 River Rock |
| 6.7 ON: 6.0 Silicone Soil gas active e Air Active | Wind Direction: Installed Date: Surface Cover: | SSE 10/15/12 River Rock |
| ON: 6.0 Silicone Soil gas active e Air Active | Installed Date: Surface Cover: | 10/15/12 River Rock |
| 6.0 Silicone Soil gas active e Air Active | Surface Cover: | River Rock |
| Silicone Soil gas active e Air Active | Surface Cover: | River Rock |
| Soil gas active e Air Active | | |
| e Air Active | Sampling Rate: | 0.0125 LPM |
| | | |
| | | |
| uuli uas | Volumes Purged: | 3 Liters |
| 6 Liters | Flow Controller #: | 3062 |
| Summa | Tested Vacuum ("Hg): | -29.6 |
| | , | No |
| | | |
| TO-15 | | |
| | | ON LEAK TEST |
| | | |
| | Start Time: 1134 | Start Pressure ("Hg): -7 |
| 93.3% | | End Pressure ("Hg): -6 |
| | | |
| <10% | | Difference: 1"Hg (<1psig) |
| | | |
| | Stort Drosouro ("Ha); | -27.5 |
| | | -27.5 |
| 2022 | End Pressure (Hg). | -7.5 |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | BrightFields, Inc. |
| | | ndustrial St. Wilmington, DE 19801 (302) 656-9600 Fax (302) 656-9700 |
| | 93.3% 15,900 ppm | NR CANISTER CONNECTION TO-15 Start Time: 1134 93.3% End Time: 1139 15,900 ppm 139 <10% |

| SOIL GAS SAMF | LING LOG | SHEET: | 1 of 1 |
|--|-----------------------|--|-----------------------------------|
| PROJECT NAME: SVE 3 | Year Evaluation | Sample Designation : | SVE-SG10-G001 |
| Project No: | 2734.07.51 | Time: | 1148 |
| Date: | 7/2/2018 | Sampled By: | N. Bradley |
| | | | • |
| ATMOSPHERIC CONDITIC | DNS: | | |
| Data Source: | DEOS | Precipitation: | 0.0 |
| Barometric Pressure (mb): | 1017.2 | Temperature (°F): | 89.9 |
| Wind Speed (mph): | 6.7 | Wind Direction: | SSE |
| SAMPLE AREA DESCRIPT | ΓΙΟΝ: | | |
| Sample Depth (ft bgs): | 6.0 | Installed Date: | 10/15/12 |
| Purge Odor: | Sillicone | Surface Cover: | Grass |
| Other Characteristics: | Soil gas active | Sampling Rate: | 0.0125 LPM |
| | | | |
| SAMPLING SYSTEM: Who | ole Air Active | | |
| Sample Type: | Soil gas | Volumes Purged: | 3 Liters |
| Sample Volume: | 6 Liters | Flow Controller #: | 4941 |
| Sample Container Type: | Summa | Tested Vacuum ("Hg): | -29.5 |
| Sample Container #: | 4098 | Ind Cert? | No |
| Date Cleaned: | NR | | |
| Sample Analysis: | TO-15 | | |
| BREAKTHROUGH TEST | | CANISTER CONNECTION | ON LEAK TEST |
| Tracer Gas: Heliun | N | | |
| Prior to Sampling | | Start Time: 1201 | Start Pressure ("Hg): -7 |
| Helium in Bucket | 91.8% | End Time: 1206 | End Pressure ("Hg): -6 |
| | 2,000 ppm | | |
| Helium in Tubing | 2,000 ppm | | |
| Helium in Tubing Percent Breakthrough | <1% | | Difference: 1"Hg (<1psig) |
| Percent Breakthrough | <1% | | Difference: 1"Hg (<1psig) |
| | <1% | Start Pressure ("Ho): | |
| Percent Breakthrough COLLECTING SOIL GAS S | <1% | Start Pressure ("Hg): End Pressure ("Hg): | -28 |
| Percent Breakthrough COLLECTING SOIL GAS S Start Time: | <1% SAMPLE 1221 | Start Pressure ("Hg): End Pressure ("Hg): | |
| Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: | <1% SAMPLE 1221 | | -28 |
| Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: | <1% SAMPLE 1221 | | -28 |
| Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: | <1% SAMPLE 1221 | | -28 |
| Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: | <1% SAMPLE 1221 | | -28 |
| Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: QA/QC samples: None | <1% SAMPLE 1221 | | -28 |
| Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: QA/QC samples: None | <1% SAMPLE 1221 | | -28 |
| Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: QA/QC samples: None | <1% SAMPLE 1221 | | -28 |
| Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: QA/QC samples: None | <1% SAMPLE 1221 | | -28 -6.5 BrightFields, Inc. |
| Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: QA/QC samples: None | <1% SAMPLE 1221 | | -28 -6.5 |
| Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: QA/QC samples: None | <1% SAMPLE 1221 | End Pressure ("Hg): | -28 -6.5 BrightFields, Inc. |

| SOIL GAS SAMF | LING LOG | SHEET: | 1 of 1 |
|--|-------------------|--|--|
| PROJECT NAME: SVE 3 | 3 Year Evaluation | Sample Designation : | SVE-SG13S-G001 |
| Project No: | 2734.07.51 | Time: | 1040 |
| Date: | 7/2/2018 | Sampled By: | N. Bradley |
| | | | |
| ATMOSPHERIC CONDITIO | DNS: | | |
| Data Source: | DEOS | Precipitation: | 0.0 |
| Barometric Pressure (mb): | 1017.2 | Temperature (°F): | 89.9 |
| Wind Speed (mph): | 6.7 | Wind Direction: | SSE |
| SAMPLE AREA DESCRIP | FION: | | |
| Sample Depth (ft bgs): | 6.0 | Installed Date: | 10/15/12 |
| Purge Odor: | None | Surface Cover: | Grass |
| Other Characteristics: | Soil gas active | Sampling Rate: | 0.0125 LPM |
| | | | |
| SAMPLING SYSTEM: Wh | | | |
| Sample Type: | Soil gas | Volumes Purged: | 3 Liters |
| Sample Volume: | 6 Liters | Flow Controller #: | 4247 |
| Sample Container Type: | Summa | Tested Vacuum ("Hg): | -29.4 |
| Sample Container #: | 4309 | Ind Cert? | No |
| Date Cleaned: | NR | | |
| Sample Analysis: | TO-15 | | |
| BREAKTHROUGH TEST | | CANISTER CONNECTION | ON LEAK TEST |
| Tracer Gas: Heliun | n | | |
| Prior to Sampling | | Start Time: 1103 | Start Pressure ("Hg): -7 |
| Helium in Bucket | 94.9% | End Time: 1108 | End Pressure ("Hg): -6 |
| Helium in Tubing | 10,375 ppm | | |
| | <5% | | Difference: 1"Hg (<1psig) |
| Percent Breakthrough | | | |
| - | | | |
| COLLECTING SOIL GAS | | | 20 |
| COLLECTING SOIL GAS S Start Time: | 1218 | Start Pressure ("Hg): | -30 |
| | | Start Pressure ("Hg): End Pressure ("Hg): | -30 -6 |
| COLLECTING SOIL GAS S Start Time: End Time: | 1218 | | |
| COLLECTING SOIL GAS S Start Time: End Time: | 1218 | | |
| COLLECTING SOIL GAS S Start Time: End Time: | 1218 | | |
| COLLECTING SOIL GAS S Start Time: End Time: QA/QC samples: None | 1218 | | |
| COLLECTING SOIL GAS S Start Time: End Time: QA/QC samples: None | 1218 | | |
| COLLECTING SOIL GAS S Start Time: End Time: QA/QC samples: None | 1218 | | |
| COLLECTING SOIL GAS S Start Time: End Time: QA/QC samples: None | 1218 | | -6 |
| COLLECTING SOIL GAS S Start Time: End Time: QA/QC samples: None | 1218 | | |
| COLLECTING SOIL GAS S Start Time: End Time: QA/QC samples: None | 1218 | End Pressure ("Hg): | -6 BrightFields, Inc. Environmental Services |
| COLLECTING SOIL GAS S Start Time: End Time: | 1218 | End Pressure ("Hg): | -6 BrightFields, In |

| SOIL GAS SAME | PLING LOG | SHEET: | 1 of 1 |
|--|-------------------|--|---------------------------|
| PROJECT NAME: SVE 3 | 3 Year Evaluation | Sample Designation : | SVE-SG14S-G001 |
| Project No: | 2734.07.51 | Time: | 0955 |
| Date: | 7/2/2018 | Sampled By: | N. Bradley |
| | | | |
| ATMOSPHERIC CONDITION | DNS: | | |
| Data Source: | DEOS | Precipitation: | 0.0 |
| Barometric Pressure (mb): | 1017.2 | Temperature (°F): | 89.9 |
| Wind Speed (mph): | 6.7 | Wind Direction: | SSE |
| SAMPLE AREA DESCRIP | ΓΙΟΝ· | | |
| Sample Depth (ft bgs): | 6.0 | Installed Date: | |
| Purge Odor: | Silicone | Surface Cover: | Asphalt |
| Other Characteristics: | Soil gas active | Sampling Rate: | Kophak |
| | Con guo uonvo | Camping Rate. | |
| SAMPLING SYSTEM: Wh | ole Air Active | | |
| Sample Type: | Soil gas | Volumes Purged: | 3 Liters |
| Sample Volume: | 6 Liters | Flow Controller # | 5176 |
| Sample Container Type: | Summa | Tested Vacuum ("Hg): | -29.7 |
| Sample Container # | 2537 | Ind Cert? | No |
| Date Cleaned | NR | | |
| Sample Analysis: | TO-15 | | |
| BREAKTHROUGH TEST | | CANISTER CONNECTI | ON LEAK TEST |
| Tracer Gas: Heliur | n | | |
| Prior to Sampling | | Start Time: 1020 | Start Pressure ("Hg): -7 |
| Helium in Bucket | 94.9% | End Time: 1025 | End Pressure ("Hg): -5 |
| Helium in Tubing | 0% | | |
| Percent Breakthrough | 0% | | Difference: 2"Hg (~1psig) |
| | | | |
| AALL FATING AALL AAA | SAMPIE | | |
| COLLECTING SOIL GAS | | | 00 |
| Start Time: | 1217 | Start Pressure ("Hg): | >-30 |
| | | Start Pressure ("Hg): End Pressure ("Hg): | >-30 -9 |
| Start Time: End Time: | 1217 | | |
| Start Time: | 1217 | | |
| Start Time: End Time: | 1217 | | |
| Start Time: End Time: QA/QC samples: None | 1217 | | |
| Start Time: End Time: | 1217 | | |
| Start Time: End Time: QA/QC samples: None | 1217 | | |
| Start Time: End Time: QA/QC samples: None | 1217 | | |
| Start Time: End Time: QA/QC samples: None | 1217 | | -9 BrightFields, Inc. |
| Start Time: End Time: QA/QC samples: None | 1217 | | -9 |
| Start Time: End Time: QA/QC samples: None | 1217 | End Pressure ("Hg): | -9 BrightFields, Inc. |

| SOIL GAS SAME | PLING LOG | SHEET: | 1 of 1 |
|--|-------------------------|--|---|
| PROJECT NAME: SVE 3 | 3 Year Evaluation | Sample Designation : | SVE-SG28-G001 |
| Project No: | 2734.07.51 | Time: | 0830 |
| Date: | 7/2/2018 | Sampled By: | N. Bradley |
| | | | |
| ATMOSPHERIC CONDITION | DNS: | | |
| Data Source: | DEOS | Precipitation: | 0.0 |
| Barometric Pressure (mb): | 1017.2 | Temperature (°F): | 89.9 |
| Wind Speed (mph): | 6.7 | Wind Direction: | SSE |
| SAMPLE AREA DESCRIP | ΓΙΟΝ: | | |
| Sample Depth (ft bgs): | 6.0 | Installed Date: | 9/4/13 |
| Purge Odor: | Silicone-like | Surface Cover: | Asphalt |
| Other Characteristics: | Soil gas active | Sampling Rate: | 0.0125 LPM |
| SAMPLING SYSTEM: Wh | ole Air Active | | |
| Sample Type: | Soil gas | Volumes Purged: | 3 Liters |
| Sample Volume: | 6 Liters | Flow Controller #: | 5243 |
| Sample Container Type: | Summa | Tested Vacuum ("Hg): | -28.7 |
| Sample Container #: | 4576 | Ind Cert? | No |
| Date Cleaned: | NR | | |
| Sample Analysis: | TO-15 | | |
| BREAKTHROUGH TEST | | | ON LEAK TEST |
| Tracer Gas: Heliur | n | | |
| Prior to Sampling | | Start Time: 1227 | Start Pressure ("Hg): -7 |
| Helium in Bucket | 97.7% | End Time: 1232 | End Pressure ("Hg): -5 |
| | 4,875 ppm | | |
| Helium in Tubing | | | |
| Helium in Tubing Percent Breakthrough | <0.5% | | Difference: 2"Hg (~1psig) |
| Percent Breakthrough | <0.5% | | Difference: 2"Hg (~1psig) |
| Percent Breakthrough COLLECTING SOIL GAS | <0.5% | Start Prossure ("Ha): | |
| Percent Breakthrough | <0.5% | Start Pressure ("Hg): End Pressure ("Ha): | -28.5 |
| Percent Breakthrough COLLECTING SOIL GAS S Start Time: | <0.5% SAMPLE 1233 | Start Pressure ("Hg): End Pressure ("Hg): | |
| Percent Breakthrough COLLECTING SOIL GAS S Start Time: | <0.5% SAMPLE 1233 | | -28.5 |
| Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: | <0.5% SAMPLE 1233 | | -28.5 |
| Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: | <0.5% SAMPLE 1233 | | -28.5 |
| Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: | <0.5% SAMPLE 1233 | | -28.5 |
| Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: QA/QC samples: None | <0.5% SAMPLE 1233 | | -28.5 |
| Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: QA/QC samples: None | <0.5% SAMPLE 1233 | | -28.5 |
| Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: QA/QC samples: None | <0.5% SAMPLE 1233 | | -28.5 |
| Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: QA/QC samples: None | <0.5% SAMPLE 1233 | End Pressure ("Hg): | -28.5 -7.5 BrightFields, Inc. Environmental Services |
| Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: QA/QC samples: None | <0.5% SAMPLE 1233 | End Pressure ("Hg): | -28.5 -7.5 BrightFields, Inc. |

| SOIL GAS SAM | PLING LOG | SHEET: | 1 of 1 |
|---------------------------|-------------------|-----------------------|--|
| PROJECT NAME: SVE 3 | 3 Year Evaluation | Sample Designation : | SVE-SG29-G001 |
| Project No: | 2734.07.51 | Time: | 0910 |
| Date: | 7/2/2018 | Sampled By: | N. Bradley |
| ATMOSPHERIC CONDITIO | DNS: | | |
| Data Source: | DEOS | Precipitation: | 0.0 |
| Barometric Pressure (mb): | 1017.2 | Temperature (°F): | 89.9 |
| Wind Speed (mph): | 6.7 | Wind Direction: | SSE |
| SAMPLE AREA DESCRIP | ΓΙΟΝ· | | |
| Sample Depth (ft bgs): | 6.0 | Installed Date: | 9/4/13 |
| Purge Odor: | None | Surface Cover: | Asphalt |
| Other Characteristics: | Soil gas active | Sampling Rate: | 0.0125 LPM |
| SAMPLING SYSTEM: Wh | ole Air Active | | |
| Sample Type: | Soil gas | Volumes Purged: | 3 Liters |
| Sample Volume: | 6 Liters | Flow Controller #: | 5185 |
| Sample Container Type: | Summa | Tested Vacuum ("Hg): | -29.6 |
| Sample Container #: | 2844 | Ind Cert? | -29.0 No |
| Date Cleaned: | NR | | 110 |
| Sample Analysis: | TO-15 | | |
| BREAKTHROUGH TEST | | | ON LEAK TEST |
| Tracer Gas: Heliur | n | | |
| Prior to Sampling | | Start Time: 0917 | Start Pressure ("Hg): -7 |
| Helium in Bucket | 93.3% | End Time: 0922 | End Pressure ("Hg): -6.5 |
| Helium in Tubing | 0% | | |
| Percent Breakthrough | 0% | | Difference: 0.5"Hg (<1psig) |
| COLLECTING SOIL GAS S | SAMPLE | | |
| Start Time: | 1213 | Start Pressure ("Hg): | -29 |
| End Time: | 2002 | End Pressure ("Hg): | -9 |
| QA/QC samples: None | | | |
| QAVQC Samples: None | | | |
| | | | |
| Notes: | | | |
| | | | |
| | | | |
| | | | BrightFields, Inc. |
| | | | BrightFields, Inc. Environmental Services Industrial St. Wilmington, DE 19801 (302) 656-9600 Fax (302) 656-9700 |

| AMBIENT AIR SA | MPLING LOG | SHEET: 1 | 1 of 1 |
|---------------------------|-------------------|-----------------------|---|
| PROJECT NAME: SVE 3 | 3 Year Evaluation | Sample Designation : | SVE-AA-G001 |
| Project No: 2734. | 07.51 | Time: | 1210 |
| Date: 7/2/20 |)18 | Sampled By: | N. Bradley |
| ATMOSPHERIC CONDITIO | DNS: | | |
| Data Source: | DEOS | Precipitation: | 0.0 |
| Barometric Pressure (mb): | | Temperature (°F): | 89.9 |
| Wind Speed (mph): | 6.7 | Wind Direction: | SSE |
| SAMPLE AREA DESCRIP | TION: | | |
| Sample Area: | Fenceline | Installed Date: | 7/2/18 |
| Other Characteristics: | Ambient air | Sampling Rate: | 0.0125 LPM |
| SAMPLING SYSTEM: Wh | ole Air Active | | |
| Sample Type: | Ambient Air | | |
| Sample Volume: | 6 Liters | Flow Controller # | 2768 |
| Sample Container Type: | Summa | Tested Vacuum ("Hg): | |
| Sample Container #: | 4010 | Ind Cert? | No |
| Date Cleaned | NR | | |
| Sample Analysis: | TO-15 | | |
| | | | |
| COLLECTING AMBIENT A | NR SAMPLE | | |
| Start Time: | 1214 | Start Pressure ("Hg): | -29 |
| End Time: | 2007 | End Pressure: ("Hg): | -5.5 |
| QA/QC samples: | | | |
| Notes: | | | |
| | | | |
| | | | |
| | | | BrightFields, Inc. |
| | | | nl St. Wilmington, DE 19801 56-9600 Fax (302) 656-9700 |



Appendix D.3 Soil Gas Sampling Logs August 2018

| | | | MENT LOG | | SHEET: | 1 | of | 1 | |
|--------------------|----------|--------------|----------------------|-----------|----------------|------------|-------------|--|---------------|
| PROJECT N | IAME: | SVE 3-Y | ear Evaluation | Develop | ed By: | N. Bradley | M. Langrehr | | |
| Project No: | | 2734.07 | .51 | Date: | | 8/27/2018 | | | |
| | | | | | | | | | |
| ATMOSPHE | | DITION | S: | | | | | | |
| Data Source | : | | DEOS | Precipita | ation: C |).0" | | | |
| Barometric F | Pressure | (mb): | 1019 | Temper | ature (°F): 8 | 32.7 | | | |
| Wind Speed | (mph): | | 4.1 | Wind Di | rection: E | East | | | |
| DEVELOPM | IENT ME | THOD: | | | | | | | |
| Developmer | t Method | : | Persitaltic pur | p Were A | ny Wells Block | ked?: | No | | |
| Volumes Pu | rged: | | 3 Liters | | | N/A | | | |
| | • | | | | | | | | |
| Soil Gas Sc | reening | Results | | | | | | | |
| Soil Gas ID | Date | Time | PID Reading (ppm) | LEL (%) | H2S (ppm) | CO (ppm) | Oxygen (%) | Helium In Sample Train (ppm unless % is specified) | Odor |
| DA-SG14S | 8/27/18 | 0846 | 46.7 | 31 | 0 | 0 | 10.2 | 0 | None |
| DA-SG14S | 8/27/18 | 0850 | 70.2 | 31 | 0 | 0 | 7.8 | 0 | Faint fuel |
| DA-SG14S | 8/27/18 | 0853 | 76.7 | 24 | 0 | 0 | 4.3 | 0 | None |
| DA-SG13S | 8/27/18 | 0905 | 53.4 | 16 | 0 | 0 | 9.4 | 0 | Silicone-like |
| DA-SG13S | 8/27/18 | 0909 | 30.7 | 19 | 0 | 0 | 7.5 | 0 | Silicone-like |
| DA-SG13S | 8/27/18 | 0914 | 12.8 | 100 | 0 | 0 | 6.9 | 0 | Silicone-like |
| DA-SG9 | 8/27/18 | 0927 | 27.0 | 9 | 0 | 0 | 16.8 | 2.0% | Silicone-like |
| DA-SG9 | 8/27/18 | 0932 | 15.4 | 6 | 0 | 0 | 16.2 | 2.8% | Silicone-like |
| DA-SG9 | 8/27/18 | 0937 | 5.8 | 19 | 0 | 0 | 16.2 | 3.0% | Silicone-like |
| DA-SG10 | 8/27/18 | 1002 | 10.6 | 13 | 0 | 0 | 5.6 | 0 | None |
| DA-SG10 | 8/27/18 | 1006 | 14.3 | 9 | 0 | 0 | 2.8 | 0 | None |
| DA-SG10 | 8/27/18 | 1009 | 6.3 | 10 | 0 | 0 | 2.7 | 0 | None |
| DA-SG29 | 8/27/18 | 1038 | 17.9 | 7 | 0 | 4 | 8.9 | 2,100 | Slight aromat |
| DA-SG29 | 8/27/18 | 1043 | 13.2 | 7 | 0 | 0 | 10.4 | 700 | Slight aromat |
| | 8/27/18 | 1046 | 9.8 | 7 | 0 | 0 | 7.8 | 0 | Slight aromat |
| DA-SG29 | 8/27/18 | 1058 | 21.1 | 10 | 0 | 17 | 10.2 | 0 | Silicone-like |
| DA-SG29 DA-SG28 | 0,21,10 | | 20.0 | 10 | 0 | 4 | 6.8 | 0 | Silicone-like |
| | 8/27/18 | 1103 | 29.0 | 10 | | | | | |
| DA-SG28 | | 1103 1107 | 29.0 | 10 | 0 | 0 | 4.8 | 0 | Silicone-like |



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| SOIL GAS SAME | PLING LOG | SHEET: | 1 of 1 |
|---------------------------|--------------------|-----------------------|--|
| PROJECT NAME: SVE 3 | 3 Year Evaluation | Sample Designation : | SVE-SG9-G002 |
| Project No: | 2734.07.51 | Time: | 0927 |
| Date: | 8/27/2018 | Sampled By: | N. Bradley/M. Langrehr |
| | | | |
| ATMOSPHERIC CONDITIO | DNS: | | |
| Data Source: | DEOS | Precipitation: | 0.0 |
| Barometric Pressure (mb): | 1017.3 | Temperature (°F): | 88.3 |
| Wind Speed (mph): | 4.3 | Wind Direction: | WNW |
| SAMPLE AREA DESCRIP | TION: | | |
| Sample Depth (ft bgs): | 6.0 | Installed Date: | 10/15/12 |
| Purge Odor: | Silicone-like odor | Surface Cover: | River Rock |
| Other Characteristics: | Soil gas active | Sampling Rate: | 0.0125 LPM |
| | | | |
| SAMPLING SYSTEM: Wh | | N/shurs as D | |
| Sample Type: | Soil gas | Volumes Purged: | 3 Liters |
| Sample Volume: | 6 Liters | Flow Controller #: | 5244 |
| Sample Container Type: | Summa | Tested Vacuum ("Hg): | -29.9 |
| Sample Container #: | 6247 | Ind Cert? | No |
| Date Cleaned: | 6/19/2018 | | |
| Sample Analysis: | TO-15 | | |
| BREAKTHROUGH TEST | | CANISTER CONNECTI | ON LEAK TEST |
| Tracer Gas: Heliur | n | | |
| Prior to Sampling | | Start Time: 0948 | Start Pressure ("Hg): -7 |
| Helium in Shroud | 96.7% | End Time: 0953 | End Pressure ("Hg): -6 |
| Helium in Tubing | 3% | | |
| Percent Breakthrough | 3.13% | | Difference: 1"Hg (<1psig) |
| COLLECTING SOIL GAS | SAMPLE | | |
| Start Time: | 1140 | Start Pressure ("Hg): | -30 |
| End Time: | 1922 | End Pressure ("Hg): | -7.5 |
| | | | |
| QA/QC samples: None | | | |
| | | | |
| | | | |
| Notes: | | | BrightFields, Inc. |
| Notes: | | | BrightFields, Inc. Environmental Services |
| Notes: | | 801 li | |

| SOIL GAS SAM | PLING LOG | SHEET: | 1 of 1 |
|--|----------------------------|--|---|
| PROJECT NAME: SVE 3 | 3 Year Evaluation | Sample Designation : | SVE-SG10-G002 |
| Project No: | 2734.07.51 | Time: | 1002 |
| Date: | 8/27/2018 | Sampled By: | N. Bradley/M. Langrehr |
| | | | |
| ATMOSPHERIC CONDITION | ONS: | | |
| Data Source: | DEOS | Precipitation: | 0.0 |
| Barometric Pressure (mb): | 1017.3 | Temperature (°F): | 88.3 |
| Wind Speed (mph): | 4.3 | Wind Direction: | WNW |
| SAMPLE AREA DESCRIP | | | |
| Sample Depth (ft bgs): | 6.0 | Installed Date: | 10/15/12 |
| Purge Odor: | None | Surface Cover: | Grass |
| Other Characteristics: | Soil gas active | Sampling Rate: | 0.0125 LPM |
| Other Onaracteristics. | Soli gas active | Camping Rate. | 0.0123 EI W |
| SAMPLING SYSTEM: Wh | ole Air Active | | |
| Sample Type: | Soil gas | Volumes Purged: | 3 Liters |
| Sample Volume: | 6 Liters | Flow Controller #: | 3168 |
| Sample Container Type: | Summa | Tested Vacuum ("Hg): | -29.9 |
| Sample Container #: | 4919 | Ind Cert? | No |
| Date Cleaned: | 6/27/2018 | | |
| Sample Analysis: | TO-15 | | |
| | | | |
| | | CANISTER CONNECTI | ON LEAK TEST |
| Tracer Gas: Heliur | n | 0, , T . 4000 | |
| | | Start Time: 1030 | Start Pressure ("Hg): -7 |
| Prior to Sampling | | | |
| Helium in Shroud | 94.7% | End Time: 1035 | End Pressure ("Hg): -5.5 |
| Helium in Shroud Helium in Tubing | 0% | End Time: 1035 | |
| Helium in Shroud | | End Time: 1035 | End Pressure ("Hg): -5.5 Difference:1.5"Hg(~1psig) |
| Helium in Shroud Helium in Tubing Percent Breakthrough | 0% 0% | End Time: 1035 | |
| Helium in Shroud Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS S | 0% 0% SAMPLE | | Difference:1.5"Hg(~1psig) |
| Helium in Shroud Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS S Start Time: | 0% 0% SAMPLE 1143 | Start Pressure ("Hg): | Difference:1.5"Hg(~1psig) -30 |
| Helium in Shroud Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS S | 0% 0% SAMPLE | | Difference:1.5"Hg(~1psig) |
| Helium in Shroud Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: | 0% 0% SAMPLE 1143 | Start Pressure ("Hg): | Difference:1.5"Hg(~1psig) -30 |
| Helium in Shroud Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS S Start Time: | 0% 0% SAMPLE 1143 | Start Pressure ("Hg): | Difference:1.5"Hg(~1psig) -30 |
| Helium in Shroud Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: | 0% 0% SAMPLE 1143 | Start Pressure ("Hg): | Difference:1.5"Hg(~1psig) -30 |
| Helium in Shroud Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: | 0% 0% SAMPLE 1143 | Start Pressure ("Hg): | Difference:1.5"Hg(~1psig) -30 |
| Helium in Shroud Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: QA/QC samples: None | 0% 0% SAMPLE 1143 | Start Pressure ("Hg): | Difference:1.5"Hg(~1psig) -30 |
| Helium in Shroud Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: QA/QC samples: None | 0% 0% SAMPLE 1143 | Start Pressure ("Hg): | Difference:1.5"Hg(~1psig) -30 |
| Helium in Shroud Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: QA/QC samples: None | 0% 0% SAMPLE 1143 | Start Pressure ("Hg): | Difference:1.5"Hg(~1psig) -30 |
| Helium in Shroud Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: QA/QC samples: None | 0% 0% SAMPLE 1143 | Start Pressure ("Hg): | Difference:1.5"Hg(~1psig) -30 -11.5 BrightFields, Inc. |
| Helium in Shroud Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: QA/QC samples: None | 0% 0% SAMPLE 1143 | Start Pressure ("Hg): | Difference:1.5"Hg(~1psig) -30 -11.5 |
| Helium in Shroud Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: QA/QC samples: None | 0% 0% SAMPLE 1143 | Start Pressure ("Hg): End Pressure ("Hg): | Difference:1.5"Hg(~1psig) -30 -11.5 BrightFields, Inc. |

| SOIL GAS SAMF | LING LOG | SHEET: | 1 of 1 |
|--|--------------------|--|---------------------------|
| PROJECT NAME: SVE 3 | Year Evaluation | Sample Designation : | SVE-SG13S-G002 |
| Project No: | 2734.07.51 | Time: | 0905 |
| Date: | 8/27/2018 | Sampled By: | N. Bradley/M. Langrehr |
| | | | |
| ATMOSPHERIC CONDITIC | DNS: | | |
| Data Source: | DEOS | Precipitation: | 0.0 |
| Barometric Pressure (mb): | 1017.3 | Temperature (°F): | 88.3 |
| Wind Speed (mph): | 4.3 | Wind Direction: | WNW |
| SAMPLE AREA DESCRIPT | LION: | | |
| Sample Depth (ft bgs): | 6.0 | Installed Date: | 10/15/12 |
| Purge Odor: | Silicone-like odor | Surface Cover: | Grass |
| Other Characteristics: | Soil gas active | Sampling Rate: | 0.0125 LPM |
| | | Camping Plater | |
| SAMPLING SYSTEM: Who | ole Air Active | | |
| Sample Type: | Soil gas | Volumes Purged: | 3 Liters |
| Sample Volume: | 6 Liters | Flow Controller #: | 3936 |
| Sample Container Type: | Summa | Tested Vacuum ("Hg): | -29.9 |
| Sample Container #: | 5465 | Ind Cert? | No |
| Date Cleaned: | 6/27/2018 | | |
| Sample Analysis: | TO-15 | | |
| BREAKTHROUGH TEST | | CANISTER CONNECTION | ON LEAK TEST |
| Tracer Gas: Heliun | n | | |
| Prior to Sampling | | Start Time: 0953 | Start Pressure ("Hg): -7 |
| Helium in Shroud | 96.0% | End Time: 0958 | End Pressure ("Hg): -6 |
| Helium in Tubing | 0% | | |
| Percent Breakthrough | 0% | | Difference: 1"Hg (<1psig) |
| COLLECTING SOIL GAS S | SAMPLE | | |
| COLLECTING SUIL GAS S | | | |
| Start Time: | 1136 | Start Pressure ("Hg): | -30 |
| | | Start Pressure ("Hg): End Pressure ("Hg): | -30 -8.5 |
| Start Time: | 1136 | | |
| Start Time: | 1136 | | |
| Start Time: End Time: | 1136 | | |
| Start Time: End Time: QA/QC samples: None | 1136 | | |
| Start Time: End Time: | 1136 | | |
| Start Time: End Time: QA/QC samples: None | 1136 | | |
| Start Time: End Time: QA/QC samples: None | 1136 | | |
| Start Time: End Time: QA/QC samples: None | 1136 | | -8.5 |
| Start Time: End Time: QA/QC samples: None | 1136 | End Pressure ("Hg): | -8.5 |

| SOIL GAS SAMF | LING LOG | SHEET: | 1 of 1 |
|--|-------------------|--|---------------------------|
| PROJECT NAME: SVE 3 | 3 Year Evaluation | Sample Designation : | SVE-SG14S-G002 |
| Project No: | 2734.07.51 | Time: | 0846 |
| Date: | 8/27/2018 | Sampled By: | N. Bradley/M. Langrehr |
| ATMOSPHERIC CONDITIO |)NS· | | |
| Data Source: | DEOS | Precipitation: | 0.0 |
| Barometric Pressure (mb): | 1017.3 | Temperature (°F): | 88.3 |
| Wind Speed (mph): | 4.3 | Wind Direction: | |
| | | | |
| SAMPLE AREA DESCRIP | | - | |
| Sample Depth (ft bgs): | 6.0 | Installed Date: | 10/18/12 |
| Purge Odor: | Faint fuel odor | Surface Cover: | Asphalt |
| Other Characteristics: | Soil gas active | Sampling Rate: | 0.0125 LPM |
| SAMPLING SYSTEM: Wh | ole Air Active | | |
| Sample Type: | Soil gas | Volumes Purged: | 3 Liters |
| Sample Volume: | 6 Liters | Flow Controller # | 6082 |
| Sample Container Type: | Summa | Tested Vacuum ("Hg): | -29.9 |
| Sample Container # | 5060 | Ind Cert? | No |
| Date Cleaned | 6/19/2018 | | |
| Sample Analysis: | TO-15 | | |
| BREAKTHROUGH TEST | | | ON LEAK TEST |
| Tracer Gas: Heliun | n | | |
| Prior to Sampling | | Start Time: 0855 | Start Pressure ("Hg): -7 |
| Helium in Shroud | 97.4% | End Time: 0900 | End Pressure ("Hg): -6 |
| Helium in Tubing | 0% | | |
| | 0% | | Difference: 1"Hg (<1psig) |
| Percent Breakthrough | | | |
| C | | | |
| COLLECTING SOIL GAS | | Start Prossuro ("Ha): | > 20 |
| COLLECTING SOIL GAS S Start Time: | 1133 | Start Pressure ("Hg): | >-30 |
| C | | Start Pressure ("Hg): End Pressure ("Hg): | >-30 -9 |
| COLLECTING SOIL GAS S Start Time: End Time: | 1133 | | |
| COLLECTING SOIL GAS S Start Time: End Time: | 1133 | | |
| COLLECTING SOIL GAS S Start Time: End Time: QA/QC samples: None | 1133 | | |
| COLLECTING SOIL GAS S Start Time: End Time: QA/QC samples: None | 1133 | | |
| COLLECTING SOIL GAS S Start Time: End Time: | 1133 | | |
| COLLECTING SOIL GAS S Start Time: End Time: QA/QC samples: None | 1133 | | |
| COLLECTING SOIL GAS S Start Time: End Time: QA/QC samples: None | 1133 | End Pressure ("Hg): | -9 BrightFields, Inc. |

| SOIL GAS SAM | PLING LOG | SHEET: | 1 of 1 |
|---------------------------|---------------------|-----------------------|---------------------------|
| PROJECT NAME: SVE 3 | 3 Year Evaluation | Sample Designation : | SVE-SG28-G002 |
| Project No: | 2734.07.51 | Time: | 1058 |
| Date: | 8/27/2018 | Sampled By: | N. Bradley/M. Langrehr |
| ATMOSPHERIC CONDITIO | DNS: | | |
| Data Source: | DEOS | Precipitation: | 0.0 |
| Barometric Pressure (mb): | 1017.3 | Temperature (°F): | 88.3 |
| Wind Speed (mph): | 4.3 | Wind Direction: | WNW |
| | | | |
| SAMPLE AREA DESCRIP | - | | 0/1//0 |
| Sample Depth (ft bgs): | 6.0 | Installed Date: | 9/4/13 |
| Purge Odor: | Silicone-like odor | Surface Cover: | Asphalt |
| Other Characteristics: | Soil gas active | Sampling Rate: | 0.0125 LPM |
| SAMPLING SYSTEM: Wh | ole Air Active | | |
| Sample Type: | Soil gas | Volumes Purged: | 3 Liters |
| Sample Volume: | 6 Liters | Flow Controller #: | 2995 |
| Sample Container Type: | Summa | Tested Vacuum ("Hg): | -29.9 |
| Sample Container #: | 4459 | Ind Cert? | No |
| Date Cleaned: | 6/19/2018 | | |
| Sample Analysis: | TO-15 | | |
| BREAKTHROUGH TEST | | | ON LEAK TEST |
| Tracer Gas: Heliur | n | | |
| Prior to Sampling | | Start Time: 1135 | Start Pressure ("Hg): -7 |
| Helium in Shroud | 93.2% | End Time: 1140 | End Pressure ("Hg): -6 |
| Helium in Tubing | 0 | | |
| Percent Breakthrough | 0% | | Difference: 1"Hg (<1psig) |
| COLLECTING SOIL GAS | | | |
| Start Time: | 1149 | Start Pressure ("Hg): | -30 |
| End Time: | 1929 | End Pressure ("Hg): | -8 |
| | | | |
| QA/QC samples: SVE-S | SG28-G102 (duplicat | te sample). | |
| | | | |
| Notes: | | | |
| | | | |
| | | | |
| | | | |
| | | | BrightFields, Inc. |
| | | | BrightFields, Inc. |
| | | 801 li | |

| SOIL GAS SAME | PLING LOG | SHEET: | 1 of 1 |
|---------------------------|---------------------|-----------------------|---------------------------|
| PROJECT NAME: SVE 3 | 3 Year Evaluation | Sample Designation : | SVE-SG28-G102 |
| Project No: | 2734.07.51 | Time: | 1058 |
| Date: | 8/27/2018 | Sampled By: | N. Bradley/M. Langrehr |
| | | | |
| ATMOSPHERIC CONDITIC | | | |
| Data Source: | DEOS | Precipitation: | 0.0 |
| Barometric Pressure (mb): | 1017.3 | Temperature (°F): | 88.3 |
| Wind Speed (mph): | 4.3 | Wind Direction: | WNW |
| SAMPLE AREA DESCRIP | TION: | | |
| Sample Depth (ft bgs): | 6.0 | Installed Date: | 9/4/13 |
| Purge Odor: | Silicone-like odor | Surface Cover: | Asphalt |
| Other Characteristics: | Soil gas active | Sampling Rate: | 0.0125 LPM |
| SAMPLING SYSTEM: Wh | ole Air Active | | |
| Sample Type: | Soil gas | Volumes Purged: | 3 Liters |
| Sample Volume: | 6 Liters | Flow Controller #: | 5004 |
| Sample Container Type: | Summa | Tested Vacuum ("Hg): | -29.9 |
| Sample Container Type. | 6253 | Ind Cert? | -29.9 No |
| Date Cleaned: | 6/25/2018 | | |
| Sample Analysis: | TO-15 | | |
| Sample Analysis. | 10-13 | | |
| BREAKTHROUGH TEST | | CANISTER CONNECTION | ON LEAK TEST |
| Tracer Gas: Heliur | n | | |
| Prior to Sampling | | Start Time: 1135 | Start Pressure ("Hg): -7 |
| Helium in Shroud | 93.2% | End Time: 1140 | End Pressure ("Hg): -6 |
| Helium in Tubing | 0% | | |
| Percent Breakthrough | 0% | | Difference: 1"Hg (<1psig) |
| COLLECTING SOIL GAS | SAMPLE | | |
| Start Time: | 1150 | Start Pressure ("Hg): | -26 |
| End Time: | 1930 | End Pressure ("Hg): | -5.5 |
| | | | |
| | | | |
| QA/QC samples: SVE-S | SG28-G002 (parent s | sample). | |
| QA/QC samples: SVE-S | SG28-G002 (parent s | sample). | |
| | SG28-G002 (parent s | sample). | |
| | SG28-G002 (parent s | sample). | |
| | SG28-G002 (parent s | sample). | |
| QA/QC samples: SVE-S | SG28-G002 (parent s | sample). | |
| | SG28-G002 (parent s | sample). | BrightEioldo Iso |
| | SG28-G002 (parent s | sample). | BrightFields, Inc. |
| | SG28-G002 (parent s | | |

| SOIL GAS SAMF | LING LOG | SHEET: | 1 of 1 |
|--|----------------------|--|---------------------------|
| PROJECT NAME: SVE 3 | Year Evaluation | Sample Designation : | SVE-SG29-G002 |
| Project No: | 2734.07.51 | Time: | 1038 |
| Date: | 8/27/2018 | Sampled By: | N. Bradley/M. Langrehr |
| | | | |
| ATMOSPHERIC CONDITIC | DNS: | | |
| Data Source: | DEOS | Precipitation: | 0.0 |
| Barometric Pressure (mb): | 1017.3 | Temperature (°F): | 88.3 |
| Wind Speed (mph): | 4.3 | Wind Direction: | WNW |
| SAMPLE AREA DESCRIP | ΓΙΟΝ: | | |
| Sample Depth (ft bgs): | 6.0 | Installed Date: | 9/4/13 |
| Purge Odor: | Slightly aromatic | Surface Cover: | Asphalt |
| Other Characteristics: | Soil gas active | Sampling Rate: | 0.0125 LPM |
| SAMPLING SYSTEM: Who | olo Air Activo | | |
| Sample Type: | | Volumes Purged: | 2 Litoro |
| Sample Type. Sample Volume: | Soil gas 6 Liters | Flow Controller #: | 3 Liters |
| Sample Volume. Sample Container Type: | | Tested Vacuum ("Hg): | 4195 |
| Sample Container #: | Summa 3928 | , | -29.9 No |
| Date Cleaned: | 6/22/2018 | Ind Cert? | 110 |
| Sample Analysis: | TO-15 | | |
| | 10-13 | | |
| BREAKTHROUGH TEST | | CANISTER CONNECTION | ON LEAK TEST |
| Tracer Gas: Heliun | n | | |
| Prior to Sampling | | Start Time: 1049 | Start Pressure ("Hg): -7 |
| Helium in Shroud | 94.6% | End Time: 1056 | End Pressure ("Hg): -6 |
| Helium in Tubing | 2,100 ppm | | |
| Percent Breakthrough | <1% | | Difference: 1"Hg (<1psig) |
| | | | |
| COLLECTING SOIL GAS S | | | |
| COLLECTING SOIL GAS S Start Time: | | Start Pressure ("Ha): | -30 |
| Start Time: | 1146 | Start Pressure ("Hg): | -30 |
| | | Start Pressure ("Hg): End Pressure ("Hg): | -30 -8 |
| Start Time: End Time: | 1146 | | |
| Start Time: | 1146 | | |
| Start Time: End Time: | 1146 | | |
| Start Time: End Time: | 1146 | | |
| Start Time: End Time: QA/QC samples: None | 1146 | | |
| Start Time: End Time: QA/QC samples: None | 1146 | | |
| Start Time: End Time: QA/QC samples: None | 1146 | | |
| Start Time: End Time: QA/QC samples: None | 1146 | | -8 |
| Start Time: End Time: QA/QC samples: None | 1146 | | |
| Start Time: End Time: QA/QC samples: None | 1146 | End Pressure ("Hg): | -8 BrightFields, Inc. |

| Project No: 2734. Date: 8/27/2 | | Time: Sampled By: | 1150 N. Bradley/M. Langrehr |
|-----------------------------------|----------------|-----------------------|--------------------------------|
| | 2018 | Sampled By: | N. Bradley/M. Langrenr |
| ATMOSPHERIC CONDITIO | DNS: | | |
| Data Source: | DEOS | Precipitation: | 0.0 |
| Barometric Pressure (mb): | 1017.3 | Temperature (°F): | 88.3 |
| Wind Speed (mph): | 4.3 | Wind Direction: | WNW |
| SAMPLE AREA DESCRIP | TION: | | |
| Sample Area: | Fenceline | Installed Date: | 8/27/18 |
| Other Characteristics: | Ambient air | Sampling Rate: | 0.0125 LPM |
| SAMPLING SYSTEM: Wh | ole Air Active | | |
| Sample Type: | Ambient Air | | |
| Sample Volume: | 6 Liters | Flow Controller # | 3480 |
| Sample Container Type: | Summa | Tested Vacuum ("Hg): | -29.9 |
| Sample Container #: | 5446 | Ind Cert? | No |
| Date Cleaned | 6/25/2018 | | |
| Sample Analysis: | TO-15 | | |
| | | | |
| COLLECTING AMBIENT A | IR SAMPLE | | |
| Start Time: | 1154 | Start Pressure ("Hg): | >-30 |
| End Time: | 1931 | End Pressure: ("Hg): | -9 |
| QA/QC samples: | | | |
| | | | |
| Notes: | | | |
| | | | |
| | | | |
| | | | |
| | | | BrightFields, Inc. |
| | | | |



Appendix D.4 Soil Gas Sampling Logs December 2018

| | SOIL GA | S DEVE | | LOG | | SHEET: | 1 | of | 1 | |
|--------------|-----------|---------|----------------------|----------------------|-----------|----------------|------------|------------|-------------------------|-----------------|
| PROJECT N | AME: | SVE 3-Y | 'ear Evaluatio | n | Develop | bed By: | N Bradley | | | |
| Project No: | | 2734.07 | .51 | | Date: | | 12/19/2018 | } | | |
| ATMOSPHE | | | • | | | | | | | |
| Data Source: | | | • | DEOS | Precipit | ation (in.): (|).0 | | | |
| Barometric P | | h). | | 1018.0 | | () | | | | |
| Wind Speed | (| 10). | | 1.8 | Wind Di | () | 6 6 | | | |
| wind Speed | (mpn). | | | 1.0 | | | | | | |
| DEVELOPM | ENT MET | HOD: | | | | | | | | |
| Development | t Method: | | | Persitaltic pur | mp Were A | ny Wells Block | (ed?: | No | | |
| Volumes Pur | ged: | | | 3 Liters | If yes, w | hich one(s) | N/A | | | |
| | | | | | | | | | | |
| Soil Gas Scr | eening R | esults | | | | | | | | |
| Soil Gas ID | Date | Time | Helium (ppm or %) | PID Reading (ppm) | LEL (%) | H2S (ppm) | CO (ppm) | Oxygen (%) | Helium In Shroud (%) | Odor |
| SVE-SG10 | 12/19/18 | 1010 | 0% | 5.8 | 0 | 0 | 0 | 6.6 | 98.9 | None |
| SVE-SG10 | 12/19/18 | 1014 | 0% | 7.0 | 0 | 0 | 0 | 3.4 | 99.8 | None |
| SVE-SG10 | 12/19/18 | 1016 | 0% | 5.7 | 0 | 0 | 0 | 2.9 | 99.4 | None |
| SVE-SG09 | 12/19/18 | 1029 | 0% | 1.5 | 0 | 0 | 0 | 7.6 | 94.7 | Silicone |
| SVE-SG09 | 12/19/18 | 1032 | 0% | 1.8 | 0 | 0 | 0 | 6.3 | 98.5 | Silicone |
| SVE-SG09 | 12/19/18 | 1037 | 0% | 1.4 | 0 | 0 | 0 | 5.2 | 100 | Silicone |
| SVE-SG13S | 12/19/18 | 1113 | 7,925 ppm | * | 58 | 0 | 0 | 3.2 | 93.0 | None |
| SVE-SG13S | 12/19/18 | 1115 | 14,875 ppm | * | 100 | 0 | 0 | 2.6 | 95.2 | None |
| SVE-SG13S | 12/19/18 | 1119 | 2.2% | * | 100 | 0 | 0 | 3.9 | 98.0 | None |
| SVE-SG14S | 12/19/18 | 1155 | 0% | 13.0 | 36 | 0 | 0 | 2.4 | 92.5 | Faint petroleum |
| SVE-SG14S | 12/19/18 | 1159 | 0% | 15.3 | 43 | 0 | 0 | 2.0 | 97.8 | Faint petroleum |
| SVE-SG14S | 12/19/18 | 1202 | 0% | 14.5 | 49 | 0 | 0 | 2.7 | 97.9 | Faint petroleum |
| SVE-SG31 | 12/19/18 | 1228 | 6,900 ppm | 107.3 | 24 | 0 | 0 | 8.3 | 97.0 | Petroleium |
| SVE-SG31 | 12/19/18 | 1232 | 8,650 ppm | 182.2 | 29 | 0 | 17 | 3.0 | 98.9 | Petroleum |
| | 12/19/18 | 1235 | 7,580 ppm | 183.1 | 29 | 0 | 9 | 2.4 | 98.0 | Petroleum |
| SVE-SG28 | 12/19/18 | 1242 | 2.1% | 55.7 | 0 | 0 | 0 | 5.9 | 93.0 | Faint petroleum |
| | 12/19/18 | 1246 | 3.3% | 50.9 | 0 | 0 | 0 | 4.1 | 98.5 | Faint petroleum |
| SVE-SG28 | 12/19/18 | 1249 | 3.7% | 37.0 | 0 | 0 | 0 | 4.0 | 97.9 | Faint petroleum |
| SVE-SG29 | 12/19/18 | 1307 | 0% | 14.4 | 0 | 0 | 0 | 9.4 | 97.5 | Silicone |
| SVE-SG29 | 12/19/18 | 1309 | 0% | 10.2 | 0 | 0 | 0 | 7.4 | 97.8 | Silicone |
| SVE-SG29 | 12/19/18 | 1311 | 0% | 9.1 | 0 | 0 | 0 | 7.3 | 97.0 | Silicone |
| Notes: | | | | | | | | | | |

* - Out of range.



801 Industrial St. Wilmington DE 19801 (302) 656-9600 Fax (302) 656-9700

| SOIL GAS SAMF | LING LOG | SHEET: | 1 of 1 |
|---------------------------|--------------------|-----------------------|--|
| PROJECT NAME: SVE 3 | Year Evaluation | Sample Designation : | SVE-SG9-G003 |
| Project No: | 2734.07.51 | Time: | 1029 |
| Date: | 12/19/2018 | Sampled By: | N Bradley |
| | ,, | | |
| ATMOSPHERIC CONDITION | ONS: | | |
| Data Source: | DEOS | Precipitation (in.): | 0.0 |
| Barometric Pressure (mb): | 1018.0 | Temperature (°F): | 37.8 |
| Wind Speed (mph): | 1.8 | Wind Direction: | S |
| SAMPLE AREA DESCRIP | | | |
| Sample Depth (ft bgs): | 6.0 | Installed Date: | 10/15/12 |
| Purge Odor: | Silicone-like odor | Surface Cover: | River Rock |
| Other Characteristics: | Soil gas active | Sampling Rate: | 0.0125 LPM |
| Other Onaracteristics. | Soli gas active | Sampling Nate. | 0.0123 EI W |
| SAMPLING SYSTEM: Wh | ole Air Active | | |
| Sample Type: | Soil gas | Volumes Purged: | 3 Liters |
| Sample Volume: | 6 Liters | Flow Controller #: | 09564 |
| Sample Container Type: | Summa | Tested Vacuum ("Hg): | -30.1 |
| Sample Container #: | 3322 | Ind Cert? | Batch Certified |
| Date Cleaned: | 12/4/2018 | | |
| Sample Analysis: | TO-15 | | |
| BREAKTHROUGH TEST | | CANISTER CONNECT | ION LEAK TEST |
| Tracer Gas: Heliur | n | | |
| Prior to Sampling | | Start Time: 1057 | Start Pressure ("Hg): -7 |
| Helium in Shroud | 100% | End Time: 1102 | End Pressure ("Hg): -5 |
| Helium in Tubing | 0% | | |
| Percent Breakthrough | 0% | | Difference ("Hg): 2 |
| | | | |
| COLLECTING SOIL GAS | SAMPLE | | |
| Start Time: | 1340 | Start Pressure ("Hg): | -28.5 |
| End Time: | 2125 | End Pressure ("Hg): | -5 |
| | | | |
| QA/QC samples: None | | | |
| | | | |
| Notes: Dial in "+" regi | on when not turned | on. | |
| - | | | |
| | | | |
| | | | |
| | | | BrightFields, Inc. |
| | | | BrightFields, Inc. Environmental Services |

| SOIL GAS SAM | PLING LOG | SHEET: | 1 of 1 |
|--------------------------|-------------------|-----------------------|---|
| PROJECT NAME: SVE | 3 Year Evaluation | Sample Designation : | SVE-SG10-G003 |
| Project No: | 2734.07.51 | Time: | 1010 |
| Date: | 12/19/2018 | Sampled By: | N Bradley |
| | | | 2 |
| ATMOSPHERIC CONDIT | IONS: | | |
| Data Source: | DEOS | Precipitation (in.): | 0.0 |
| Barometric Pressure (mb) | : 1018.0 | Temperature (°F): | 37.8 |
| Wind Speed (mph): | 1.8 | Wind Direction: | S |
| SAMPLE AREA DESCRIF | | | |
| Sample Depth (ft bgs): | 6.0 | Installed Date: | 10/15/12 |
| Purge Odor: | None | Surface Cover: | Grass |
| Other Characteristics: | Active soil gas | Sampling Rate: | 0.0125 LPM |
| | / touvo oon guo | Camping Rate. | 0.0120 21 11 |
| SAMPLING SYSTEM: W | hole Air Active | | |
| Sample Type: | Soil gas | Volumes Purged: | 3 Liters |
| Sample Volume: | 6 Liters | Flow Controller #: | 11509 |
| Sample Container Type: | Summa | Tested Vacuum ("Hg): | -30.1 |
| Sample Container #: | 4913 | Ind Cert? | Batch Certified |
| Date Cleaned: | 11/30/2018 | | |
| Sample Analysis: | TO-15 | | |
| BREAKTHROUGH TEST | | CANISTER CONNECTI | ON LEAK TEST |
| Tracer Gas: Heliu | Im | | |
| Prior to Sampling | | Start Time: 1018 | Start Pressure ("Hg): -7 |
| Helium in Shroud | 99.4% | End Time: 1023 | End Pressure ("Hg): -7 |
| Helium in Tubing | 0% | | |
| Percent Breakthrough | 0% | | Difference ("Hg): 0 |
| | | | |
| COLLECTING SOIL GAS | SAMPLE | | |
| Start Time: | 1338 | Start Pressure ("Hg): | -24.5 |
| End Time: | 1937 | End Pressure ("Hg): | -5 |
| | | | |
| QA/QC samples: None | 9 | | |
| | | | |
| Notes: | | | |
| 10103. | | | |
| | | | |
| | | | |
| | | | BrightFields, Inc. |
| | | | Environmental Services |
| 1 | | 901 Ind | lustrial St Wilmington DE 10001 |
| | | | lustrial St. Wilmington, DE 19801 302) 656-9600 Fax (302) 656-9700 |

| SOIL GAS SAMF | LING LOG | SHEET: | 1 of 1 |
|---|--------------------------------------|--|---|
| PROJECT NAME: SVE 3 | Year Evaluation | Sample Designation : | SVE-SG13S-G003 |
| Project No: | 2734.07.51 | Time: | 1113 |
| Date: | 12/19/2018 | Sampled By: | N Bradley |
| | | | · · · · · |
| ATMOSPHERIC CONDITION | ONS: | | |
| Data Source: | DEOS | Precipitation (in.): | 0.0 |
| Barometric Pressure (mb): | 1018.0 | Temperature (°F): | 37.8 |
| Wind Speed (mph): | 1.8 | Wind Direction: | S |
| | | | |
| SAMPLE AREA DESCRIP | | | |
| Sample Depth (ft bgs): | 6.0 | Installed Date: | 10/15/12 |
| Purge Odor: | None | Surface Cover: | Grass |
| Other Characteristics: | Soil gas active | Sampling Rate: | 0.0125 LPM |
| | | | |
| SAMPLING SYSTEM: Wh | ole Air Active | | |
| Sample Type: | Soil gas | Volumes Purged: | 3 Liters |
| Sample Volume: | 6 Liters | Flow Controller #: | 11924 |
| Sample Container Type: | Summa | Tested Vacuum ("Hg): | -29.2 |
| Sample Container #: | 3265 | Ind Cert? | Batch Certified |
| Date Cleaned: | 11/5/2018 | | |
| Sample Analysis: | TO-15 | | |
| | | | |
| | | | |
| BREAKTHROUGH TEST | - | | UN LEAK TEST |
| Tracer Gas: Heliun | า | | |
| Tracer Gas: Helium Prior to Sampling | | Start Time: 1145 | Start Pressure ("Hg): -7 |
| Tracer Gas: Heliun Prior to Sampling Helium in Shroud | 98% | | |
| Tracer Gas: Heliun Prior to Sampling Helium in Shroud Helium in Tubing | 98% 2.2% | Start Time: 1145 | Start Pressure ("Hg): -7 End Pressure ("Hg): -5 |
| Tracer Gas: Heliun Prior to Sampling Helium in Shroud | 98% | Start Time: 1145 | Start Pressure ("Hg): -7 |
| Tracer Gas: Heliun Prior to Sampling Helium in Shroud Helium in Tubing Percent Breakthrough | 98% 2.2% <5% | Start Time: 1145 | Start Pressure ("Hg): -7 End Pressure ("Hg): -5 |
| Tracer Gas: Heliun Prior to Sampling Helium in Shroud Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS \$ | 98% 2.2% <5% SAMPLE | Start Time: 1145 End Time: 1150 | Start Pressure ("Hg): -7 End Pressure ("Hg): -5 Difference ("Hg): 2 |
| Tracer Gas: Heliun Prior to Sampling Helium in Shroud Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS S Start Time: | 98% 2.2% <5% SAMPLE 1341 | Start Time: 1145 End Time: 1150 Start Pressure ("Hg): | Start Pressure ("Hg): -7 End Pressure ("Hg): -5 Difference ("Hg): 2 -30 |
| Tracer Gas: Heliun Prior to Sampling Helium in Shroud Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS \$ | 98% 2.2% <5% SAMPLE | Start Time: 1145 End Time: 1150 | Start Pressure ("Hg): -7 End Pressure ("Hg): -5 Difference ("Hg): 2 |
| Tracer Gas: Heliun Prior to Sampling Helium in Shroud Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: | 98% 2.2% <5% SAMPLE 1341 | Start Time: 1145 End Time: 1150 Start Pressure ("Hg): | Start Pressure ("Hg): -7 End Pressure ("Hg): -5 Difference ("Hg): 2 -30 |
| Tracer Gas: Heliun Prior to Sampling Helium in Shroud Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS S Start Time: | 98% 2.2% <5% SAMPLE 1341 | Start Time: 1145 End Time: 1150 Start Pressure ("Hg): | Start Pressure ("Hg): -7 End Pressure ("Hg): -5 Difference ("Hg): 2 -30 |
| Tracer Gas: Heliun Prior to Sampling Helium in Shroud Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: | 98% 2.2% <5% SAMPLE 1341 | Start Time: 1145 End Time: 1150 Start Pressure ("Hg): | Start Pressure ("Hg): -7 End Pressure ("Hg): -5 Difference ("Hg): 2 -30 |
| Tracer Gas: Heliun Prior to Sampling Helium in Shroud Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: QA/QC samples: None | 98% 2.2% <5% SAMPLE 1341 | Start Time: 1145 End Time: 1150 Start Pressure ("Hg): | Start Pressure ("Hg): -7 End Pressure ("Hg): -5 Difference ("Hg): 2 -30 |
| Tracer Gas: Heliun Prior to Sampling Helium in Shroud Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: | 98% 2.2% <5% SAMPLE 1341 | Start Time: 1145 End Time: 1150 Start Pressure ("Hg): | Start Pressure ("Hg): -7 End Pressure ("Hg): -5 Difference ("Hg): 2 -30 |
| Tracer Gas: Heliun Prior to Sampling Helium in Shroud Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: QA/QC samples: None | 98% 2.2% <5% SAMPLE 1341 | Start Time: 1145 End Time: 1150 Start Pressure ("Hg): | Start Pressure ("Hg): -7 End Pressure ("Hg): -5 Difference ("Hg): 2 -30 |
| Tracer Gas: Heliun Prior to Sampling Helium in Shroud Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: QA/QC samples: None | 98% 2.2% <5% SAMPLE 1341 | Start Time: 1145 End Time: 1150 Start Pressure ("Hg): | Start Pressure ("Hg): -7 End Pressure ("Hg): -5 Difference ("Hg): 2 -30 |
| Tracer Gas: Heliun Prior to Sampling Helium in Shroud Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: QA/QC samples: None | 98% 2.2% <5% SAMPLE 1341 | Start Time: 1145 End Time: 1150 Start Pressure ("Hg): | Start Pressure ("Hg): -7 End Pressure ("Hg): -5 Difference ("Hg): 2 -30 -11 |
| Tracer Gas: Heliun Prior to Sampling Helium in Shroud Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: QA/QC samples: None | 98% 2.2% <5% SAMPLE 1341 | Start Time: 1145 End Time: 1150 Start Pressure ("Hg): | Start Pressure ("Hg): -7 End Pressure ("Hg): -5 Difference ("Hg): 2 -30 |
| Tracer Gas: Heliun Prior to Sampling Helium in Shroud Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: QA/QC samples: None | 98% 2.2% <5% SAMPLE 1341 | Start Time: 1145 End Time: 1150 Start Pressure ("Hg): End Pressure ("Hg): | Start Pressure ("Hg): -7 End Pressure ("Hg): -5 Difference ("Hg): 2 -30 -11 -11 |
| Tracer Gas: Heliun Prior to Sampling Helium in Shroud Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: QA/QC samples: None | 98% 2.2% <5% SAMPLE 1341 | Start Time: 1145 End Time: 1150 Start Pressure ("Hg): End Pressure ("Hg): 801 In | Start Pressure ("Hg): -7 End Pressure ("Hg): -5 Difference ("Hg): 2 -30 -11 BrightFields, Inc. |

| SOIL GAS SAM | PLING LOG | SHEET: | 1 of 1 |
|--|----------------------------|--|--|
| PROJECT NAME: SVE 3 | 3 Year Evaluation | Sample Designation : | SVE-SG14S-G003 |
| Project No: | 2734.07.51 | Time: | 1155 |
| Date: | 12/19/2018 | Sampled By: | N Bradley |
| | | | , |
| ATMOSPHERIC CONDITI | ONS: | | |
| Data Source: | DEOS | Precipitation (in.): | 0.0 |
| Barometric Pressure (mb): | 1018.0 | Temperature (°F): | 37.8 |
| Wind Speed (mph): | 1.8 | Wind Direction: | S |
| SAMPLE AREA DESCRIP | TION: | | |
| Sample Depth (ft bgs): | 6.0 | Installed Date: | 10/18/12 |
| Purge Odor: | Faint petroleum | Surface Cover: | Asphalt |
| Other Characteristics: | Soil gas active | Sampling Rate: | 0.0125 LPM |
| | con gao aonto | Camping Rate. | |
| SAMPLING SYSTEM: Wr | ole Air Active | | |
| Sample Type: | Soil gas | Volumes Purged: | 3 Liters |
| Sample Volume: | 6 Liters | Flow Controller # | 10599 |
| Sample Container Type: | Summa | Tested Vacuum ("Hg): | -30.1 |
| Sample Container # | 5115 | Ind Cert? | Batch Certified |
| Date Cleaned | 11/30/2018 | | |
| Sample Analysis: | TO-15 | | |
| BREAKTHROUGH TEST | | CANISTER CONNECTI | |
| Tracer Gas: Heliur | n | | |
| | | Start Time: 1204 | Start Pressure ("Hg): -7 |
| PHOLIO SAMOINO | | End Time: 1209 | End Pressure ("Hg): -5 |
| Prior to Sampling Helium in Shroud | 97 9% | | |
| Helium in Shroud | 97.9% 0% | | |
| Helium in Shroud Helium in Tubing | 97.9% 0% 0% | | |
| Helium in Shroud | 0% | | Difference ("Hg): 2 |
| Helium in Shroud Helium in Tubing | 0% 0% | | |
| Helium in Shroud Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS Start Time: | 0% 0% | Start Pressure ("Hg): | |
| Helium in Shroud Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS | 0% 0% SAMPLE | | Difference ("Hg): 2 |
| Helium in Shroud Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS Start Time: End Time: | 0% 0% SAMPLE 1342 | Start Pressure ("Hg): | Difference ("Hg): 2 -29 |
| Helium in Shroud Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS Start Time: | 0% 0% SAMPLE 1342 | Start Pressure ("Hg): | Difference ("Hg): 2 -29 |
| Helium in Shroud Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS Start Time: End Time: | 0% 0% SAMPLE 1342 | Start Pressure ("Hg): | Difference ("Hg): 2 -29 |
| Helium in Shroud Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS Start Time: End Time: QA/QC samples: None | 0% 0% SAMPLE 1342 | Start Pressure ("Hg): | Difference ("Hg): 2 -29 |
| Helium in Shroud Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS Start Time: End Time: | 0% 0% SAMPLE 1342 | Start Pressure ("Hg): | Difference ("Hg): 2 -29 |
| Helium in Shroud Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS Start Time: End Time: QA/QC samples: None | 0% 0% SAMPLE 1342 | Start Pressure ("Hg): | Difference ("Hg): 2 -29 |
| Helium in Shroud Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS Start Time: End Time: QA/QC samples: None | 0% 0% SAMPLE 1342 | Start Pressure ("Hg): | Difference ("Hg): 2 -29 |
| Helium in Shroud Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS Start Time: End Time: QA/QC samples: None | 0% 0% SAMPLE 1342 | Start Pressure ("Hg): | Difference ("Hg): 2 -29 -5.5 |
| Helium in Shroud Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS Start Time: End Time: QA/QC samples: None | 0% 0% SAMPLE 1342 | Start Pressure ("Hg): | Difference ("Hg): 2 -29 |
| Helium in Shroud Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS Start Time: End Time: QA/QC samples: None | 0% 0% SAMPLE 1342 | Start Pressure ("Hg): End Pressure ("Hg): | Difference ("Hg): 2 -29 -5.5 BrightFields, Inc. |
| Helium in Shroud Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS Start Time: End Time: QA/QC samples: None | 0% 0% SAMPLE 1342 | Start Pressure ("Hg): End Pressure ("Hg): | Difference ("Hg): 2 -29 -5.5 BrightFields, Inc. |

| SOIL GAS SAME | LING LOG | SHEET: | 1 of 1 |
|---|--------------------------------------|---|--|
| PROJECT NAME: SVE 3 | 3 Year Evaluation | Sample Designation : | SVE-SG28-G003 |
| Project No: | 2734.07.51 | Time: | 1242 |
| Date: | 12/19/2018 | Sampled By: | N Bradley |
| | | | |
| ATMOSPHERIC CONDITION | ONS: | | |
| Data Source: | DEOS | Precipitation (in.): | 0.0 |
| Barometric Pressure (mb): | 1018.0 | Temperature (°F): | 37.8 |
| Wind Speed (mph): | 1.8 | Wind Direction: | S |
| | | | |
| SAMPLE AREA DESCRIP | TION: | | |
| Sample Depth (ft bgs): | 6.0 | Installed Date: | 9/4/13 |
| Purge Odor: | Faint petroleum | Surface Cover: | Asphalt |
| Other Characteristics: | Soil gas active | Sampling Rate: | 0.0125 LPM |
| | | | |
| SAMPLING SYSTEM: Wh | ole Air Active | | |
| Sample Type: | Soil gas | Volumes Purged: | 3 Liters |
| Sample Volume: | 6 Liters | Flow Controller #: | 11755 |
| Sample Container Type: | Summa | Tested Vacuum ("Hg): | -30.1 |
| Sample Container #: | 2538 | Ind Cert? | Batch Certified |
| Date Cleaned: | 11/30/2018 | | |
| Sample Analysis: | TO-15 | | |
| | | | |
| BREAKTHROUGH TEST | | CANISTER CONNECTI | ON LEAK TEST |
| Tracer Gas: Heliur | n | | |
| Prior to Sampling | | Start Time: 1254 | Start Pressure ("Hg): -7 |
| Helium in Shroud | 97.9% | End Time: 1259 | End Pressure ("Hg): -6 |
| | 0 70/ | | |
| Helium in Tubing | 3.7% | | |
| | <u>3.7%</u> <5% | | Difference ("Hg): 1 |
| Helium in Tubing | | | Difference ("Hg): 1 |
| Helium in Tubing | <5% | | Difference ("Hg): 1 |
| Helium in Tubing Percent Breakthrough | <5% | Start Pressure ("Hg): | Difference ("Hg): 1 -29 |
| Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS | <5% SAMPLE | Start Pressure ("Hg): End Pressure ("Hg): | |
| Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS Start Time: | <5% SAMPLE 1344 | | -29 |
| Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS Start Time: End Time: | <5% SAMPLE 1344 2037 | End Pressure ("Hg): | -29 |
| Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS Start Time: End Time: | <5% SAMPLE 1344 | End Pressure ("Hg): | -29 |
| Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS Start Time: End Time: | <5% SAMPLE 1344 2037 | End Pressure ("Hg): | -29 |
| Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS Start Time: End Time: QA/QC samples: SVE-S | <5% SAMPLE 1344 2037 | End Pressure ("Hg): | -29 |
| Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS Start Time: End Time: | <5% SAMPLE 1344 2037 | End Pressure ("Hg): | -29 |
| Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS Start Time: End Time: QA/QC samples: SVE-S | <5% SAMPLE 1344 2037 | End Pressure ("Hg): | -29 |
| Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS Start Time: End Time: QA/QC samples: SVE-S | <5% SAMPLE 1344 2037 | End Pressure ("Hg): | -29 |
| Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS Start Time: End Time: QA/QC samples: SVE-S | <5% SAMPLE 1344 2037 | End Pressure ("Hg): | -29 -4.5 |
| Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS Start Time: End Time: QA/QC samples: SVE-S | <5% SAMPLE 1344 2037 | End Pressure ("Hg): | -29 -4.5 BrightFields, Inc. |
| Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS Start Time: End Time: QA/QC samples: SVE-S | <5% SAMPLE 1344 2037 | End Pressure ("Hg): ate sample). | -29 -4.5 BrightFields, Inc. |
| Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS Start Time: End Time: QA/QC samples: SVE-S | <5% SAMPLE 1344 2037 | End Pressure ("Hg): ate sample). 801 In | -29 -4.5 BrightFields, Inc. Environmental Services dustrial St. Wilmington, DE 19801 |
| Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS Start Time: End Time: QA/QC samples: SVE-S | <5% SAMPLE 1344 2037 | End Pressure ("Hg): ate sample). 801 In | -29 -4.5 BrightFields, Inc. |

| SOIL GAS SAME | LING LOG | SHEET: | 1 of 1 |
|---|--------------------------------------|--|---|
| PROJECT NAME: SVE 3 | 3 Year Evaluation | Sample Designation : | SVE-SG28-G103 |
| Project No: | 2734.07.51 | Time: | 1242 |
| Date: | 12/19/2018 | Sampled By: | N Bradley |
| | | | |
| ATMOSPHERIC CONDITI | ONS: | | |
| Data Source: | DEOS | Precipitation (in.): | 0.0 |
| Barometric Pressure (mb): | 1018.0 | Temperature (°F): | 37.8 |
| Wind Speed (mph): | 1.8 | Wind Direction: | S |
| | | | |
| SAMPLE AREA DESCRIP | TION: | | |
| Sample Depth (ft bgs): | 6.0 | Installed Date: | 9/4/13 |
| Purge Odor: | Faint petroleum | Surface Cover: | Asphalt |
| Other Characteristics: | Soil gas active | Sampling Rate: | 0.0125 LPM |
| | | | |
| SAMPLING SYSTEM: Wh | ole Air Active | | |
| Sample Type: | Soil gas | Volumes Purged: | 3 Liters |
| Sample Volume: | 6 Liters | Flow Controller #: | 10432 |
| Sample Container Type: | Summa | Tested Vacuum ("Hg): | -30.1 |
| Sample Container #: | 5034 | Ind Cert? | Batch Certified |
| Date Cleaned: | 11/30/2018 | | |
| Sample Analysis: | TO-15 | | |
| | | | |
| BREAKTHROUGH TEST | | CANISTER CONNECTI | ON LEAK TEST |
| Tracer Gas: Heliur | n | | |
| Prior to Sampling | | Start Time: 1254 | Start Pressure ("Hg): -7 |
| Helium in Shroud | 97.9% | End Time: 1259 | End Pressure ("Hg): -6 |
| | 0 70/ | | |
| Helium in Tubing | 3.7% | | |
| | 3.7% <5% | | Difference ("Hg): 1 |
| Helium in Tubing Percent Breakthrough | <5% | | Difference ("Hg): 1 |
| Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS | <5% SAMPLE | | |
| Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS Start Time: | <5% SAMPLE 1345 | Start Pressure ("Hg): | Difference ("Hg): 1 -28 |
| Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS | <5% SAMPLE | Start Pressure ("Hg): End Pressure ("Hg): | |
| Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS Start Time: | <5% SAMPLE 1345 | | -28 |
| Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS Start Time: End Time: | <5% SAMPLE 1345 | End Pressure ("Hg): | -28 |
| Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS Start Time: End Time: | <5% SAMPLE 1345 2038 | End Pressure ("Hg): | -28 |
| Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS Start Time: End Time: | <5% SAMPLE 1345 2038 | End Pressure ("Hg): | -28 |
| Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS Start Time: End Time: | <5% SAMPLE 1345 2038 | End Pressure ("Hg): | -28 |
| Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS Start Time: End Time: QA/QC samples: SVE-S | <5% SAMPLE 1345 2038 | End Pressure ("Hg): | -28 |
| Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS Start Time: End Time: QA/QC samples: SVE-S | <5% SAMPLE 1345 2038 | End Pressure ("Hg): | -28 |
| Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS Start Time: End Time: QA/QC samples: SVE-S | <5% SAMPLE 1345 2038 | End Pressure ("Hg): | -28 |
| Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS Start Time: End Time: QA/QC samples: SVE-S | <5% SAMPLE 1345 2038 | End Pressure ("Hg): | -28 -8.5 |
| Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS Start Time: End Time: QA/QC samples: SVE-S | <5% SAMPLE 1345 2038 | End Pressure ("Hg): | -28 |
| Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS Start Time: End Time: QA/QC samples: SVE-S | <5% SAMPLE 1345 2038 | End Pressure ("Hg): sample). | -28 -8.5 -8.5 BrightFields, Inc. |
| Helium in Tubing Percent Breakthrough COLLECTING SOIL GAS Start Time: End Time: QA/QC samples: SVE-S | <5% SAMPLE 1345 2038 | End Pressure ("Hg): sample). 801 In | -28 -8.5 BrightFields, Inc. |

| SOIL GAS SAMF | LING LOG | SHEET: | 1 of 1 |
|--|----------------------|--|----------------------------------|
| PROJECT NAME: SVE 3 | 3 Year Evaluation | Sample Designation : | SVE-SG29-G003 |
| Project No: | 2734.07.51 | Time: | 1307 |
| Date: | 12/19/2018 | Sampled By: | N Bradley |
| | | | |
| ATMOSPHERIC CONDITION | ONS: | | |
| Data Source: | DEOS | Precipitation (in.): | 0.0 |
| Barometric Pressure (mb): | 1018.0 | Temperature (°F): | 37.8 |
| Wind Speed (mph): | 1.8 | Wind Direction: | S |
| SAMPLE AREA DESCRIP | | | |
| Sample Depth (ft bgs): | 6.0 | Installed Date: | 9/4/13 |
| Purge Odor: | Silicone-like | Surface Cover: | Asphalt |
| Other Characteristics: | Soil gas active | Sampling Rate: | 0.0125 LPM |
| | Soli gas active | Sampling Nate. | 0.0123 EPW |
| SAMPLING SYSTEM: Wh | ole Air Active | | |
| Sample Type: | Soil gas | Volumes Purged: | 3 Liters |
| Sample Volume: | 6 Liters | Flow Controller #: | 11927 |
| Sample Container Type: | Summa | Tested Vacuum ("Hg): | -30.1 |
| Sample Container #: | 3389 | Ind Cert? | Batch Certified |
| Date Cleaned: | 11/30/2018 | | |
| Sample Analysis: | TO-15 | | |
| | | | |
| BREAKTHROUGH TEST | | | ON LEAK TEST |
| Tracer Gas: Heliur | n | | |
| Prior to Sampling | | Start Time: 1313 | Start Pressure ("Hg): -7 |
| Helium in Shroud | 97.0% 0% | End Time: 1318 | End Pressure ("Hg): -6 |
| Linking in Truking | 11% | | |
| Helium in Tubing | | | |
| Helium in Tubing Percent Breakthrough | 0% | | Difference ("Hg): 1 |
| Percent Breakthrough | 0% | | Difference ("Hg): 1 |
| | 0% | Start Pressure ("Ho): | |
| Percent Breakthrough COLLECTING SOIL GAS | 0% SAMPLE | Start Pressure ("Hg): End Pressure ("Hg): | Difference ("Hg): 1 -30 -5 |
| Percent Breakthrough COLLECTING SOIL GAS S Start Time: | 0% SAMPLE 1346 | Start Pressure ("Hg): End Pressure ("Hg): | -30 |
| Percent Breakthrough COLLECTING SOIL GAS S Start Time: | 0% SAMPLE 1346 | | -30 |
| Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: | 0% SAMPLE 1346 | | -30 |
| Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: | 0% SAMPLE 1346 | | -30 |
| Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: | 0% SAMPLE 1346 | | -30 |
| Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: QA/QC samples: None | 0% SAMPLE 1346 | | -30 |
| Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: QA/QC samples: None | 0% SAMPLE 1346 | | -30 |
| Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: QA/QC samples: None | 0% SAMPLE 1346 | | -30 |
| Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: QA/QC samples: None | 0% SAMPLE 1346 | | -30 -5 BrightFields, Inc. |
| Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: QA/QC samples: None | 0% SAMPLE 1346 | | -30 -5 |
| Percent Breakthrough COLLECTING SOIL GAS S Start Time: End Time: QA/QC samples: None | 0% SAMPLE 1346 | End Pressure ("Hg): | -30 -5 BrightFields, Inc. |

| SOIL GAS SAMP | PLING LOG | SHEET: | 1 of 1 |
|---------------------------|-------------------|-----------------------|----------------------------|
| PROJECT NAME: SVE 3 | 3 Year Evaluation | Sample Designation : | SVE-SG31-G001 |
| Project No: | 2734.07.51 | Time: | 1228 |
| Date: | 12/19/2018 | Sampled By: | N Bradley |
| | | | |
| ATMOSPHERIC CONDITION | ONS: | | |
| Data Source: | DEOS | Precipitation (in.): | 0.0 |
| Barometric Pressure (mb): | | Temperature (°F): | 37.8 |
| Wind Speed (mph): | 1.8 | Wind Direction: | S |
| SAMPLE AREA DESCRIP | | | |
| Sample Depth (ft bgs): | 8.0 | Installed Date: | 12/19/18 |
| Purge Odor: | Petroleum like | Surface Cover: | Asphalt |
| Other Characteristics: | Soil gas active | Sampling Rate: | 0.0125 LPM |
| | con guo uonvo | Camping rate. | 0.0120 21 11 |
| SAMPLING SYSTEM: Wh | ole Air Active | | |
| Sample Type: | Soil gas | Volumes Purged: | 3 Liters |
| Sample Volume: | 6 Liters | Flow Controller #: | 09912 |
| Sample Container Type: | Summa | Tested Vacuum ("Hg): | -30.1 |
| Sample Container #: | 4436 | Ind Cert? | Batch Certified |
| Date Cleaned: | 11/30/2018 | | |
| Sample Analysis: | TO-15 | | |
| | | | |
| BREAKTHROUGH TEST | | CANISTER CONNECT | ION LEAK TEST |
| Tracer Gas: Heliur | n | | |
| Prior to Sampling | | Start Time: 1328 | Start Pressure ("Hg): -7.0 |
| Helium in Shroud | 98% | End Time: 1333 | End Pressure ("Hg): -6.5 |
| Helium in Tubing | 7,580 ppm | | |
| Percent Breakthrough | <1% | | Difference ("Hg): 0.5 |
| | | | |
| COLLECTING SOIL GAS | SAMPLE | | |
| Start Time: | 1343 | Start Pressure ("Hg): | >-30 |
| End Time: | 2138 | End Pressure ("Hg): | -6.5 |
| | | | |
| QA/QC samples: None | | | |
| | | | |
| Notoo | | | |
| Notes: | | | |
| | | | |
| | | | |
| | | | |
| | | | Painter Internet |
| | | | BrightFields, Inc. |
| | | | |

| AMBIENT AIR S | AMPLING LOG | SHEET: | l of 1 |
|---------------------------|-------------------|-----------------------|---|
| PROJECT NAME: SVE | 3 Year Evaluation | Sample Designation : | SVE-AA-G003 |
| Project No: 2734 | .07.51 | Time: | 1345 |
| Date: 12/19 | 9/2018 | Sampled By: | N Bradley |
| ATMOSPHERIC CONDITI | ONS: | | |
| Data Source: | DEOS | Precipitation (in.): | 0.0 |
| Barometric Pressure (mb): | 1018.0 | Temperature (°F): | 37.8 |
| Wind Speed (mph): | 1.8 | Wind Direction: | S |
| SAMPLE AREA DESCRIF | TION: | | |
| Sample Area: | Fenceline | Installed Date: | 12/19/18 |
| Other Characteristics: | Ambient air | Sampling Rate: | 0.0125 LPM |
| SAMPLING SYSTEM: WI | nole Air Active | | |
| Sample Type: | Ambient Air | | |
| Sample Volume: | 6 Liters | Flow Controller # | 11497 |
| Sample Container Type: | Summa | Tested Vacuum ("Hg): | -30.1 |
| Sample Container #: | 6264 | Ind Cert? | Batch Certified |
| Date Cleaned | 11/30/2018 | Batch Cert ID# | 2593-33532 |
| Sample Analysis: | TO-15 | | |
| | AIR SAMPLE | | |
| Start Time: | 1347 | Start Pressure ("Hg): | -30 |
| End Time: | 1948 | End Pressure: ("Hg): | -4.5 |
| QA/QC samples: None |) | | |
| Notes: | | | |
| | | | |
| | | | |
| | | | BrightFields, Inc. |
| | | | ial St. Wilmington, DE 19801 656-9600 Fax (302) 656-9700 |



Appendix D.5 Monitoring Well Sampling Logs August 2018

| | WELL SA | MPLING LOG | | SHEET: 1 | of | 1 | | | |
|-----------|------------------------------------|-------------|----------------|--------------------|-----------------|------------------|--------------|-------------|-------------|
| WELL DE | SIGNATION: | DA-MW36S | | PROJECT NAME: | | | ation | | |
| DATE: | 8/28/2018 | START TIME: | 8:44 | PROJECT NO: | 2734.07.51 | | | | |
| | | | | ANALYSES: | TCL VOCs | , TCL SVOCs | | | |
| | DESIGNATION: | | 003 | | | | | | |
| | OF WATER TO E to bottom of casi | | | SAMPLE ORDER: | VOCs, SV | JCS | | | |
| i) Depti | (from TOC) | | .67 ft. | | | | | | |
| 2) Depth | to water | | <u>.07</u> 1t. | Sampling Method: | Peristaltic F | numn | | | |
| 2) 200 | (from TOC) | 13 | .26 ft. | Camping Method. | r enotatio i | ump | | | |
| 3) Colun | nn of water | | <u> </u> | VOLUM | E CONVER | SION TABLE: | | Always Us | se This One |
| , | (#1 - #2) | 9. | 41 ft. | casing diam | eter | gallons | s/foot | w/ sa | nd pack |
| | | | | 0.75 inche | s | 0.02 | 23 | 0 | .044 |
| 4) Casin | g diameter | | 1 in. | | | | - | | |
| , | 9 | | | 1 inches | | 0.04 | 11 | 0 | .078 |
| | ne conversion | | | | | | | | |
| (from | | | 078 gal/ft. | 2 inches | | 0.16 | 63 | 0 | .555 |
| , | ne of water within | | | | | | | | |
| | 3 x 5) | 0.7 | 734 gal. | 4 inches | | 0.65 | 53 | 1 | .24 |
| | er of volumes | | - | | | | _ | | |
| | evacuated | | 3 | 6 inches | | 1.4 | 7 | 2 | 2.25 |
| | volume to be ved (6 x 7) | 2 | 20 gal. | 8 inches | | 2.6 | 1 | | 8.59 |
| Temov | | 2. | <u>20</u> gal. | o inches | | 2.0 | 1 | c | 5.59 |
| 9) Purgir | ng Method | Peristal | tic Pump | | | | | | |
| / 0 | • | | • | • | | | | | |
| | ASUREMENTS: | | | | | | | | |
| | ASUREMENTS: | | | | | | 1 | 1 | 1 |
| | Purge Volume | Temperature | | | Cand | Dissolved | Turbidity | PID | Depth to |
| TIME | (in gallons) | (Celsius) | pН | ORP (mV) | Cond (mS/cm) | Oxygen | (NTU) | (ppm) | Water |
| | (in galoris) | (Ceisius) | | | (110/011) | (mg/L) | (1110) | (ppm) | (if poss.) |
| | | | | | | | | | |
| 12:09 | 0.0 | 25.76 | 7.11 | 54 | 0.720 | 0.22 | 89.3 | 8.8 | - |
| 12:11 | 0.5 | 21.42 | 6.33 | -5 | 0.747 | 0.22 | 30.7 | 15.8 | - |
| | | | | | | 0.05 | | 11.0 | |
| 12:14 | 1.0 | 21.03 | 6.20 | -24 | 0.790 | 0.25 | 34.6 | 11.9 | - |
| 12:18 | 1.5 | 20.77 | 6.18 | -35 | 0.812 | 0.26 | 36.4 | 4.2 | - |
| 12:21 | 2.0 | 20.64 | 6.18 | -41 | 0.823 | 0.26 | 33.7 | 8.3 | - |
| | | | | | | | | | |
| 12:24 | 2.5 | 20.55 | 6.18 | -46 | 0.830 | 0.26 | 31.4 | 7.7 | - |
| | | | | | | | | | |
| | 1 | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| NOTES: | | | | SAMPLED BY: | | / M. Langrehr | | | |
| PID Hea | dspace (ppm): | 66 | 6.0 | TIME: Sample DA-M | 1W36S-W0 | 03 was collecte | ed at 1226. | | |
| Sample | odor: | Degrad | ded fuel | Notes: | | | | | |
| | | ¥ | | Background PID rea | | | | المعام م | |
| Sample | color: | CI | ear | Sample DA-MW42- | w205 was o | collected at 095 | oo (equipme | ent Diank). | |
| Somela | odimont content | | Nono | | | | | | |
| Sample | sediment content | | o None | | | | | | |
| Weather | : | Sunny, 9 | 0°F, calm | | | | | | |
| | | | | | | | | | |
| Did well | go dry: | N | 10 | | | | S'A R | rightField | s. Inc. |
| Total vol | ume purged: | 2.5 | gallons | | | | | vironmental | |
| | | | | | | 004 1-1 | offici Ct 14 | /// | DE 40004 |
| QA/QC s | samples: | N | one | | | | strial St. W | | |
| | | | | | | (302 |) 656-9600 | - rax (302) | 030-9700 |

| | WELL SA | MPLING LOG | | SHEET: 1 | of | 1 | | | |
|-------------------|-------------------------------|--------------------------|---|----------------------------------|-----------------|----------------------------------|--------------------|--------------|---------------------------------|
| WELL DE | SIGNATION: | DA-MW42 | | PROJECT NAME: | | • | ation | | |
| DATE: | 8/28/2018 | START TIME: | 8:17 | | 2734.07.51 | | | | |
| | DESIGNATION: OF WATER TO E | | 5 | ANALYSES: SAMPLE ORDER: | | , TCL SVOCs | | | |
| | to bottom of casi | | | SAMPLE ORDER: | VUCS, 5V | 005 | | | |
| | (from TOC) | | . <u>93</u> ft. | _ | | - | | | |
| 2) Depth | to water (from TOC) | 12 | .32 ft. | Sampling Method: | Peristaltic F | Pump | | | |
| 3) Colum | n of water | 12 | .52 11. | VOLUM | E CONVER | SION TABLE: | | Always Us | se This One |
| | (#1 - #2) | 10 | . <u>61</u> ft. | casing diam | | gallons | | | <u>nd pack</u> |
| 4) Casin | g diameter | 0 | 75 in. | 0.75 inche | s | 0.02 | 23 | 0 | .044 |
| 4) Casin | gulameter | 0. | <u>75 </u> | 1 inches 0.041 | | 11 | 0 | .078 | |
| | e conversion | | | 0.1.1.1.1 | | 0.44 | | | |
| (from 6) Volum | table) ne of water within | 0.0 |)44 gal/ft. | 2 inches | | 0.16 | 53 | 0 | .555 |
| well (| 3 x 5) | 0.4 | 167 gal. | 4 inches | | 0.65 | 53 | 1 | .24 |
| , | er of volumes | | 0 | 6 inches | | 1.4 | 7 | 2.25 | |
| | volume to be | | 3 | o inches | | 1.4 | 1 | 2.25 | |
| | red (6 x 7) | 1.4 | 401 gal. | 8 inches | | 2.6 | 1 | 3 | 3.59 |
| 9) Purgir | ng Method | Peristal | ic Pump | | | | | | |
| / 0 | | | • | | | | | | |
| FIELD ME | ASUREMENTS: | | | | | | | | |
| TIME | Purge Volume (in gallons) | Temperature (Celsius) | рН | ORP (mV) | Cond (mS/cm) | Dissolved Oxygen (mg/L) | Turbidity (NTU) | PID (ppm) | Depth to Water (if poss.) |
| 9:31 | 0.0 | 21.57 | 8.22 | 64 | 0.622 | 0.11 | 72.2 | 2.0 | - |
| 9:33 | 0.25 | 19.56 | 8.35 | -25 | 0.573 | 0.11 | 19.3 | 26.7 | - |
| 9:37 | 0.75 | 18.07 | 6.32 | -41 | 0.556 | 0.11 | 19.5 | 31.9 | - |
| 9:40 | 1.0 | 18.13 | 6.29 | -45 | 0.557 | 0.11 | 19.6 | 10.6 | - |
| 9:42 | 1.25 | 18.04 | 6.25 | -50 | 0.553 | 0.12 | 15.5 | 29.6 | - |
| 9:42 | 1.50 | 17.69 | 6.23 | -56 | | 0.12 | 12.6 | 13.6 | - |
| 9:44 | 1.50 | 17.69 | 0.23 | -00 | 0.555 | 0.12 | 12.0 | 13.0 | - |
| | | | | | | | | | |
| | | | | | | | | | |
| Notes | | | | | | | | | |
| NOTES: PID Hea | dspace (ppm): | 30 | 9.7 | SAMPLED BY: TIME: Sample DA-M | | / M. Langrehr 5 was collected | l at 0945 | | |
| Sample | | | odor | Notes: | | | | | |
| | | | | Background PID rea | | | | nt block) | |
| Sample | | C | ear | | w200 Was (| | | ni udik). | |
| Sample | sediment content: | Very | / low | | | | | | |
| Weather | : | _ Sunny, 8 | 0°F, calm | | | | | | |
| Did well | ao dry: | | lo | | | | | | |
| | • • | 1.5 | | | | | - | | ields, Inc. |
| | ume purged: | | | | | | | | |
| QA/QC s | samples: | Equipme | ent Blank | | | | | | on DE 19801 2) 656-9700 |
| | | | | | | 10 | | | _,,, |

| | WELL SA | MPLING LOG | | SHEET: 1 | of | 1 | | | |
|-------------------|---|--------------------------|--------------------|---|-----------------|----------------------------------|----------------------------|----------------|---------------------------------|
| | SIGNATION: | DA-MW49 | | PROJECT NAME: | | | ation | | |
| DATE: | 8/28/2018 | START TIME: | 8:32 | PROJECT NO: | 2734.07.51 | | | | |
| VOLUME | DESIGNATION: OF WATER TO I | BE REMOVED: | 2 | ANALYSES: SAMPLE ORDER: | | , TCL SVOCs OCS | | | |
| , , | to bottom of cas (from TOC) | • | .76 ft. | | | | | | |
| 2) Depth | to water (from TOC) | 13 | .26 ft. | Sampling Method: | Peristaltic F | Pump | | | |
| 3) Colun | nn of water (#1 - #2) | | 50 ft. | VOLUM casing diame | | SION TABLE: gallons | | | e This One nd pack |
| | | | | 0.75 inche | es | 0.02 | 23 | 0 | .044 |
| | g diameter | | 2in. | 1 inches | | 0.04 | 1 | 0 | .078 |
| (from | ne conversion table) ne of water within | | <u>163 gal/ft.</u> | 2 inches | | 0.16 | 63 | 0 | .555 |
| well (| 3 x 5) er of volumes | | <u>04</u> gal. | 4 inches | | 0.65 | 53 | 1 | .24 |
| to be e | evacuated volume to be | : | 3 | 6 inches | | 1.4 | 7 | 2 | .25 |
| | ved (6 x 7) | 6. | <u>11 gal.</u> | 8 inches | | 2.6 | 1 | 3 | .59 |
| 9) Purgir | ng Method | Peristal | tic Pump | | | | | | |
| FIELD ME | ASUREMENTS: | | | | | | | | |
| TIME | Purge Volume (in gallons) | Temperature (Celsius) | рН | ORP (mV) | Cond (mS/cm) | Dissolved Oxygen (mg/L) | Turbidity (NTU) | PID (ppm) | Depth to Water (if poss.) |
| 12:42 | 0.0 | 24.06 | 7.51 | -4 | 0.757 | 0.24 | 450 | 324 | - |
| 12:45 | 0.5 | 20.26 | 6.91 | -88 | 0.777 | 0.24 | 421 | 109 | - |
| 12:48 | 1.0 | 19.89 | 6.80 | -112 | 0.756 | 0.28 | 286 | 90.7 | - |
| 12:51 | 1.5 | 19.79 | 6.77 | -124 | 0.744 | 0.28 | 168 | 441 | - |
| 12:54 | 2.0 | 19.71 | 6.75 | -130 | 0.734 | 0.28 | 132 | 108.5 | - |
| 12:57 | 2.5 | 19.66 | 6.74 | -135 | 0.728 | 0.28 | 104 | 235 | - |
| | | | | | | | | | |
| NOTES: PID Hea | dspace (ppm): | 36 | 6.0 | SAMPLED BY: TIME: Sample DA-M | • | / M. Langrehr 2 was collected | at 1300. | | |
| Sample | | | d fuel odor | Notes: | | | | | |
| Sample | | ¥ | ear | Background PID rea Light sheen observe | | ppm during pu | rge. | | |
| Sample | sediment content | : Mod | erate | | | | | | |
| Weather | : | Sunny, 9 | 0°F, calm | | | | | | |
| Did well | go dry: | N | 10 | | | | B | rightField | s, Inc. |
| | ume purged: | 2.5 | | | | | E 1 | vironmental \$ | Services |
| QA/QC s | samples: | N | one | | | | strial St. N) 656-9600 | | |

| | WELL SA | MPLING LOG | | SHEET: 1 | of | 1 | | | |
|------------------|---|--------------------------|--------------------|--|-----------------|----------------------------------|--------------------|--------------|---------------------------------|
| | SIGNATION: | DA-MW50 | | PROJECT NAME: | - | E 3-Year Evalua | ation | | |
| DATE: | 8/28/2018 | START TIME: | 8:51 | PROJECT NO: | 2734.07.51 | | | | |
| VOLUME | DESIGNATION: OF WATER TO to bottom of cas | BE REMOVED: | 2 | ANALYSES: SAMPLE ORDER: | | , TCL SVOCs | | | |
| i) Depti | (from TOC) | | .91 ft. | | | | | | |
| 2) Depth | to water (from TOC) | 12 | .70 ft. | Sampling Method: | Peristaltic F | Pump | | | |
| 3) Colun | (#011 100) nn of water (#1 - #2) | | <u>.21 ft.</u> | VOLUM casing diame | | SION TABLE: gallons | | | se This One <u>nd pack</u> |
| | | | | 0.75 inche | es | 0.02 | 23 | 0 | .044 |
| | g diameter ne conversion | | 2in. | 1 inches | | 0.04 | 11 | 0 | .078 |
| (from | | | <u>163 gal/ft.</u> | 2 inches | | 0.16 | 63 | 0 | .555 |
| well (| (3 x 5) per of volumes | | <u>15</u> gal. | 4 inches | | 0.65 | 53 | 1 | .24 |
| to be e | evacuated volume to be | : | 3 | 6 inches | | 1.4 | 7 | 2 | 2.25 |
| | ved (6 x 7) | 6. | 46 gal. | 8 inches | | 2.6 | 1 | 3 | 8.59 |
| 9) Purgii | ng Method | Peristal | tic Pump | | | | | | |
| FIELD ME | ASUREMENTS: | | | | | | | | |
| TIME | Purge Volume (in gallons) | Temperature (Celsius) | рН | ORP (mV) | Cond (mS/cm) | Dissolved Oxygen (mg/L) | Turbidity (NTU) | PID (ppm) | Depth to Water (if poss.) |
| 13:17 | 0.0 | 26.19 | 7.45 | -16 | 0.592 | 0.25 | 213 | 20.1 | - |
| 13:19 | 0.5 | 21.14 | 6.93 | -63 | 0.620 | 0.21 | 35.0 | 24.4 | - |
| 13:22 | 1.0 | 20.39 | 6.75 | -82 | 0.640 | 0.27 | 31.5 | 38.0 | - |
| 13:25 | 1.5 | 20.09 | 6.72 | -92 | 0.649 | 0.29 | 34.9 | 248.8 | - |
| 13:28 | 2.0 | 20.00 | 6.73 | -101 | 0.652 | 0.30 | 28.6 | 67.7 | - |
| 13:31 | 2.5 | 19.89 | 6.74 | -108 | 0.649 | 0.30 | 34.7 | 78.8 | - |
| 13:34 | 3.0 | 19.8 | 6.74 | -113 | 0.652 | 0.30 | 29.4 | 159 | - |
| | dspace (ppm): | | 348 | SAMPLED BY: TIME: Sample DA-M Notes: | | / M. Langrehr 2 was collected | l at 1336. | | |
| Sample Sample | | | odor ear | Background PID rea | ading of 4.3 | ppm during pu | rge. | | |
| Sample | sediment content | : Low to M | Moderate | | | | | | |
| Weather | | Sunny, 9 | 0°F, calm | | | | | | |
| Did well | go dry: | N | lo | | | | B | rightField | s, Inc. |
| Total vol | ume purged: | 3.0 | gallons | | | | | vironmental | |
| | samples: | No | one | | | 801 Indu | strial St. V | /ilmington | DE 19801 |

| | WELL SA | MPLING LOG | | SHEET: 1 | of | 1 | | | |
|-------------------|---|--------------------------|----------------|------------------------------|-----------------|-------------------------------|--------------------|--------------|---------------------------------|
| | SIGNATION: | DA-SVE01 | | PROJECT NAME: | - | E 3-Year Evalu | ation | | |
| DATE: | 8/28/2018 | START TIME: | 8:32 | PROJECT NO: | 2734.07.51 | | | | |
| VOLUME | DESIGNATION: OF WATER TO I to bottom of cas | BE REMOVED: |)1 | ANALYSES: SAMPLE ORDER: | | , TCL SVOCs OCS | | | |
| | (from TOC) | • | .45 ft. | | | | | | |
| 2) Depth | to water (from TOC) | 10 | 70 # | Sampling Method: | Peristaltic F | Pump | | | |
| 3) Colun | n of water | 12 | <u>70</u> ft. | VOLUM | E CONVER | SION TABLE: | | Always Us | se This One |
| | (#1 - #2) | 7. | <u>75</u> ft. | casing diam | | gallons | | | nd pack |
| 4) Casin | g diameter | | 2 in. | 0.75 inche | S | 0.02 | 23 | 0 | .044 |
| | - | | <u> </u> | 1 inches | | 0.04 | 1 | 0 | .078 |
| 5) Volun (from | table) | 0.4 | 163 gal/ft. | 2 inches | | 0.16 | 3 | 0.555 | |
| 6) Volun | ne of water within | | | 2 110103 | | 0.10 | | | |
| | 3 x 5) er of volumes | 1. | <u>26</u> gal. | 4 inches | | 0.65 | 53 | 1 | 1.24 |
| to be e | evacuated | | 3 | 6 inches | | 1.4 | 7 | 2 | 2.25 |
| | volume to be red (6 x 7) | 3 | 79 gal. | 8 inches | | 2.6 | 1 | c. | 3.59 |
| | | | 0 | 0 mones | | 2.0 | 1 | | |
| 9) Purgi | ng Method | Peristal | tic Pump | | | | | | |
| | | | | | | | | | |
| | ELD MEASUREMENTS: | | | | <u></u> | | | | |
| TIME | Purge Volume (in gallons) | Temperature (Celsius) | рН | ORP (mV) | Cond (mS/cm) | Dissolved Oxygen (mg/L) | Turbidity (NTU) | PID (ppm) | Depth to Water (if poss.) |
| 10:50 | 0.0 | 23.09 | 6.05 | 117 | 0.769 | 0.17 | 376 | 5.6 | - |
| 10:52 | 0.5 | 21.17 | 5.35 | 150 | 0.790 | 0.19 | 288 | 5.4 | - |
| 10:55 | 1.0 | 20.22 | 5.02 | 173 | 0.799 | 0.23 | 135 | 5.3 | - |
| 10:57 | 1.5 | 19.91 | 5.00 | 175 | 0.801 | 0.24 | 90.1 | 19.1 | - |
| 11:00 | 2.0 | 19.87 | 5.05 | 172 | 0.803 | 0.25 | 46.1 | 24.0 | - |
| 11:03 | 2.5 | 19.72 | 5.16 | 165 | 0.811 | 0.26 | 22.5 | 15.4 | - |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| NOTES: | | | | SAMPLED BY: | N. Bradley | / M. Langrehr | | l | |
| PID Hea | dspace (ppm): | 3 | 1.8 | TIME: Sample DA-S | SVE01-W00 | 1 was collected | d at 1106. | | |
| Sample | odor: | Very fain | t fuel odor | Notes: Background PID rea | ding of 4.6 | ppm during pu | rge. | | |
| Sample | color: | CI | ear | | - | | - | | |
| Sample | sediment content | : Low to | o None | | | | | | |
| Weather | | | 0°F, calm | | | | | | |
| | | | | L | | | | | |
| Did well | | | <u>lo</u> | | | | | rightField | |
| | ume purged: | 2.5 | | | | | | vironmental | |
| <u> </u> | QA/QC samples: None | | | | | 801 Indu | etrial St M | /ilminaton | DE 19801 |

| | WELL SA | MPLING LOG | | SHEET: 1 | of | 1 | | | |
|-----------|---|--------------------------|---------------------|--|-----------------|----------------------------------|--------------------|--------------|---------------------------------|
| | SIGNATION: | DA-SVE03 | | PROJECT NAME: | Dodson SVE | | ation | | |
| DATE: | 8/28/2018 | START TIME: | 8:47 | PROJECT NO: | 2734.07.51 | | | | |
| VOLUME | DESIGNATION: OF WATER TO P | BE REMOVED: |)1 | ANALYSES: SAMPLE ORDER: | | , TCL SVOCs OCS | | | |
| | to bottom of casi (from TOC) | | . <u>89</u> ft. | | | | | | |
| 2) Depth | to water (from TOC) | 12 | .92 ft. | Sampling Method: | Peristaltic F | Pump | | | |
| 3) Colun | nn of water (#1 - #2) | | 97 ft. | VOLUM casing diam | | SION TABLE: gallons | | w/ sa | se This One <u>nd pack</u> |
| 1) Casin | g diameter | | 2 in. | 0.75 inche | es | 0.02 | 23 | 0 | .044 |
| | ne conversion | | <u> </u> | 1 inches | | 0.04 | 1 | 0 | .078 |
| (from | table) ne of water within | 0.* | 1 <u>63</u> gal/ft. | 2 inches | | 0.16 | 63 | 0 | .555 |
| well (| (3 x 5) | 1. | <u>14 gal.</u> | 4 inches | | 0.65 | 53 | 1 | .24 |
| to be e | ber of volumes evacuated | | 3 | 6 inches | | 1.4 | 7 | 2 | 2.25 |
| | volume to be ved (6 x 7) | 3. | <u>41 gal.</u> | 8 inches | | 2.6 | 1 | 3 | 3.59 |
| 9) Purgii | ng Method | Peristal | tic Pump | | | | | | |
| FIELD ME | ASUREMENTS: | | | | | | | | |
| TIME | Purge Volume (in gallons) | Temperature (Celsius) | рН | ORP (mV) | Cond (mS/cm) | Dissolved Oxygen (mg/L) | Turbidity (NTU) | PID (ppm) | Depth to Water (if poss.) |
| 13:46 | 0.0 | 25.55 | 6.66 | -78 | 2.16 | 0.35 | 343 | 692.7 | - |
| 13:50 | 0.5 | 22.08 | 6.73 | -119 | 2.16 | 0.23 | 206 | 461 | - |
| 13:53 | 1.0 | 21.62 | 6.76 | -144 | 2.07 | 0.26 | 99.7 | 536.2 | - |
| 13:55 | 1.5 | 21.34 | 6.79 | -153 | 1.90 | 0.28 | 81.5 | 529.6 | - |
| 13:59 | 2.0 | 21.16 | 6.82 | -160 | 1.69 | 0.29 | 63.8 | 436 | - |
| 14:01 | 2.5 | 21.13 | 6.81 | -162 | 1.52 | 0.29 | 42.8 | 360.6 | - |
| 14:03 | 3.0 | 21.10 | 6.79 | -164 | 1.45 | 0.29 | 35.6 | 321.9 | - |
| 14:07 | 3.5 | 21.12 | 6.77 | -165 | 1.34 | 0.30 | 30.8 | 73.6 | - |
| | dspace (ppm): | | 730 | SAMPLED BY: TIME: Sample DA-S Notes: | • | / M. Langrehr 1 was collected | d at 1410. | | |
| • | Sample odor: Fuel odor Sample color: Light brown | | | Background PID rea Sample DA-SVE03- | W101 was | | | e). | |
| Sample | Sample sediment content: Low to Moderate | | Moderate | Visible sheen during | g purging. | | | | |
| Weather | Weather: Sunny, 90°F, calm | | 0°F, calm | | | | | | |
| Did well | go dry: | N | 10 | | | | B | rightField | s, Inc. |
| Total vol | lume purged: | 3.5 | gallons | | | | | vironmental | |
| QA/QC s | samples: | Dup | licate | | | | strial St. N | | DE 19801 656-9700 |

| | SIGNATION: | MPLING LOG | | SHEET: 1 | of | 1 | | | |
|------------|--------------------------------------|-------------|--------------------|------------------------------|---------------|-----------------|--------------|--------------|----------------|
| DATE: | | DA-SVE06 | | PROJECT NAME: | | | ation | | |
| | 8/28/2018 | START TIME: | 8:50 | PROJECT NO: | 2734.07.51 | | | | |
| | | | | ANALYSES: | TCL VOCs | , TCL SVOCs | | | |
| | DESIGNATION: | |)1 | | | | | | |
| | OF WATER TO E to bottom of casi | | | SAMPLE ORDER: | vocs, svo | JCS | | | |
| | (from TOC) | | .57 ft. | | | | | | |
| 2) Depth | | 20 | | Sampling Method: | Peristaltic F | Pump | | | |
| | (from TOC) | 13 | .81 ft. | Camping moundar | | p | | | |
| | n of water | | | VOLUM | E CONVER | SION TABLE: | | Always Us | e This One |
| | (#1 - #2) | 6. | <u>76</u> ft. | casing diam | <u>eter</u> | gallons | /foot | <u>w/ sa</u> | <u>nd pack</u> |
| | | | | 0.75 inche | S | 0.02 | 23 | 0 | .044 |
| 4) Casing | g diameter | | <u>2</u> in. | 0.020 | | | | | |
| | | | | 1 inches 0.041 | | 1 | 0 | .078 | |
| , | e conversion | _ | | | | | | | |
| (from t | | 0.2 | <u>163</u> gal/ft. | 2 inches | | 0.16 | 53 | 0 | .555 |
| well (3 | e of water within | 1 | 10 gal. | 4 inches | | 0.65 | 3 | 1.24 | |
| | er of volumes | 1. | <u>io</u> gai. | 4 inches 0.000 | | | 1 | .24 | |
| , | vacuated | : | 3 | 6 inches 1.47 | | | 7 | 2.25 | |
| | olume to be | | <u> </u> | | | | | _ | |
| remove | ed (6 x 7) | 3. | 31 gal. | 8 inches | | 2.6 | 1 | 3 | 8.59 |
| a) B | | | | | | | | | |
| 9) Purgin | g Method | Peristal | tic Pump | | | | | | |
| | | | | | | | | | |
| FIELD ME | ASUREMENTS: | | | | | | | | |
| | | | | | | Dissolved | | | Depth to |
| TIME | Purge Volume | Temperature | pН | ORP (mV) | Cond | Oxygen | Turbidity | PID | Water |
| | (in gallons) | (Celsius) | pri | | (mS/cm) | (mg/L) | (NTU) | (ppm) | (if poss.) |
| | | | | | | (3. / | | | (1) |
| 11:23 | 0.25 | 23.29 | 5.52 | 136 | 0.577 | 0.27 | 95.1 | 8.7 | - |
| 11:25 | 0.50 | 21.30 | 5.89 | 72 | 0.730 | 0.26 | 90.4 | 8.0 | _ |
| | | | | | | | | | |
| 11:28 | 1.0 | 20.81 | 6.05 | 17 | 0.729 | 0.29 | 62.3 | 5.2 | - |
| 11:31 | 1.5 | 20.83 | 6.09 | -6 | 0.709 | 0.30 | 46.7 | 12.2 | - |
| 11:35 | 2.0 | 20.82 | 6.12 | -19 | 0.703 | 0.31 | 28.1 | 12.2 | - |
| | | | | | | | | | _ |
| 11:37 | 2.5 | 20.80 | 6.13 | -27 | 0.707 | 0.31 | 21.0 | 43.9 | - |
| 11:40 | 3.0 | 20.72 | 6.15 | -33 | 0.709 | 0.32 | 17.0 | 34.9 | - |
| | | | | | | | | | |
| 11:43 | 3.5 | 20.71 | 6.17 | -38 | 0.708 | 0.32 | 16.7 | 10.2 | - |
| | | | | | | | | | |
| NOTES: | . , . | | | | | / M. Langrehr | | | |
| PID Head | dspace (ppm): | 44 | 4.2 | TIME: Sample DA-S | VE06-W00 | 1 was collected | at 1146. | | |
| Sample c | odor: | Mild fu | iel odor | Notes: Background PID rea | ding of 0.4 | nom during pu | rae | | |
| Sample c | color: | | ear | Light sheen observe | | | iye. | | |
| Cample C | ble color: Clear | | | | - (P00001) | | | | |
| Sample s | Sample sediment content: Low to None | | o None | | | | | | |
| - | | | | | | | | | |
| Weather: | Weather: Sunny, 90°F, calm | | | | | | | | |
| Did well o | Did well go dry: No | | | | | | | | |
| | | | | | | | | rightField | |
| Total volu | ume purged: | 3.5 | gallons | | | | En En | vironmental | services |
| QA/QC s | amples: | MS/ | MSD | | | 801 Indu | strial St. W | /ilmington | DE 19801 |
| | | | | | | |) 656-9600 | | |
| | | | | | | (002 | , | | |



Appendix D.6 Monitoring Well Sampling Logs December 2018

| | WELL SA | MPLING LOG | | SHEET: 1 | of | 1 | | | |
|----------|------------------------------|-------------|-----------------|----------------------|---------------------|----------------|---------------|-------------|------------|
| WELL DE | SIGNATION: | DA-MW36S | | PROJECT NAME: | - | | ation | | |
| DATE: | 12/18/2018 | START TIME: | 10:40 | PROJECT NO: | 2734.07.51 | | | | |
| | DESIGNATION: | | 04 | ANALYSES: | TCL VOCs | s, TCL SVOCs | | | |
| - | OF WATER TO E | | 104 | SAMPLE ORDER: | VOCs SV | OCs | | | |
| | to bottom of casi | - | | | 1000,011 | 000 | | | |
| | (from TOC) | 22 | . <u>69</u> ft. | | | | | | |
| 2) Depth | to water | 40 | 40 4 | Sampling Method: | Peristaltic F | Pump | | | |
| 3) Colur | (from TOC) nn of water | 12 | <u>.12</u> ft. | VOLUM | | SION TABLE: | | Always I Is | e This One |
| 0) 00101 | (#1 - #2) | 10 | .57 ft. | casing diam | | gallons | | | nd pack |
| | 、 , | | | 0.75 inche | | 0.02 | | | .044 |
| 4) Casir | ig diameter | | 1 in. | U.15 Inches | | 0.02 | | Ũ | |
| , | - | | | 1 inches | | 0.04 | 11 | 0 | .078 |
| , | ne conversion | | | t 2 inches | | | | | |
| | table) ne of water within | | 078 gal/ft. | 2 inches | | 0.16 | 53 | 0 | .555 |
| , | (3 x 5) | | 82 gal. | 4 inches | | 0.65 | 53 | 1 | .24 |
| | per of volumes | 0. | <u>92</u> gui. | | | 0.00 | 0.000 | | .27 |
| to be e | evacuated | | 3 | 6 inches | | 1.4 | 7 | 2.25 | |
| , | volume to be | | | | | | | | |
| remov | ved (6 x 7) | 2 | . <u>5</u> gal. | 8 inches | | 2.6 | 1 | 3 | 8.59 |
| 9) Purgi | ng Method | Peristal | tic Pump | | | | | | |
| | | | • | | | | | | |
| FIELD ME | ASUREMENTS: | | | | | | | | |
| | | | | | | Dissolved | | | Depth to |
| TIME | Purge Volume | Temperature | pН | ORP (mV) | Cond | Oxygen | Turbidity | PID | Water |
| | (in gallons) | (Celsius) | r | | (mS/cm) | (mg/L) | (NTU) | (ppm) | (if poss.) |
| | | | | | | | | | |
| 14:52 | 0.0 | 18.25 | 5.36 | -18 | 0.706 | 8.59 | 47.9 | 0.0 | - |
| 14:55 | 0.50 | 18.69 | 5.79 | -28 | 0.765 | 8.82 | 25.9 | 0.0 | - |
| 14:59 | 1.0 | 18.97 | 5.77 | -41 | 0.803 | 9.50 | 31.0 | 0.0 | - |
| | | 19.12 | | 40 | | | | 0.0 | |
| 15:02 | 1.5 | 19.12 | 5.80 | -49 | 0.819 | 9.76 | 32.2 | 0.0 | - |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| 10755 | | | | | | | | | |
| NOTES: | adspace (ppm): | - | .1 | SAMPLED BY: TIME: | N. Bradley 15:05 | / M. Langrehr | | | |
| | | | | Notes: | 10.00 | | | | |
| Sample | odor: | N | one | Sample DA-MW36S | S-W004 was | collected at 1 | 5:05. | | |
| Sample | Sample color: Clear | | | | | | | | |
| O and a | | | | | | | | | |
| Sample | sediment content | : <u>No</u> | one | | | | | | |
| Weathe | r: | Sunn | ∕, 30°F | | | | | | |
| Did | ao day: | | | | | | | | |
| Did well | | | 10 | | | | | rightField | |
| Total vo | lume purged: | 1.5 | gallons | | | | En | vironmental | Services |
| QA/QC | samples: | N | one | | | | istrial St. V | | |
| | | | | | | (302 |) 656-9600 | - Fax (302) | 656-9700 |
| | | | | | | | | | |

| WELL SAMPLING LOG SHEET: 1 of 1 WELL DESIGNATION: DA-MW42 PROJECT NAME: Dodson SVE 3-Year Evaluation DATE: 12/18/2018 START TIME: 10:15 PROJECT NO: 2734.07.51 ANALYSES: TCL VOCs, TCL SVOCs SAMPLE DESIGNATION: DA-MW42-W006 SAMPLE ORDER: VOCS, SVOCs 1) Depth to bottom of casing (from TOC) 22.95 ft. Metals: Not Applicable | |
|---|-------------------|
| SAMPLE DESIGNATION: DA-MW42-W006 ANALYSES: TCL VOCs, TCL SVOCs VOLUME OF WATER TO BE REMOVED: SAMPLE ORDER: VOCs, SVOCs 1) Depth to bottom of casing SAMPLE ORDER: VOCs, SVOCs | |
| SAMPLE DESIGNATION: DA-MW42-W006 VOLUME OF WATER TO BE REMOVED: SAMPLE ORDER: 1) Depth to bottom of casing SAMPLE ORDER: | |
| VOLUME OF WATER TO BE REMOVED: SAMPLE ORDER: VOCs, SVOCs 1) Depth to bottom of casing SAMPLE ORDER: VOCs, SVOCs | |
| 1) Depth to bottom of casing | |
| | |
| | |
| 2) Depth to water Sampling Method: Peristaltic Pump | |
| (from TOC) <u>11.09</u> ft. | |
| 3) Column of water VOLUME CONVERSION TABLE: Always Use | |
| (#1 - #2) <u>11.86 ft. casing diameter</u> <u>gallons/foot</u> <u>w/ san</u> | d pack |
| |)44 |
| 4) Casing diameter 0.75 in. | 70 |
| 5) Volume conversion 1 inches 0.041 0.0 |)78 |
| , | 555 |
| 6) Volume of water within | |
| well (3 x 5) 0.52 gal. 4 inches 0.653 1.2 | 24 |
| 7) Number of volumes | |
| to be evacuated <u>3</u> 6 inches 1.47 2.2 | 25 |
| 8) Total volume to be removed (6 x 7) 1.6 gal. 8 inches 2.61 3. | 59 |
| | 55 |
| 9) Purging Method Peristaltic Pump | |
| | |
| FIELD MEASUREMENTS: | |
| Directured | Danth to |
| TIME Volume Temperature pH ORP (mV) Cond Oxygen (UTT) PID Oxygen (UTT) | Depth to Water |
| (in gallons) (Celsius) pri OKP (IIV) (mS/cm) (MS/cm) (MTU) (ppm) | (if poss.) |
| | (poool) |
| 11:48 0.0 14.65 6.70 -6 0.635 0.17 29.3 0.4 | - |
| 11:50 0.50 15.93 6.34 -15 0.582 0.19 17.7 0.5 | - |
| 11:52 0.75 16.24 6.16 -21 0.562 0.22 32.8 0.5 | - |
| | |
| 11:54 1.0 16.49 6.05 -32 0.525 0.28 7.2 0.5 | - |
| 11:56 1.25 16.58 5.98 -43 0.506 0.41 4.3 0.4 | - |
| 11:58 1.50 16.60 5.98 -45 0.502 0.47 3.6 0.4 | - |
| | |
| 12:00 1.75 16.70 5.95 -47 0.499 0.52 3.0 0.4 | - |
| | |
| | |
| NOTES: SAMPLED BY: N. Bradley / M. Langrehr | |
| PID Headspace (ppm): 12.9 TIME: 12:05 | |
| Sample odor: Degraded petroleum Notes: | |
| Sample DA-MW42-W006 was collected at 12:05. | |
| Sample color: Clear Sample DA-MW42-W206 was collected at 17:30. Degraded petroleum odor noticed during purging. | |
| Sample sediment content: Very low - None | |
| | |
| Weather: Sunny, 30°F | |
| Did well go dry: No | |
| Total volume purged: 1.75 gallons | |
| | |
| QA/QC samples: Equipment Blank 801 Industrial St. Wilmington | |
| (302) 656-9600 - Fax (302 | / 000-9/00 |

| | WELL SA | MPLING LOG | | SHEET: 1 | of | 1 | | | |
|-------------------|-------------------------------|--------------------------|------------------|---------------------------|-----------------|-------------------------------|----------------------------|--------------|---------------------------------|
| WELL DES | SIGNATION: | DA-MW49 | | PROJECT NAME: | | | ation | | |
| DATE: | 12/18/2018 | START TIME: | 10:35 | PROJECT NO: | 2734.07.51 | | | | |
| | | | 2 | ANALYSES: | TCL VOCs | , TCL SVOCs | | | |
| | DESIGNATION: OF WATER TO E | | 3 | SAMPLE ORDER: | VOCs, SV | OCS | | | |
| 1) Depth | to bottom of casi | | | | , | | | | |
| | (from TOC) | 25 | <u>.53</u> ft. | O a man line a Marth a sh | Deviataltia D | | | | |
| 2) Depth | to water (from TOC) | 11 | .91 ft. | Sampling Method: | Peristaltic F | Jump | | | |
| 3) Colum | n of water | | <u></u> n. | VOLUM | E CONVER | SION TABLE: | | Always Us | se This One |
| , | (#1 - #2) | 13 | . <u>62</u> ft. | casing diam | eter | gallons | /foot | | nd pack |
| | | | | 0.75 inches | | 0.02 | 23 | 0 | .044 |
| 4) Casin | g diameter | | 2 <u></u> in. | 1 inches | | 0.04 | 14 | 0 | .078 |
| 5) Volum | e conversion | | | 1 inches | | 0.02 | FI | 0 | .070 |
| (from | table) | | 555 gal/ft. | t. 2 inches | | 0.16 | 3 | 0 | .555 |
| | ne of water within | | | 4 inches | | | | | |
| well (7) Numb | 3 x 5) er of volumes | 7. | 56 gal. | 4 inches | | 0.65 | 5 | 1.24 | |
| , | vacuated | | 3 | 6 inches 1.47 | | | 2.25 | | |
| | volume to be | | | | | | | | |
| remov | red (6 x 7) | 22 | <u>2.7 g</u> al. | 8 inches | | 2.6 | 1 | 3 | 3.59 |
| 9) Purgir | ng Method | Peristal | tic Pump | | | | | | |
| | | | | | | | | | |
| FIELD ME | ASUREMENTS: | | | | | | | | |
| TIME | Purge Volume (in gallons) | Temperature (Celsius) | pН | ORP (mV) | Cond (mS/cm) | Dissolved Oxygen (mg/L) | Turbidity (NTU) | PID (ppm) | Depth to Water (if poss.) |
| 13:15 | 0.0 | 17.14 | 5.93 | -36 | 0.702 | 3.77 | 118 | 0.7 | - |
| 13:22 | 1.0 | 19.25 | 6.26 | -111 | 0.693 | 4.22 | 55.2 | 0.9 | - |
| 13:26 | 1.5 | | 6.28 | | | 4.35 | 58.2 | 0.9 | |
| | | 19.36 | | -122 | 0.677 | | | | - |
| 13:29 | 2.0 | 19.33 | 6.30 | -128 | 0.669 | 4.53 | 44.2 | 0.9 | - |
| 13:32 | 2.5 | 19.40 | 6.29 | -131 | 0.668 | 4.67 | 43.6 | 0.9 | - |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | 1 | |
| | | | | 1 | | | | | |
| NOTES: | 1 | | | SAMPLED BY: | N. Bradlev | / M. Langrehr | | | |
| | dspace (ppm): | 0 | .0 | TIME: | 13:35 | | | | |
| Sample | | | petroleum | Notes: | | | | | |
| | | | | Sample DA-MW49- | W003 was o | collected at 13: | 35. | | |
| Sample | | very l | ght tan | | | | | | |
| Samples | sediment content | Very lo | w - none | | | | | | |
| Weather | : | Sunn | /, 30°F | | | | | | |
| Did well | | | lo | · | | | | | |
| | ume purged: | | gallons | | | | | rightField | s, Inc. Services |
| | | | | | | 004 1-1 | | | |
| QA/QC s | samples: | No | one | | | | strial St. W) 656-9600 | | |
| | | | | | | 1002 | , | (002) | |

| (#1 - #2)14.26ft.casing diametergallons/footw/ s4) Casing diameter2in.0.75 inches0.02304) Casing diameter2in.1 inches0.04105) Volume conversion (from table)0.555gal/ft.2 inches0.16306) Volume of water within well (3 x 5)7.91gal.4 inches0.6537) Number of volumes to be evacuated36 inches1.47 | Jse This One and pack 0.044 0.078 0.555 1.24 2.25 3.59 |
|--|---|
| SAMPLE DESIGNATION: DA-MW50-W003 VOLUME OF WATER TO BE REMOVED: SAMPLE ORDER: VOCs, SVOCs 1) Depth to bottom of casing (from TOC) 25.92 ft. 2) Depth to water (from TOC) 11.66 ft. 3) Column of water (#1 - #2) 14.26 ft. 4) Casing diameter 2 in. 5) Volume conversion (from table) 0.555 gal/ft. 6) Volume of water within well (3 x 5) 7.91 gal. 7) Number of volumes to be evacuated 3 6 8) Total volume to be removed (6 x 7) 23.7 gal. 9) Purging Method Peristaltic Pump | <u>and pack</u> 0.044 0.078 0.555 1.24 2.25 |
| SAMPLE DESIGNATION: DA-MW50-W003 VOLUME OF WATER TO BE REMOVED: SAMPLE ORDER: VOCs, SVOCs 1) Depth to bottom of casing (from TOC) 25.92 ft. 2) Depth to water (from TOC) 11.66 ft. 3) Column of water (#1 - #2) 14.26 ft. 4) Casing diameter 2 in. 5) Volume conversion (from table) 0.555 gal/ft. 6) Volume of water within well (3 x 5) 7.91 gal. 7) Number of volumes to be evacuated 3 6 inches 1.47 8) Total volume to be removed (6 x 7) 23.7 gal. 8 inches 2.61 | <u>and pack</u> 0.044 0.078 0.555 1.24 2.25 |
| VOLUME OF WATER TO BE REMOVED:SAMPLE ORDER: VOCs, SVOCs1) Depth to bottom of casing (from TOC)25.92ft.2) Depth to water (from TOC)11.66ft.3) Column of water (#1 - #2)14.26ft.4) Casing diameter2in.5) Volume conversion (from table)0.555gal/ft.6) Volume of water within well (3 x 5)7.91gal.7) Number of volumes to be evacuated368) Total volume to be removed (6 x 7)23.7gal.9) Purging MethodPeristaltic Pump | <u>and pack</u> 0.044 0.078 0.555 1.24 2.25 |
| 1) Depth to bottom of casing (from TOC) 25.92 ft. 2) Depth to water (from TOC) 11.66 ft. 3) Column of water (#1 - #2) 14.26 ft. 4) Casing diameter 2 in. 5) Volume conversion (from table) 0.555 gal/ft. 6) Volume of water within well (3 x 5) 7.91 gal. 7) Number of volumes to be evacuated 3 6 inches 1.47 8) Total volume to be removed (6 x 7) 23.7 gal. 8 inches 2.61 | <u>and pack</u> 0.044 0.078 0.555 1.24 2.25 |
| (from TOC)25.92ft.2) Depth to water (from TOC)11.66ft.3) Column of water (#1 - #2)14.26ft.4) Casing diameter2in.5) Volume conversion (from table)0.5550.0555gal/ft.6) Volume of water within well (3 x 5)7.91gal.4 inches0.6537) Number of volumes to be evacuated36) Total volume to be removed (6 x 7)23.79) Purging MethodPeristaltic Pump | <u>and pack</u> 0.044 0.078 0.555 1.24 2.25 |
| (from TOC)11.66ft.3) Column of water (#1 - #2)14.26ft.4) Casing diameter2in.5) Volume conversion (from table)0.5550.0230.0236) Volume of water within well (3 x 5)7.917) Number of volumes to be evacuated38) Total volume to be removed (6 x 7)23.79) Purging MethodPeristaltic Pump | <u>and pack</u> 0.044 0.078 0.555 1.24 2.25 |
| 3) Column of water (#1 - #2)14.26ft.Volume Conversion table: casing diameterAlways L w/s4) Casing diameter2in.0.75 inches0.02305) Volume conversion (from table)0.555gal/ft.1 inches0.04106) Volume of water within well (3 x 5)7.91gal.4 inches0.6537) Number of volumes to be evacuated36 inches1.478) Total volume to be removed (6 x 7)23.7gal.8 inches2.61 | <u>and pack</u> 0.044 0.078 0.555 1.24 2.25 |
| (#1 - #2)14.26ft.casing diametergallons/footw/ s4) Casing diameter2in.0.75 inches0.02304) Casing diameter2in.1 inches0.04105) Volume conversion (from table)0.555gal/ft.2 inches0.16306) Volume of water within well (3 x 5)7.91gal.4 inches0.6537) Number of volumes to be evacuated36 inches1.478) Total volume to be removed (6 x 7)23.7gal.8 inches2.619) Purging MethodPeristaltic Pump1.471.47 | <u>and pack</u> 0.044 0.078 0.555 1.24 2.25 |
| 4) Casing diameter2in.0.75 inches0.0234) Casing diameter2in.1 inches0.0415) Volume conversion (from table)0.555gal/ft.2 inches0.1636) Volume of water within well (3 x 5)7.91gal.4 inches0.6537) Number of volumes to be evacuated36 inches1.478) Total volume to be removed (6 x 7)23.7gal.8 inches2.619) Purging MethodPeristaltic Pump111 | 0.044 0.078 0.555 1.24 2.25 |
| 4) Casing diameter2in.1 inches0.0415) Volume conversion (from table) 0.555 gal/ft.2 inches 0.163 6) Volume of water within well (3×5) 7.91 gal.4 inches 0.653 7) Number of volumes to be evacuated 3 6 inches 1.47 8) Total volume to be removed (6×7) 23.7 gal.8 inches 2.61 9) Purging MethodPeristaltic Pump 2.61 | 0.078 0.555 1.24 2.25 |
| 5) Volume conversion (from table)0.555 0.555gal/ft.2 inches0.0416) Volume of water within well (3 x 5)0.555gal/ft.2 inches0.1637) Number of volumes to be evacuated34 inches0.6538) Total volume to be removed (6 x 7)23.7gal.8 inches2.619) Purging MethodPeristaltic Pump111 | 0.555 1.24 2.25 |
| (from table)0.555gal/ft.2 inches0.1636) Volume of water within well (3 x 5)7.91gal.4 inches0.6537) Number of volumes to be evacuated36 inches1.478) Total volume to be removed (6 x 7)23.7gal.8 inches2.619) Purging MethodPeristaltic Pump111 | 1.24 2.25 |
| 6) Volume of water within well (3 x 5)7.91 gal.gal.4 inches0.6537) Number of volumes to be evacuated36 inches1.478) Total volume to be removed (6 x 7)23.7 23.7gal.8 inches2.619) Purging MethodPeristaltic Pump111 | 1.24 2.25 |
| well (3 x 5)7.91gal.4 inches0.6537) Number of volumes to be evacuated36 inches1.478) Total volume to be removed (6 x 7)23.7gal.8 inches2.619) Purging MethodPeristaltic Pump222 | 2.25 |
| 7) Number of volumes to be evacuated36 inches1.478) Total volume to be removed (6 x 7)23.7gal.8 inches2.619) Purging MethodPeristaltic Pump2.61 | 2.25 |
| to be evacuated36 inches1.478) Total volume to be removed (6 x 7)23.7gal.8 inches2.619) Purging MethodPeristaltic Pump444 | - |
| 8) Total volume to be removed (6 x 7)23.7gal.8 inches2.619) Purging MethodPeristaltic Pump | - |
| 9) Purging Method Peristaltic Pump | 3.59 |
| | |
| | |
| FIELD MEASUREMENTS: | |
| FIELD MEASUREMENTS: | |
| | |
| TIME Purge Volume Temperature all ODD (m)() Cond Dissolved Turbidity PID | Depth to |
| TIME (in gallons) (Celsius) PFI ORP (mV) (mS/cm) Oxygen (NTU) (npm) | Water |
| (in gallono) (mg/L) (mg/L) | (if poss.) |
| 16:24 0.0 12.96 6.55 -81 0.706 14.70 82.2 0.0 | _ |
| | |
| <u>16:29</u> <u>1.0</u> <u>17.95</u> <u>6.30</u> <u>-96</u> <u>0.649</u> <u>12.74</u> <u>34.7</u> <u>0.0</u> | - |
| <u>16:32</u> <u>1.5</u> <u>17.92</u> <u>6.31</u> <u>-107</u> <u>0.662</u> <u>13.71</u> <u>25.2</u> <u>0.0</u> | - |
| 16:34 2.0 17.99 6.32 -112 0.664 13.80 19.9 0.0 | - |
| 16:37 2.5 17.93 6.34 -115 0.668 13.81 20.6 0.0 | - |
| | |
| | |
| | <u> </u> |
| | |
| | |
| NOTES: SAMPLED BY: N. Bradley / M. Langrehr | |
| PID Headspace (ppm): 176.9 TIME: 16:45 | |
| Sample oder: Notes: | |
| Sample DA-WW50-W005 was collected at 10.45. | |
| Sample color: Clear | |
| Sample sediment content: Very low - none | |
| | |
| Weather: Sunny, 30°F | |
| Did well go dry: No | |
| | ls, Inc. |
| Total volume purged: 2.5 gallons | |
| QA/QC samples: None 801 Industrial St. Wilmington | |
| (302) 656-9600 - Fax (302 | ?) 656-9700 |

| | WELL SA | MPLING LOG | | SHEET: 1 | of | 1 | | | |
|----------|-------------------------------|--------------------------|-----------------|----------------------|-----------------|-------------------------------|--------------------|--------------|---------------------------------|
| WELL DE | SIGNATION: | DA-SVE01 | | PROJECT NAME: | | | ation | | |
| DATE: | 12/18/2018 | START TIME: | 10:24 | PROJECT NO: | 2734.07.51 | | | | |
| 0.000 | | | | ANALYSES: | TCL VOCs | , TCL SVOCs | | | |
| | DESIGNATION: OF WATER TO E | |)2 | SAMPLE ORDER: | VOCs. SV | OCs | | | |
| 1) Depth | n to bottom of casi | | | | , | | | | |
| | (from TOC) | 20 | . <u>39</u> ft. | | D | | | | |
| 2) Depth | n to water (from TOC) | 11 | .55 ft. | Sampling Method: | Peristaltic I | Pump | | | |
| 3) Colur | nn of water | | <u></u> n. | VOLUM | E CONVER | SION TABLE: | | Always Us | se This One |
| · | (#1 - #2) | 8. | <u>84</u> ft. | casing diam | <u>eter</u> | gallons | s/foot | w/ sa | nd pack |
| | | | | 0.75 inches | | 0.02 | 23 | 0 | .044 |
| 4) Casir | ig diameter | . <u></u> | <u>2</u> in. | 1 inches | | 0.04 | 11 | 0 | .078 |
| 5) Volun | ne conversion | | | 1 1110105 | | 0.0- | T I | 0 | .070 |
| | table) | | 555 gal/ft. | t. 2 inches | | 0.16 | 63 | 0 | .555 |
| | ne of water within (3 x 5) | | 91 gal. | 4 inches | | 0.65 | 52 | - | 24 |
| | ber of volumes | 4. | yai. | | | | 1.24 | | |
| to be e | evacuated | | 3 | 6 inches 1.47 | | 7 | 2 | 2.25 | |
| | volume to be ved (6 x 7) | 1. | 1.7 gal. | 8 inches | | 2.6 | 1 | | 8.59 |
| Terrio | | | <u></u> gai. | 0 110103 | | 2.0 | I | | |
| 9) Purgi | ng Method | Peristal | tic Pump | | | | | | |
| | | | | | | | | | |
| FIELD ME | ASUREMENTS: | | | | 1 | Γ | T | I | T |
| TIME | Purge Volume (in gallons) | Temperature (Celsius) | рН | ORP (mV) | Cond (mS/cm) | Dissolved Oxygen (mg/L) | Turbidity (NTU) | PID (ppm) | Depth to Water (if poss.) |
| 12:29 | 0.0 | 16.36 | 5.18 | 30 | 0.814 | 1.90 | 81.3 | 0.0 | - |
| 12:35 | 1.0 | 18.11 | 4.77 | 101 | 0.810 | 1.83 | 32.9 | 0.0 | - |
| 12:41 | 2.0 | 18.18 | 5.03 | 85 | 0.806 | 2.11 | 18.7 | 0.0 | - |
| 12:46 | 2.5 | 18.14 | 5.21 | 67 | 0.813 | 2.32 | 19.2 | 0.0 | _ |
| | | | | | | | | | _ |
| 12:50 | 3.0 | 18.26 | 5.28 | 54 | 0.818 | 2.48 | 17.4 | 0.0 | - |
| 12:55 | 3.5 | 18.26 | 5.35 | 48 | 0.819 | 2.59 | 15.9 | 0.0 | - |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| NOTES: | | | | SAMPLED BY: | - | / M. Langrehr | - | - | |
| PID Hea | adspace (ppm): | 0 | .1 | TIME: Notes: | 13:00 | | | | |
| Sample | odor: | No | one | Sample DA-SVE01- | W002 was | collected at 13 | :00. | | |
| Sample | color: | Very li | ght tan | | | | | | |
| Sample | sediment content | : Very lo | w - none | | | | | | |
| Weathe | r: | Sunn | /, 30°F | | | | | | |
| Did well | go dry: | N | lo | | | | | (alat" al- | - Inc |
| | lume purged: | 3.5 | gallons | | | | | rightField | 5, INC. Services |
| QA/QC | samples: | | one | | | | istrial St. N | | |
| | | | | | | (302 | ?) 656-9600 | - Fax (302) | 656-9700 |
| | | | | | | | | | |

| | WELL SA | MPLING LOG | | SHEET: 1 | of | 1 | | | |
|--------------------------------------|----------------------------------|--|----------------------|--------------------------|-----------------|-------------------------------|--------------------|-----------------|---------------------------------|
| WELL DES | BIGNATION: | DA-SVE03 | | PROJECT NAME: | - | | ation | | |
| DATE: | 12/18/2018 | START TIME: | 10:50 | PROJECT NO: | 2734.07.51 | | | | |
| | | | 22 | ANALYSES: | TCL VOCs | , TCL SVOCs | | | |
| | ESIGNATION: | |)2 | SAMPLE ORDER: | VOCs. SV | OCS | | | |
| <i>,</i> . | to bottom of casi | | | | , - | | | | |
| | (from TOC) | 19 | 9.92 ft. | Complian Motheral | Deviataltia D | | | | |
| 2) Depth | to water (from TOC) | 11 | l.78 ft. | Sampling Method: | Peristaltic F | Pump | | | |
| | n of water | | | VOLUM | E CONVER | SION TABLE: | | Always Use This | |
| | (#1 - #2) | 8 | <u>.14</u> ft. | casing diam | | gallons | | | nd pack |
| 4) Cosine | diamatar | | 2 in. | 0.75 inches 0.023 | | 23 | 0 | .044 | |
| 4) Casing | g diameter | | <u>2</u> in. | 1 inches | | 0.04 | 1 | 0 | .078 |
| , | e conversion | | | | | | | | |
| (from t | able) e of water within | 0. | <u>555</u> gal/ft. | t. 2 inches | | 0.16 | 33 | 0 | .555 |
| well (3 | | 4 | .52 gal. | 4 inches 0.653 | | | 53 | 1 | .24 |
| 7) Numbe | er of volumes | | | | - 4 47 | | | | |
| | vacuated volume to be | . <u></u> | 3 | 6 inches | | 1.4 | 7 | 2.25 | |
| | ed (6 x 7) | 1 | 3.6 gal. | 8 inches | | 2.6 | 1 | 3.59 | |
| | a Mathad | Deriete | tio Durron | | | | | | |
| 9) Purgin | givietnoa | Perista | tic Pump | | | | | | |
| | ASUREMENTS: | | | | | | | | |
| | ASUREIMENTS. | | | | | | | | |
| TIME | Purge Volume (in gallons) | Temperature (Celsius) | рН | ORP (mV) | Cond (mS/cm) | Dissolved Oxygen (mg/L) | Turbidity (NTU) | PID (ppm) | Depth to Water (if poss.) |
| 15:28 | 0.0 | 16.57 | 6.06 | -71 | 1.16 | 11.72 | 907.5 | 1.3 | - |
| 15:35 | 1.0 | 17.50 | 6.07 | -74 | 1.09 | 11.92 | 0.0* | 1.8 | - |
| | | Stopped purair | ng. Tubing was cor | npromised. Replaced | l tubing and | resumed pura | ina. | | |
| 15:56 | 0.0 | 17.07 | 6.17 | -69 | 1.08 | 12.06 | 1,000* | 1.1 | |
| | | | | | | | | | |
| 16:00 | 1.0 | 18.00 | 6.10 | -74 | 1.06 | 12.35 | 457 | 1.3 | - |
| 16:03 | 2.0 | 18.07 | 6.02 | -90 | 1.03 | 12.72 | 309 | 1.5 | - |
| 16:05 | 2.5 | 18.09 | 6.02 | -90 | 1.03 | 12.76 | 286 | 1.5 | - |
| 16:08 | 3.0 | 18.11 | 6.06 | -95 | 1.02 | 12.91 | 222 | 0.0 | - |
| | | | | | | | | | |
| NOTES: | | | | SAMPLED BY: | | / M. Langrehr | | | |
| | dspace (ppm): | | 2.2 | TIME: Notes: | 16:10 | | | | |
| Sample c | odor: | Petr | oleum | Sample DA-SVE03- | | | | | |
| Sample o | olor: | Т | an | Sample DA-SVE03- | | | · · | , | |
| Sample sediment content: Low | | Sample DA-SVE03- Sheen observed dur | ring purging | | | nk). | | | |
| Weather: | Weather: Sunny, 30°F | | *-Turbidity exceeded | d meter ranç | ge (1,000 NTU) |). | | | |
| Did well go dry: No | | | | | | - | | | |
| | Total volume purged: 3.0 gallons | | | | | | | vironmental | |
| QA/QC samples: Duplicate/ Trip Blank | | | | | | | istrial St. V | | DE 19801 656-9700 |

| | WELL SA | MPLING LOG | | SHEET: 1 of 1 | | | | | |
|--------------------------------------|-------------------------------|--------------------------|-----------------|---|-----------------|---------------------|--------------------|-------------------------------------|-------------------|
| WELL DESIGNATION: DA-SVE06 | | | | PROJECT NAME: Dodson SVE 3-Year Evaluation | | | | | |
| DATE: 12/18/2018 START TIME: 10:30 | | | | PROJECT NO: 2734.07.51 | | | | | |
| | | | | ANALYSES: | TCL VOCs | , TCL SVOCs | | | |
| | DESIGNATION: OF WATER TO E | |)2 | SAMPLE ORDER: | | | | | |
| | to bottom of casi | - | | SAMI LE ORDER. | 1003, 310 | 000 | | | |
| / -1 - | (from TOC) | | .57 ft. | | | | | | |
| 2) Depth | n to water | | | Sampling Method: | Peristaltic F | Pump | | | |
| | (from TOC) | <u>13.81</u> ft. | | VOLUME CONVERSION TABLE: Always Use This One | | | | | |
| 3) Column of water (#1 - #2) | | 6.76 ft. | | VOLUME CONVERSIO | | gallons/foot | | Always Use This One w/ sand pack | |
| (<i>#</i> I <i>− #</i> ∠) | | 0.70 11. | | | | | | | |
| 4) Casing diameter | | 2 in. | | 0.75 inches 1 inches | | 0.023 | | 0.044 0.078 | |
| +) Casing uidmeter | | | | | | | | | |
| 5) Volun | ne conversion | | | | | | | | |
| (from table) | | 0.555 gal/ft. | | 2 inches | | 0.163 | | 0.555 | |
| 6) Volume of water within | | | | A 25 - 15 - | | 0.050 | | 4.04 | |
| well (3 x 5) 7) Number of volumes | | 3. | <u>75</u> gal. | 4 inches | | 0.653 | | 1.24 | |
| , | evacuated | 3 | | 6 inches | | 1.47 | | 2.25 | |
| 8) Total volume to be | | | | | | | | | |
| remov | ved (6 x 7) | 1 [.] | 1.3 gal. | 8 inches | | 2.61 | | 3.59 | |
| 0) Purai | ng Method | Peristaltic Pump | | | | | | | |
| 9) Fulgi | | Fensial | lic Fullp | | | | | | |
| | | | | | | | | | |
| FIELD ME | ASUREMENTS: | | | 1 | | | | 1 | |
| TIME | Purge Volume (in gallons) | Temperature (Celsius) | pН | ORP (mV) | Cond (mS/cm) | Dissolved Oxygen | Turbidity (NTU) | PID (ppm) | Depth to Water |
| | (in galions) | (Ceisius) | | | (113/011) | (mg/L) | (1110) | (ppm) | (if poss.) |
| | | | | | | | | | |
| 13:59 | 0.0 | 16.32 | 5.52 | -12 | 0.490 | 6.34 | 76.5 | 0.0 | - |
| 14:05 | 1.0 | 18.86 | 5.63 | -31 | 0.590 | 6.34 | 36.4 | 0.0 | - |
| 14:08 | 1.5 | 18.83 | 5.65 | -34 | 0.595 | 6.54 | 25.5 | 0.0 | - |
| 14:11 | 2.0 | 18.87 | 5.65 | -36 | 0.615 | 6.72 | 19.9 | 0.0 | - |
| | | | | | | | | | |
| 14:13 | 2.5 | 18.87 | 5.67 | -40 | 0.639 | 6.85 | 13.7 | 0.0 | - |
| 14:15 | 3.0 | 18.84 | 5.72 | -43 | 0.619 | 6.97 | 13.4 | 0.0 | - |
| | | | | | | | | | |
| | 1 | | | | | | | | |
| | + | | | | | | | <u> </u> | |
| NOTES | | | | | | | | | |
| NOTES: PID Headspace (ppm): | | 6 | 2 | SAMPLED BY: N. Bradley / M. Langrehr TIME: 14:20 | | | | | |
| , | | 6.2 | | Notes: | 14.20 | | | | |
| Sample odor: | | None | | Sample DA-SVE06- | W002 was | collected at 14 | :20 (MS/MS | D). | |
| Sample color: | | Clear | | | | | | | |
| Comple and most | | | | | | | | | |
| Sample sediment content: | | : Very lo | Very low - none | | | | | | |
| Weather: | | Sunn | ∕, 30°F | | | | | | |
| Did woll as dry: | | | | | | | | | |
| Did well go dry: | | No | | | | | B | rightField | s, Inc. |
| Total volume purged: | | 3.0 gallons | | | | | En t | vironmental | Services |
| QA/QC samples: | | MS/ | MSD | | | 801 Indi | ıstrial St. V | /ilmington | DE 19801 |
| | | | | | | |) 656-9600 | | |
| | | | | | | | | | |



APPENDIX E

TestAmerica Analytical Data Packages

(Electronic Only)



Appendix E.1 Soil Gas Analytical Data Package July 2018 (Electronic Only)



Appendix E.2 Soil Gas Analytical Data Package August 2018 (Electronic Only)



Appendix E.3 Soil Gas Analytical Data Package December 2018 (Electronic Only)



Appendix E.4 Groundwater Analytical Data Package August 2018 (Electronic Only)



Appendix E.5 Groundwater Analytical Data Package December 2018 (Electronic Only)