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## Spill Delineation Report & Remediation Plan

March 16, 2018

**Oilfield Water Logistics (OWL) Produced Water Pipeline Release  
Nearby Unit Letter H, Section 32, T24S, R35E, Lea County, New Mexico – Case No.  
1RP- 4820**

**Prepared For:**

Mr. Phillip Sanders  
Oilfield Water Logistics  
8214 Westchester Drive, Suite 850  
Dallas, Texas 75225

**APPROVED**

*By Olivia Yu at 7:35 am, Apr 30, 2018*

NMOCD approves of the delineation completed for 1RP-4820. See email correspondence regarding deferral and proposed remediation.

New Mexico Energy Minerals and Natural Resources Department (EMNRD)  
Oil Conservation Division (OCD)  
Ms. Olivia Yu  
1220 South Saint Francis Drive  
Santa Fe, New Mexico 87505

**Prepared By:**



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March 16, 2018

Mr. Phillip Sanders  
Oilfield Water Logistics  
8214 Westchester Drive, Suite 850  
Dallas, Texas 75225

**RE: Soil Delineation Report and Remediation Workplan: Oilfield Water Logistics (OWL)  
Produced Water Pipeline Nearby Unit Letter H, Section 32, T24S, R35E, Lea County, New  
Mexico – Case No. 1RP- 4820**

Dear Mr. Sanders:

KJ Environmental Mgt., Inc. (KJE) is pleased to submit this Soil Delineation Report and Remediation Workplan for the Produced Water Pipeline Release located in Lea County, New Mexico. This report discusses background information, assessment purpose and scope of work, execution of work, and documents the corresponding results.

We appreciate your selection of KJE for this project and look forward to assisting you further on other projects. If you have any questions, please do not hesitate to contact either of the undersigned at 940-387-0805. Thank you for the opportunity to provide professional environmental consulting services. It has been a pleasure working with you.

Best Regards,



Heather Leven  
Environmental Project Manager



Dena M. Vandenberg, REM, LEEP AP  
Director of Environmental Services

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#### Appendix F – Environmental Professional's Credentials

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## **1.0 Summary**

KJ Environmental Mgt., Inc. (KJE), was retained by Oilfield Water Logistics (OWL) to complete certain delineation activities for a produced water pipeline release to vacant land situated approximately 11 miles northwest of Jal in Lea County, New Mexico. The results of the delineation activities are summarized as follows:

- On September 14, 2017, KJE was notified by Mr. Phillip Sanders, Safety Director with OWL, regarding a spill occurrence at the above referenced location. Following the New Mexico Oil Conservation Division (NMOCD), part of the New Mexico Energy, Minerals, and Natural Resources Department (EMNRD) notification and approval, the spill was assigned remediation case number 1RP-4820. Soil delineation activities included the advancement of 14 soil borings to depths ranging from zero to 16 feet below ground surface (bgs). Analytical soil data identified chloride at concentrations above the NMOCD approved criteria. However, chloride concentrations exceeding the NMOCD approved criteria have been vertically and horizontally delineated. Details regarding the spill delineation activities and remediation plan are further summarized herein.

## **2.0 Introduction**

On September 14, 2017, KJE was provided notification by Mr. Phillip Sanders, Safety Director with OWL, regarding a spill occurrence over a relatively short time frame. KJE provided further notification to the New Mexico Oil Conservation Division (NMOCD), part of the New Mexico Energy, Minerals, and Natural Resources Department (EMNRD), and SLO (land owner) of the spill at 13:30 on September 14, 2017. It was determined that 25 barrels of produced water was released during the spill event of which 10 barrels were recovered. KJE submitted Form C-141 Spill reports to OCD on September 21, 2017, for their review. A response received from the NMOCD, indicated that the incident was assigned remediation case number 1RP-4820. The general view of the spill is illustrated in Appendix A on Figure A1.

Subsequent to the NMOCD directive to complete division-approved corrective action, at the request of the NMOCD, KJE completed a delineation workplan detailing the collection of soil samples for analysis to delineate the vertical and horizontal extent of produced water impacted soil. This workplan was submitted by KJE and administratively approved by Ms. Olivia Yu on November 30, 2017. The NMOCD approved Work Plan for the Characterization of Impacts is located in Appendix G of this report.

As such, following approval of the characterization of impacts workplan, from January 17 through January 23, 2018, 14 soil borings were advanced within the spill area, one of which (soil boring BG) was advanced outside of the impacted soil area, in close proximity to the spill area, in an effort to confirm background soil constituents. Soil samples collected were transferred to an accredited laboratory and analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX),

extended range total petroleum hydrocarbons (TPH), and chloride. Implementation of the characterization of impacts workplan is further detailed below.

### **3.0 Environmental Assessment Activities**

#### **3.1 Delineation Activities**

In accordance with the NMOCD Approved Work Plan for the Characterization of Impacts, following the approval of a Right of Entry Permit by the New Mexico Land Office<sup>1</sup>, KJE personnel observed the drilling subcontractor advance 14 soil borings (SB-1 through SB-14) within the soil impact area and one soil boring (BG) within the area in close proximity, but outside of the spill area in an attempt to delineate the extent of soil impact and potential groundwater impacts. The locations of the soil borings were defined by the proximity to the pipelines and associated setback areas and are depicted on the Overview of the Spill Area and Boring Location Map in Appendix A.

The subcontracted driller advanced the borings via flight augers to depths ranging from zero to 16 feet below ground surface (bgs) with the intent to delineate the vertical area of impact, ten feet beyond the known area of impact<sup>2</sup>, per NMOCD directives. As indicated above, in lieu of groundwater, soil samples were collected from ten feet below the known area of soil impact within SB-6. Soil collected from SB-6 exhibited concentrations of chloride (1,070 mg/kg at 4 to 6 feet bgs) above the NMOCD approved criteria. As such, this soil boring was selected for further vertical delineation in an effort to identify potential groundwater impacts. Based on the analytical data, chloride concentrations were first identified below the NMOCD specified criteria at a depth of six feet bgs (454 mg/kg). Therefore, KJE advanced the boring to 16 feet bgs. Groundwater was not encountered during the drilling activities; therefore, groundwater was not developed nor sampled during the sampling event.

Field screening for chloride concentrations and soil conductivity was conducted using a calibrated Hanna HI993310 soil conductivity meter. Field screening for Volatile Organic Compounds (VOCs) was conducted using a calibrated Photoionization Detector (PID) (Model RAE MINIRAE Lite 0-5K ppm) to screen for the highest readings from each of the borings. Photo documentation of field activities is included in Appendix C. The soil boring lithology and field screening data table (Table 1) is included in Appendix B for review. Due to the uniformity in lithology, representative boring logs are also provided in Appendix D.

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<sup>1</sup> The spill area encroached upon the New Mexico Department of Transportation Easement. As such, KJE acquired a Right of Entry Permit to conduct characterization and delineation activities within the easement.

<sup>2</sup> Known area of impact is considered to be from the surface to the vertical depth of the first soil sample with confirmed chloride concentrations below the NMOCD approved criteria of 600 ppm, since TPH and BTEX were not detected above criteria in any of the soil samples collected.

### **3.2 Deviations from the Scope**

Initial analytical data from soil borings SB2 and SB5 indicated that the vertical delineation distance from soil below the permissible chloride levels, was less than the NMOCD dictated ten feet. Subsequently, during a phone conference on February 28, 2018, with the NMOCD, Ms. Yu provided verbal confirmation that the soil borings did not require additional delineation. As such, delineation of the spill has been completed.

### **4.0 Soil/Groundwater Sample Collection/Handling Procedures**

Soil samples were collected based on field indicators, proximity to the boring termination depths, or depth of potential impact as noted above, and select samples were collected in four ounce laboratory supplied glass containers for laboratory analysis. The collected soil samples were placed in laboratory-supplied containers, labeled, placed in an insulated container with ice, providing a 4°C environment for sufficient preservation until delivery to Xenco Laboratories (a third-party, independent, and licensed environmental laboratory in Midland, Texas) accompanied by completed chain-of-custody. The sample collection and handling activities were conducted in accordance with USEPA Standard Operating Procedures and strict chain-of-custody protocols. Before and after installation of each of the soil borings, the drilling augers were decontaminated.

A representative amount of samples were collected for quality control/ quality assurance purposes. These samples are duplicate samples and referenced as DUP. The soil samples were analyzed for BTEX by SW-846 Method 8021B, Extended-Range TPH by SW-846 Method 8015 modified with extended range, and/ or Chlorides by EPA Method 300. These analytical methods are the EPA, NMOCD, and industry-approved standards used to determine the potential for soil contamination.

The sample results were compared to the NMOCD approved applicable criteria, as detailed below and in Appendix B.

### **5.0 Summary of Analytical Results**

#### **Soil Action Limits**

The NMOCD required delineation of BTEX, Extended-Range TPH, and Chlorides for the spill area. Published values for BTEX and TPH were obtained from the NMOCD document "Guidelines for Remediation of Leaks, Spills, and Releases, 1993". Horizontal and vertical delineation values were determined to be 10 ppm Benzene, 50 ppm BTEX, and 1,000 ppm TPH since a surface water body (Antelope Draw) was identified approximately 750 feet southwest of the Site. Written directives issued by NMOCD representative Ms. Olivia Yu indicated that chloride impacted soil was to be vertically and horizontally delineated to 600 ppm, with vertical delineation of soil below the 600 ppm mandated criteria to be maintained ten feet beyond the first soil sample indicative of soil below the mandated criteria. See Figure A1 in Appendix A for soil borings locations and areas of exceedances. Analytical results are included on Table 1 in Appendix B for

review. Laboratory reports are also included in Appendix E.

#### Soil Delineation – Analytical Data

Analytical soil data did not identify concentrations of BTEX or TPH above the NMOCD approved criteria. Analytical soil data identified Chloride at concentrations up to 2,680 mg/kg (ppm); however, these concentrations were delineated to below 600 ppm, four to ten feet beyond the known area of impact. As noted above, soil boring locations were driven by proximity to the pipelines and associated setback areas. Analytical data is included on Table 1 in Appendix B for review.

Based on the analytical data, soil above the applicable criteria has been identified at depths in the Spill Area ranging from zero to six feet bgs. The estimated area of impacted soil is approximately 0.19 acres (8,169 square feet), and the estimated area of contaminated soil contour line is illustrated on Figure A2 in Appendix A. Based on the pipelines and associated buffer zones in the area, the estimated volume of accessible impacted soil in the Spill Area is 262 cubic yards. Based on the laboratory analytical results, delineation of impacted soils has been completed.

Analytical summary tables of the results are included in Appendix B. Copies of the laboratory analytical reports with chain-of-custody forms are included in Appendix E.

#### Groundwater

Groundwater was not encountered in the soil borings advanced, nor was it anticipated to be encountered. According to records obtained from the New Mexico Office of the State Engineer's office Hydrology Bureau records, the minimum depth to water for the water for water wells located in the same Township and Range as the release Site, was reported at 200 feet bgs. Additional review of available records indicated that the Site may be in an area with water present in the alluvial/ quaternary age formation overlaying the Triassic Chinle Formation, which may be associated with Antelope Draw. However, based on the analytical data, which explored soil borings to depths ranging from four to ten feet below the known areas of impact, potential groundwater impact was not anticipated. As such, there does not appear to be a complete exposure pathway to shallow groundwater. No use of groundwater is expected following Site remediation and Site remediation activities are not expected to encounter groundwater due to the depth of the groundwater at the Site. As such, KJE does not recommend further action regarding potential groundwater impact.

## **6.0 Risk Screening**

### **6.1 Chemicals of Potential Concern**

Chemicals of potential concern (COPCs) were initially identified as TPH, BTEX, and Chlorides. Following soil delineation activities and based on soil analytical data, TPH and BTEX have been eliminated as COPCs. As such, chloride has been identified as the only COPC. Analytical data

from soil borings SB2, SB5 and SB6 exhibited the only chloride concentrations above the NMOCD mandated criteria in the Spill Area and are included in Table 1 below. Concentrations were compared to the NMOCD Action Limits, Pit and Recycling Containment Closures, and the New Mexico Environmental Department (NMED) Soil Screening Levels issued December 2014 and July 2015.

**Table 1: Analytical Data from Soil Borings**

| SPILL AREA                                                                  |            |            |              |            |            |                             |         |
|-----------------------------------------------------------------------------|------------|------------|--------------|------------|------------|-----------------------------|---------|
| Sample ID                                                                   | Benzene    | Toluene    | Ethylbenzene | Xylenes    | BTEX       | Chlorides                   | TPH     |
| SB2 (0'-2')                                                                 | <0.00336 U | <0.00336 U | <0.00336 U   | <0.00336 U | <0.00336 U | 16.8                        | <15.0 U |
| SB2 (2'-4')                                                                 | <0.00200 U | <0.00200 U | <0.00200 U   | <0.00200 U | <0.00200 U | 2680                        | <15.0 U |
| SB2 (4'-6')                                                                 | <0.00201 U | <0.00201 U | <0.00201 U   | <0.00201 U | <0.00201 U | 1220                        | <15.0 U |
| SB2 (6'-8')                                                                 | <0.00199 U | <0.00199 U | <0.00199 U   | <0.00199 U | <0.00199 U | 236                         | <15.0 U |
| SB2 (8'-10')                                                                | <0.00201 U | <0.00201 U | <0.00201 U   | <0.00201 U | <0.00201 U | 32.2                        | <15.0 U |
| SB2 (10'-11')                                                               | <0.00202 U | <0.00202 U | <0.00202 U   | <0.00202 U | <0.00202 U | <4.99 U                     | <15.0 U |
| SB5 (0'-2')                                                                 | <0.00332 U | <0.00332 U | <0.00332 U   | <0.00332 U | <0.00332 U | 1330                        | 43.2    |
| SB5 (2'-4')                                                                 | <0.00202 U | <0.00202 U | <0.00202 U   | <0.00202 U | <0.00202 U | 1580                        | <15.0 U |
| SB5 (4'-6')                                                                 | <0.00201 U | <0.00201 U | <0.00201 U   | <0.00201 U | <0.00201 U | 486                         | <15.0 U |
| SB5 (6'-8')                                                                 | <0.00199 U | <0.00199 U | <0.00199 U   | <0.00199 U | <0.00199 U | 51.7                        | <15.0 U |
| SB5 (8'-10')                                                                | <0.00200 U | <0.00200 U | <0.00200 U   | <0.00200 U | <0.00200 U | 23.7                        | <15.0 U |
| SB6 (0'-2')                                                                 | <0.00200 U | <0.00200 U | <0.00200 U   | <0.00200 U | <0.00200 U | <4.98 U                     | <15.0 U |
| SB6 (2'-4')                                                                 | <0.00201 U | <0.00201 U | <0.00201 U   | <0.00201 U | <0.00201 U | 404                         | <15.0 U |
| SB6 (4'-6')                                                                 | <0.00200 U | <0.00200 U | <0.00200 U   | <0.00200 U | <0.00200 U | 1070                        | <15.0 U |
| SB6 (6'-8')                                                                 | <0.00199 U | <0.00199 U | <0.00199 U   | <0.00199 U | <0.00199 U | 454                         | <15.0 U |
| SB6 (8'-10')                                                                | <0.00330 U | <0.00330 U | <0.00330 U   | <0.00330 U | <0.00330 U | 121                         | <15.0 U |
| SB6 (10'-12')                                                               | <0.00198 U | <0.00198 U | <0.00198 U   | <0.00198 U | <0.00198 U | 540                         | <15.0 U |
| SB6 (12'-14')                                                               | <0.00338 U | <0.00338 U | <0.00338 U   | <0.00338 U | <0.00338 U | 162                         | <15.0 U |
| SB6 (14'-16')                                                               | <0.00346 U | <0.00346 U | <0.00346 U   | <0.00346 U | <0.00346 U | 420                         | <15.0 U |
| OCD Action Limits<br>1993 Guideline                                         | 10         | -          | -            | -          | 50         | Horiz. – 600<br>Vert. – 600 | 1,000   |
| Action Limits and Closure Requirements Assumes Depth To Water is < 100 feet |            |            |              |            |            |                             |         |

## 6.2 Exposure Pathways

Potential exposure pathways for the COPCs at the Site include ingestion and dermal contact with COPCs via soil, groundwater, and surface water. There currently are no vapor phase COPCs; therefore, soil gas is eliminated as a potential exposure pathway. Following remediation of onsite soils at the Site, there are expected to be no complete exposure pathways for ingestion or dermal contact with COPCs via soil, groundwater, and surface water. Each is discussed briefly below.

### 6.2.1 Soil

Following Site remediation, it is expected that there will be no complete exposure pathways to any remaining COPCs in soil at depth beneath the Site, with the exception of soil located within the pipeline easements and buffer zones. The potential exposure pathways to COPCs in soils are expected to occur during Site remediation when near-surface soils are disturbed. Those potential pathways include construction worker exposure to airborne dust, dermal contact with dust, and possible inadvertent ingestion. Measures to mitigate these potential exposures will be addressed in the Health and Safety Plan (HASP). COPCs in soil within the pipeline

easements and buffer zones do not have a potential exposure pathways as these soil areas are not allowed to be disturbed until the pipelines need to be replaced or repaired. Chloride impacted soil exceeding criteria will be managed in accordance with the HASP and applicable regulations.

#### **6.2.2 Surface Water**

There is currently no direct contact of surface water with impacted soil, and all surface water exits the Site as storm water. There is no surface water at the Site and, therefore, no pathway for exposure. Similarly, following Site remediation, it is expected that there will be no complete exposure pathway to surface water. During remediation, surface water is expected to percolate into Site soils; measures to mitigate surface run-off will be mitigated utilizing berms and poly-liners.

#### **6.2.3 Groundwater**

As discussed above, because the depth of potential impact has been explored and delineated for the spill area and groundwater was not encountered nor is groundwater a source of drinking water, there is no complete exposure pathway to shallow groundwater. No use of groundwater is expected following Site remediation. Site remediation activities are not expected to encounter groundwater due to the depth of the groundwater at the Site.

### **7.0 Photographs**

Photo documentation of the drilling and sampling activities are included in Appendix C.

### **8.0 Conclusions/Recommendations**

KJE has concluded that the majority of the spill area has been delineated, and that there would be no beneficial outcome of installing additional soil borings in the spill area. KJE feels that we would only replicate analytical results from other nearby soil borings.

According to the records acquired from the New Mexico Office of the State Engineers database, it appears that there is at least 184 feet between the zones of impacted soil and groundwater. KJE feels that the chance of groundwater contamination from the impacted soil is highly unlikely.

Based on the following reasoning, KJE requests that the majority of the impacted soils, primarily south of the OWL saltwater line, in the spill area be allowed to remain in place, as further discussed below, since groundwater is determined to be at a depth unlikely to be impacted by the release:

- A portion of the impacted soils are located adjacent to, or below one of two operating pipelines (OWL saltwater line and Energy Transfer gas line).

Excavation in these areas could adversely affect the structural integrity of one or all of these pipelines. As such, areas of chloride impact within these areas will be deferred, as detailed below.

- adverse environmental impacts are minimal,
  - o little vegetation was present in the area due to the sandy soils, and the right of way (ROW) is being used as the route for 24-hour OWL pipeline inspectors
  - o there is no noticeable impact to wildlife
  - o there are no residences in the site area
  - o there are no buildings in the site area for vapor intrusion consideration
  - o there is no ongoing air quality impact
  - o construction worker exposure would be primarily chlorides and addressed via the HASP
- the small total volume (262 cubic yards) of accessible impacted soil in the spill area will be remediated based on KJE recommendations.

Four small areas of accessible chloride impacted soil was identified within the Spill Area with analytical results above the NMOCD action levels for chloride. KJE proposes that the accessible impacted soil areas be excavated by OWL in the areas where chlorides exceed 600 ppm up to a depth of 4' (approximately 262 cubic yards), and placed on 20 mil poly sheeting in the excavation, as depicted in Figure A2. Trench anchors should be used to secure the poly sheeting. OWL will blend the impacted soil with clean soil, and KJE will collect one sample for every 25 cubic yards of blended soil to ensure remediation compliance with the NMOCD directive of 600 ppm. OWL will then return the soil to the poly-lined excavation. Confirmatory soil samples will be collected along the sidewalls of the excavation only, for horizontal delineation confirmation. Confirmatory soil samples will not be collected along the sidewalls adjoining the requested deferral area, further discussed below.

No excavation will be completed within the designated buffer zone set forth by each individual pipeline owner on each side of the pipeline easements, to maintain the structural stability of the pipelines. As such, KJE respectfully requests deferral of the NMOCD requirements to complete further investigations and remediation for Case No. 1RP 4820 adjacent to and below the subject pipeline, and within the respective setback areas. These areas correspond to approximately 11,550 square feet. The GPS coordinates of the extent of these areas 32.178264°N, -103.381586°W, 32.176214°N, -103.381610°W, 32.176059°N, -103.381010°W, 32.176000°N, -103.381008°W, 32.175956°N, -103.381259°W, 32.175861°N, -103.381325°W, 32.176133°N, -103.381851°W, and 32.176226°N, -103.381783°W, which are illustrated on the attached Sheet A2. OWL and KJE request that the remediation be delayed until the pipelines are removed or relocated in the future to prevent possible damage to, or reduction of the pipeline structural integrity which could cause an additional spill. When the pipelines are removed or relocated in the future, OWL will contact NMOCD to discuss required investigations, or remediation which may or may not be required at that time.

Disturbed areas outside of the easement will be reseeded with BLM mix to reestablish growth; however, due to vegetative growth restrictions imposed by the pipeline owners, the easement will not be seeded.

Regarding groundwater, based on review of available groundwater data, in conjunction with KJE's soil analytical data, KJE has opined that groundwater impact is unlikely; therefore, further action regarding groundwater is not required.

If we can be of further assistance, please do not hesitate to contact us at 940-387-0805. Thank you for the opportunity to provide professional environmental consulting services. It has been a pleasure working with you.

### **9.0 Qualifications of Environmental Professional**

This is to certify that the Environmental Investigation that was completed at the produced water spill site located approximately 11 miles northwest of Jal in Lea County, New Mexico were conducted using EPA, NMOCD, and industry-approved standards/protocols. This field work was conducted from January 17 through 23, 2018 for OWL, and all field activities were completed under the supervision of Ms. Dena M. Vandenberg, REM, LEED AP. Mr. Ware's, Ms. Vandenberg's, and Mr. Fox's credentials are included in Appendix E for review.

### **10.0 Signature of Environmental Professional**



Dena M. Vandenberg, REM, LEED AP  
Environmental Professional  
Director of Environmental Services

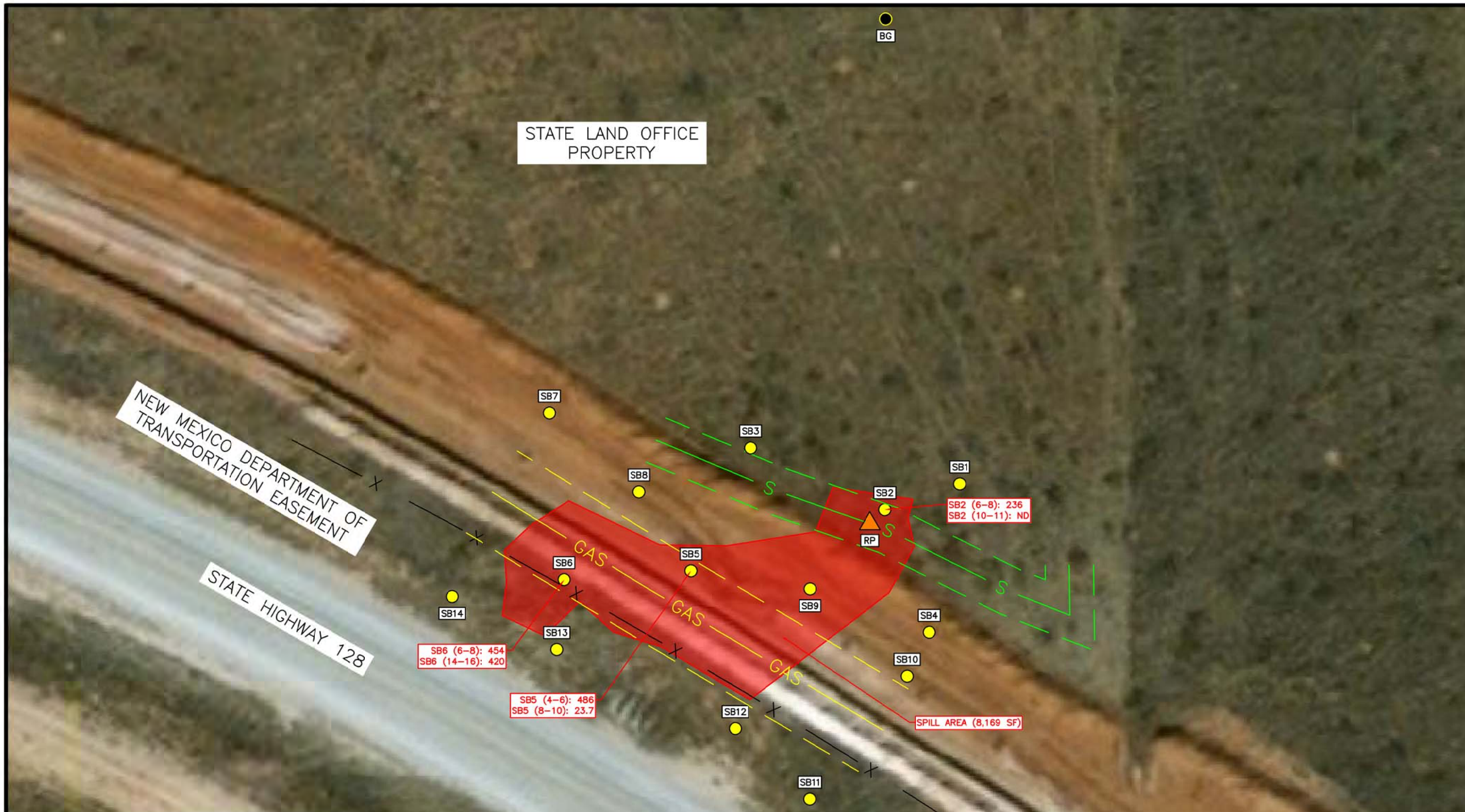
March 16, 2018

Date

## **APPENDIX A**

Figure A1 – Overview of the Spill Area and Boring Location

Map Figure A2 – Proposed Impacted Soil Excavation and  
Deferral Areas

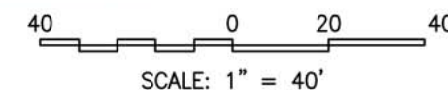


NOTES:

1. CONCENTRATIONS DEPICTED EXHIBITED CHLORIDE CONCENTRATIONS ABOVE 600 PPM. THE CONCENTRATIONS LISTED IDENTIFY THE FIRST SAMPLE INTERVAL THAT WAS BELOW CRITERIA AND THE LAST SAMPLE INTERVAL COLLECTED AT THE BORING. THE CONCENTRATIONS LISTED ARE IN PPM.
2. TPH AND BTEX DID NOT EXCEED APPLICABLE CRITERIA.
3. BING MAPS WAS USED AS AN UNDERLAY IMAGE FOR THIS MAP. (<http://bing.com/maps>)

LEGEND

- |                         |   |                                                   |
|-------------------------|---|---------------------------------------------------|
| RELEASE POINT           | ▲ | OWL SALTWATER LINE (WITH 10' BUFFER ON EACH SIDE) |
| SOIL BORING (TOTAL: 14) | ● | GAS LINE (WITH 20' BUFFER ON EACH SIDE)           |
| BACKGROUND SAMPLE       | ● | TEMPORARY FENCE                                   |



REVISIONS:

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|  |

THIS DRAWING IS TO BE USED FOR PERMIT INFORMATION PURPOSES ONLY.

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OVERVIEW OF SPILL AREA &  
BORING LOCATION MAP  
OWL SWD OPERATING, LLC  
LEA COUNTY, NEW MEXICO  
UNIT H, SECTION 32, TOWNSHIP 24S, RANGE 35E  
CASE NO. 1RP-4820

DATE:  
3/5/2018

SHEET:  
**A1**

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PROPOSED IMPACTED SOIL EXCAVATION &  
DEFERRAL AREAS MAP  
OWL SWD OPERATING, LLC  
LEA COUNTY, NEW MEXICO  
UNIT H, SECTION 32, TOWNSHIP 24S, RANGE 35E  
CASE NO. 1RP-4820

DATE:  
3/6/2018

SHEET:

A2



### LEGEND

- RELEASE POINT
- SOIL BORING (TOTAL: 14)
- BACKGROUND SAMPLE
- EXCAVATION AREA
- PROPOSED DEFERRAL AREA
- EXCEEDANCE AREA
- OWL SALTWATER LINE (WITH 10' BUFFER ON EACH SIDE)
- GAS LINE (WITH 20' BUFFER ON EACH SIDE)
- TEMPORARY FENCE

40 0 20 40  
SCALE: 1" = 40'



NOTES:  
1. BING MAPS WAS USED AS AN UNDERLAY IMAGE FOR THIS MAP.  
(<http://bing.com/maps>)

## **APPENDIX B**

Table 1 – Field and Soil Analytical Data



Table 1: Field and Soil Analytical Data  
OWL Produced Water Pipeline Release Nearby Unit Letter H, Section 32, T24S, R35E  
Lea County, New Mexico  
NMOCD Case No. 1RP-4820

| Field Data        |                |                          |                                                                |                   |           |                             | Laboratory Analytical Data |            |                                              |             |
|-------------------|----------------|--------------------------|----------------------------------------------------------------|-------------------|-----------|-----------------------------|----------------------------|------------|----------------------------------------------|-------------|
| Sample ID         | Date Collected | GPS Coordinates          | Soil Type                                                      | Soil Color/Size   | PID (PPM) | Chlorides (field screening) | Benzene                    | Total BTEX | Chlorides                                    | Total TPH   |
|                   |                |                          |                                                                |                   |           |                             | Action Limits              |            |                                              |             |
|                   |                |                          |                                                                |                   |           |                             | 10 mg/kg                   | 50 mg/kg   | Horizontal: 600 mg/kg<br>Vertical: 600 mg/kg | 1,000 mg/kg |
| BG (0'-2')        | 1/17/2018      | 32.17672°, -103.38129°   | SP - Poorly - graded sands, gravelly sands, little or no fines | Red/Fine          | 0.0       | 5                           | N/A                        | N/A        | <9.92                                        | N/A         |
| BG (2'-4')        | 1/17/2018      |                          | SP - Poorly - graded sands, gravelly sands, little or no fines | Red/Fine          | 0.0       | 45                          | N/A                        | N/A        | <9.98                                        | N/A         |
| BG (4'-6')        | 1/17/2018      |                          | SP - Poorly - graded sands, gravelly sands, little or no fines | Red/Fine          | 0.0       | 0                           | N/A                        | N/A        | <9.84                                        | N/A         |
| BG (6'-8')        | 1/18/2018      |                          | SP - Poorly - graded sands, gravelly sands, little or no fines | Red/Fine          | 0.0       | 0                           | N/A                        | N/A        | <9.96                                        | N/A         |
| SB1 (0'-2')       | 1/17/2018      |                          | SP - Poorly - graded sands, gravelly sands, little or no fines | Red/Fine          | 0.0       | 0                           | N/A                        | N/A        | <9.97                                        | N/A         |
| SB1 (2'-4')       | 1/17/2018      | 32.176190°, -103.381190° | SP - Poorly - graded sands, gravelly sands, little or no fines | Red/Fine          | 0.0       | 0                           | N/A                        | N/A        | <9.96                                        | N/A         |
| SB1 (4'-6')       | 1/17/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | 0.0       | 0                           | N/A                        | N/A        | <9.94                                        | N/A         |
| SB1 (6'-8')       | 1/17/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | 0.0       | 0                           | N/A                        | N/A        | <9.84                                        | N/A         |
| SB1 (8'-10')      | 1/17/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | 0.0       | 0                           | N/A                        | N/A        | 43.9                                         | N/A         |
| SB1 (10'-11.5')   | 1/17/2018      |                          | CS - Sandstone with sand stringers                             | Red/ Medium       | 0.0       | 0                           | N/A                        | N/A        | 31.2                                         | N/A         |
| SB2 (0'-2')       | 1/17/2018      | 32.176160°, -103.381290° | SP - Poorly - graded sands, gravelly sands, little or no fines | Red/Fine          | 0.6       | 10                          | <0.00336 U                 | <0.00336 U | 16.8                                         | <15.0 U     |
| SB2 (2'-4')       | 1/17/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | 0.3       | 650                         | <0.00200 U                 | <0.00200 U | 2680                                         | <15.0 U     |
| SB2 (4'-6')       | 1/17/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | 0.9       | 525                         | <0.00201 U                 | <0.00201 U | 1220                                         | <15.0 U     |
| SB2 (6'-8')       | 1/17/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | 1.0       | 10                          | <0.00199 U                 | <0.00199 U | 236                                          | <15.0 U     |
| SB2 (8'-10')      | 1/17/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | 0.9       | 5                           | <0.00201 U                 | <0.00201 U | 32.2                                         | <15.0 U     |
| SB2 (10'-11')     | 1/17/2018      | 32.17623°, -103.38147°   | CS - Sandstone with sand stringers                             | Red/ Medium       | 0.0       | 0                           | <0.00202 U                 | <0.00202 U | <4.99 U                                      | <15.0 U     |
| SB3 (0'-2')       | 1/17/2018      |                          | SP - Poorly - graded sands, gravelly sands, little or no fines | Red/Fine          | 0.3       | 0                           | N/A                        | N/A        | <9.94                                        | N/A         |
| SB3 (2'-4')       | 1/17/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | 0.2       | 0                           | N/A                        | N/A        | <9.78                                        | N/A         |
| SB3 (4'-6')       | 1/17/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | 0.0       | 0                           | N/A                        | N/A        | <9.8                                         | N/A         |
| SB3 (6'-8')       | 1/17/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | 0.0       | 0                           | N/A                        | N/A        | <9.90                                        | N/A         |
| SB3 (8'-10')      | 1/17/2018      | 32.17602°, -103.38123°   | CE - Caliche                                                   | Grey/ Fine        | 0.0       | 0                           | N/A                        | N/A        | 20.5                                         | N/A         |
| SB3 (10'-11')     | 1/17/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | 0.0       | 0                           | N/A                        | N/A        | 65.8                                         | N/A         |
| SB4 (0'-2')       | 1/17/2018      |                          | SP - Poorly - graded sands, gravelly sands, little or no fines | Red/Fine          | 0.0       | 5                           | N/A                        | N/A        | 39.8                                         | N/A         |
| SB4 (2'-4')       | 1/17/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | 0.0       | 5                           | N/A                        | N/A        | <9.96                                        | N/A         |
| SB4 (4'-6')       | 1/17/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | 0.0       | 0                           | N/A                        | N/A        | <9.78                                        | N/A         |
| SB4 (4'-6') DUP   | 1/18/2018      | 32.176090°, -103.381550° | CE - Caliche                                                   | Grey/ Fine        | 0.0       | 0                           | N/A                        | N/A        | <9.92                                        | N/A         |
| SB4 (6'-8')       | 1/17/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | 0.0       | 0                           | N/A                        | N/A        | <9.92                                        | N/A         |
| SB4 (8'-10')      | 1/17/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | 0.0       | 5                           | N/A                        | N/A        | <9.90                                        | N/A         |
| SB5 (0'-2')       | 1/17/2018      |                          | SP - Poorly - graded sands, gravelly sands, little or no fines | Red/Fine          | 0.0       | 55                          | <0.00332 U                 | <0.00332 U | 1330                                         | 43.2        |
| SB5 (2'-4')       | 1/17/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | 0.0       | 55                          | <0.00202 U                 | <0.00202 U | 1580                                         | <15.0 U     |
| SB5 (4'-6')       | 1/17/2018      | 32.176080°, -103.381720° | CE - Caliche                                                   | Grey/ Fine        | 0.0       | 175                         | <0.00201 U                 | <0.00201 U | 486                                          | <15.0 U     |
| SB5 (6'-8')       | 1/17/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | 0.0       | 20                          | <0.00199 U                 | <0.00199 U | 51.7                                         | <15.0 U     |
| SB5 (8'-10')      | 1/17/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | 0.0       | 5                           | <0.00200 U                 | <0.00200 U | 23.7                                         | <15.0 U     |
| SB6 (0'-2')       | 1/17/2018      |                          | SP - Poorly - graded sands, gravelly sands, little or no fines | Red/Fine          | 0.0       | 7                           | <0.00200 U                 | <0.00200 U | <4.98 U                                      | <15.0 U     |
| SB6 (2'-4')       | 1/17/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | 0.0       | 350                         | <0.00201 U                 | <0.00201 U | 404                                          | <15.0 U     |
| SB6 (4'-6')       | 1/17/2018      | 32.17618°, -103.38162°   | CE - Caliche                                                   | Grey/ Fine        | 0.0       | 470                         | <0.00200 U                 | <0.00200 U | 1070                                         | <15.0 U     |
| SB6 (6'-8')       | 1/17/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | 0.0       | 300                         | <0.00199 U                 | <0.00199 U | 454                                          | <15.0 U     |
| SB6 (8'-10')      | 1/17/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | 0.0       | 140                         | <0.00330 U                 | <0.00330 U | 121                                          | <15.0 U     |
| SB6 (10'-12')     | 1/17/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | 0.0       | 250                         | <0.00198 U                 | <0.00198 U | 540                                          | <15.0 U     |
| SB6 (12'-14')     | 1/17/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | 0.0       | 0                           | <0.00338 U                 | <0.00338 U | 162                                          | <15.0 U     |
| SB6 (14'-16')     | 1/17/2018      | 32.17627°, -103.38174°   | CE - Caliche                                                   | Grey/ Fine        | 0.0       | 0                           | <0.00346 U                 | <0.00346 U | 420                                          | <15.0 U     |
| SB7 (0'-2')       | 1/18/2018      |                          | SP - Poorly - graded sands, gravelly sands, little or no fines | Red/Fine          | 0.0       | 0                           | N/A                        | N/A        | <9.82                                        | N/A         |
| SB7 (2'-4')       | 1/18/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | 0.0       | 5                           | N/A                        | N/A        | <9.86                                        | N/A         |
| SB7 (4'-6')       | 1/18/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | 1.0       | 0                           | N/A                        | N/A        | <9.96                                        | N/A         |
| SB7 (6'-8')       | 1/18/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | 2.0       | 0                           | N/A                        | N/A        | <9.78                                        | N/A         |
| SB7 (8'-10')      | 1/18/2018      | 32.17618°, -103.38162°   | CE - Caliche and CS - sandstone with sand stringers            | Grey to Red/ Fine | 3.0       | 0                           | N/A                        | N/A        | <9.82                                        | N/A         |
| SB8 (0'-2')       | 1/18/2018      |                          | SP - Poorly - graded sands, gravelly sands, little or no fines | Red/Fine          | <1.0      | 0                           | <0.00202 U                 | <0.00202 U | <5.01 U                                      | <15.0 U     |
| SB8 (2'-4')       | 1/18/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | <1.0      | 0                           | <0.00200 U                 | <0.00200 U | <5.02 U                                      | <15.0 U     |
| SB8 (4'-6')       | 1/18/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | <1.0      | 0                           | <0.00200 U                 | <0.00200 U | 7.60                                         | <15.0 U     |
| SB8 (6'-8')       | 1/18/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | <1.0      | 5                           | <0.00199 U                 | <0.00199 U | <5.00 U                                      | <15.0 U     |
| SB8 (8'-10')      | 1/18/2018      | 32.17597°, -103.38126°   | CE - Caliche                                                   | Grey/ Fine        | <1.0      | 5                           | <0.00199 U                 | <0.00199 U | <5.00 U                                      | <15.0 U     |
| SB8 (8'-10') DUP  | 1/18/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | <1.0      | 5                           | N/A                        | N/A        | <10.0                                        | N/A         |
| SB9 (0'-2')       | 1/18/2018      |                          | SP - Poorly - graded sands, gravelly sands, little or no fines | Red/Fine          | <1.0      | 55                          | N/A                        | N/A        | 238                                          | N/A         |
| SB9 (2'-4')       | 1/18/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | <1.0      | 125                         | N/A                        | N/A        | 486                                          | N/A         |
| SB9 (4'-6')       | 1/18/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | <1.0      | 30                          | N/A                        | N/A        | 24.8                                         | N/A         |
| SB9 (6'-8')       | 1/18/2018      | 32.175830°, -103.381390° | CE - Caliche                                                   | Grey/ Fine        | <1.0      | 20                          | N/A                        | N/A        | 23.5                                         | N/A         |
| SB9 (8'-10')      | 1/18/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | <1.0      | 10                          | N/A                        | N/A        | <9.86                                        | N/A         |
| SB10 (0'-2')      | 1/18/2018      |                          | SP - Poorly - graded sands, gravelly sands, little or no fines | Red/Fine          | <1.0      | 0                           | <0.00200 U                 | <0.00200 U | <5.01 U                                      | <15.0 U     |
| SB10 (2'-4')      | 1/18/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | <1.0      | 5                           | <0.00199 U                 | <0.00199 U | <5.01 U                                      | <15.0 U     |
| SB10 (4'-6')      | 1/18/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | <1.0      | 5                           | <0.00200 U                 | <0.00200 U | 6.70                                         | <15.0 U     |
| SB10 (6'-8')      | 1/18/2018      | 32.175910°, -103.381490° | CE - Caliche                                                   | Grey/ Fine        | <1.0      | 5                           | <0.00201 U                 | <0.00201 U | <4.98 U                                      | <15.0 U     |
| SB10 (8'-10')     | 1/18/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | <1.0      | 0                           | <0.00200 U                 | <0.00200 U | 9.61                                         | <15.0 U     |
| SB11 (0'-2') (1)  | 1/23/2018      |                          | SP - Poorly - graded sands, gravelly sands, little or no fines | Red/Fine          | <1.0      | 0                           | N/A                        | N/A        | <5.00 U                                      | N/A         |
| SB11 (0'-2') (2)  | 1/23/2018      |                          | SP - Poorly - graded sands, gravelly sands, little or no fines | Red/Fine          | <1.0      | 0                           | N/A                        | N/A        | <5.00 U                                      | N/A         |
| SB11 (2'-4')      | 1/23/2018      | 32.176060°, -103.381730° | CE - Caliche                                                   | Grey/ Fine        | <1.0      | 0                           | N/A                        | N/A        | <5.00 U                                      | N/A         |
| SB11 (4'-6')      | 1/23/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | <1.0      | 10                          | N/A                        | N/A        | <5.00 U                                      | N/A         |
| SB11 (6'-8')      | 1/23/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | <1.0      | 10                          | N/A                        | N/A        | <5.00 U                                      | N/A         |
| SB11 (8'-10')     | 1/23/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | <1.0      | 10                          | N/A                        | N/A        | <5.00 U                                      | N/A         |
| SB11 (10'-11')    | 1/23/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | <1.0      | 0                           | N/A                        | N/A        | <5.00 U                                      | N/A         |
| SB12 (0'-2')      | 1/23/2018      | 32.175910°, -103.381490° | SP - Poorly - graded sands, gravelly sands, little or no fines | Red/Fine          | <1.0      | 0                           | N/A                        | N/A        | <5.00 U                                      | N/A         |
| SB12 (2'-4')      | 1/23/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | <1.0      | 5                           | N/A                        | N/A        | <5.00 U                                      | N/A         |
| SB12 (4'-6')      | 1/23/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | <1.0      | 0                           | N/A                        | N/A        | <5.00 U                                      | N/A         |
| SB12 (6'-8')      | 1/23/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | <1.0      | 5                           | N/A                        | N/A        | 8.43                                         | N/A         |
| SB12 (8'-10')     | 1/23/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | <1.0      | 5                           | N/A                        | N/A        | 22.6                                         | N/A         |
| SB12 (10'-11')    | 1/23/2018      | 32.176060°, -103.381730° | CE - Caliche                                                   | Grey/ Fine        | <1.0      | 0                           | N/A                        | N/A        | 40.2                                         | N/A         |
| SB13 (0'-2')      | 1/23/2018      |                          | SP - Poorly - graded sands, gravelly sands, little or no fines | Red/Fine          | <1.0      | 0                           | N/A                        | N/A        | <5.00 U                                      | N/A         |
| SB13 (2'-4')      | 1/23/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | <1.0      | 0                           | N/A                        | N/A        | <5.00 U                                      | N/A         |
| SB13 (4'-6')      | 1/23/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | <1.0      | 0                           | N/A                        | N/A        | <5.00 U                                      | N/A         |
| SB13 (4'-6')      | 1/23/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | <1.0      | 0                           | N/A                        | N/A        | <5.00 U                                      | N/A         |
| SB13 (6'-8')      | 1/23/2018      | 32.176060°, -103.381730° | CE - Caliche                                                   | Grey/ Fine        | <1.0      | 0                           | N/A                        | N/A        | <5.00 U                                      | N/A         |
| SB13 (8'-10')     | 1/23/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | <1.0      | 0                           | N/A                        | N/A        | <5.00 U                                      | N/A         |
| SB13 (10'-11')    | 1/23/2018      |                          | CE - Caliche                                                   | Red/Fine          | <1.0      | 0                           | N/A                        | N/A        | <5.00 U                                      | N/A         |
| SB14 (0'-2')      | 1/23/2018      |                          | SP - Poorly - graded sands, gravelly sands, little or no fines | Red/Fine          | <1.0      | 0                           | N/A                        | N/A        | <4.99 U                                      | N/A         |
| SB14 (2'-4')      | 1/23/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | <1.0      | 5                           | N/A                        | N/A        | 15.3                                         | N/A         |
| SB14 (4'-6')      | 1/23/2018      | 32.176060°, -103.381870° | CE - Caliche                                                   | Grey/ Fine        | <1.0      | 5                           | N/A                        | N/A        | 28.2                                         | N/A         |
| SB14 (6'-8')      | 1/23/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | <1.0      | 15                          | N/A                        | N/A        | 42.0                                         | N/A         |
| SB14 (8'-10')     | 1/23/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | <1.0      | 30                          | N/A                        | N/A        | 106                                          | N/A         |
| SB14 (8'-10') DUP | 1/23/2018      |                          | CE - Caliche                                                   | Grey/ Fine        | <1.0      | 30                          | N/A                        | N/A        | 119                                          | N/A         |

NOTE:  
NR = No Recovery  
PR = Probe Refusal  
NA = Not Analyzed  
DUP = Duplicate sample for analysis  
U = Analyte was not detected  
GPS locations are subject to a +/- foot margin of error.  
Highlight designates an exceedance in applicable criteria

## **APPENDIX C**

### Photography Exhibits

## Site Photographs



1. View of the spill area.



2. Additional view of spill area.



3. Typical view of borings installed via flight augers.



4. View of typical light red sand soil sample.



5. Typical view of a soil boring installed via flight augers within the ROW.



6. Typical view of boring installed via flight augers.

## **APPENDIX D**

Representative Logs – 1RP-4820

## RECORD OF SUBSURFACE EXPLORATION

## KJ Environmental & Civil Engineering

500 Moseley Road • Cross Roads, TX 76227  
940-387-0805 • FAX 940-387-0830

|                         |                                                        |                         |             |                          |          |                            |                  |
|-------------------------|--------------------------------------------------------|-------------------------|-------------|--------------------------|----------|----------------------------|------------------|
| <b>Client Name:</b>     | OWL SWD Operating, LLC                                 |                         |             | <b>Well/Boring #</b>     | BG       | <b>Date Drilled:</b>       | Jan. 17-23, 2018 |
| <b>Client Address:</b>  | 8214 Westchester Drive Suite #850, Dallas, Texas 75225 |                         |             | <b>Depth of Boring:</b>  | 8'       | <b>Diameter of Boring:</b> | 4"               |
| <b>Project Name:</b>    | Produced Water Pipeline Releases Nearby OWL SWD        |                         |             | <b>Depth of Well:</b>    | N/A      | <b>Diameter of Screen:</b> | N/A              |
| <b>Project Address:</b> | 32.1759, -103.3810 NAD 83                              |                         |             | <b>Length of Screen:</b> | N/A      | <b>Diameter of Casing:</b> | N/A              |
| <b>Driller:</b>         | Atkins Engineering Associates Inc.                     |                         |             | <b>Length of Casing:</b> | N/A      | <b>Slot Size:</b>          | N/A              |
| <b>Drilling Method:</b> | CME Rig                                                | <b>Sampling Method:</b> | Split Spoon | <b>Logged By:</b>        | James F. | <b>Well Material:</b>      | N/A              |

| Description / Remarks<br>(Color, Grain Size, Texture, Structure, Consistency, Moisture) | Depth<br>(feet) | Sample<br>Interval<br>(feet) | PID<br>(ppm)       | Chloride<br>Screening<br>(ppm) | Sample<br>Core<br>Zone | Well Completion<br><i>(graphical representation<br/>only, not to scale)</i> |  |  |  |  |
|-----------------------------------------------------------------------------------------|-----------------|------------------------------|--------------------|--------------------------------|------------------------|-----------------------------------------------------------------------------|--|--|--|--|
| Surface Type: Topsoil, Light Red fine SAND, (SP), poorly graded, dry                    |                 |                              | 0.0<br><div></div> |                                |                        | Bentonite                                                                   |  |  |  |  |
| Sub-surface Type: Red/light red SAND, (SP), poorly graded, dry                          | -1-             | 0.0-2.0                      |                    | 5                              |                        |                                                                             |  |  |  |  |
|                                                                                         | -2-             |                              |                    |                                |                        |                                                                             |  |  |  |  |
|                                                                                         | -3-             | 2.0-4.0                      |                    | 45                             |                        |                                                                             |  |  |  |  |
|                                                                                         | -4-             |                              |                    |                                |                        |                                                                             |  |  |  |  |
|                                                                                         | -5-             | 4.0-6.0                      |                    | 0                              |                        |                                                                             |  |  |  |  |
|                                                                                         | -6-             |                              |                    |                                |                        |                                                                             |  |  |  |  |
| -7-                                                                                     | 6.0-8.0         | 0                            |                    |                                |                        |                                                                             |  |  |  |  |
| -8-                                                                                     |                 |                              |                    |                                |                        |                                                                             |  |  |  |  |
| -9-                                                                                     |                 |                              |                    |                                |                        |                                                                             |  |  |  |  |
| -10-                                                                                    |                 |                              |                    |                                |                        |                                                                             |  |  |  |  |
| NOTE: No water was encountered throughout installation this boring                      | -11-            |                              |                    |                                |                        |                                                                             |  |  |  |  |
|                                                                                         | -12-            |                              |                    |                                |                        |                                                                             |  |  |  |  |
|                                                                                         | -13-            |                              |                    |                                |                        |                                                                             |  |  |  |  |
|                                                                                         | -14-            |                              |                    |                                |                        |                                                                             |  |  |  |  |
|                                                                                         | -15-            |                              |                    |                                |                        |                                                                             |  |  |  |  |
|                                                                                         | -20-            |                              |                    |                                |                        |                                                                             |  |  |  |  |
|                                                                                         | -21-            |                              |                    |                                |                        |                                                                             |  |  |  |  |
|                                                                                         | -22-            |                              |                    |                                |                        |                                                                             |  |  |  |  |
|                                                                                         | -23-            |                              |                    |                                |                        |                                                                             |  |  |  |  |
|                                                                                         | -24-            |                              |                    |                                |                        |                                                                             |  |  |  |  |
|                                                                                         | -27-            |                              |                    |                                |                        |                                                                             |  |  |  |  |
|                                                                                         | -28-            |                              |                    |                                |                        |                                                                             |  |  |  |  |
|                                                                                         | -29-            |                              |                    |                                |                        |                                                                             |  |  |  |  |
| <i>These logs should not be used separately from the original report.</i>               | -30-            |                              |                    |                                |                        |                                                                             |  |  |  |  |



## RECORD OF SUBSURFACE EXPLORATION

## KJ Environmental &amp; Civil Engineering

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|                                                                                                |                                                        |                         |             |                          |                               |                            |                                 |                         |                                                                         |  |
|------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------------------------|-------------|--------------------------|-------------------------------|----------------------------|---------------------------------|-------------------------|-------------------------------------------------------------------------|--|
| <b>Client Name:</b>                                                                            | OWL SWD Operating, LLC                                 |                         |             | <b>Well/Boring #</b>     | SB-1                          | <b>Date Drilled:</b>       | Jan. 17-23, 2018                |                         |                                                                         |  |
| <b>Client Address:</b>                                                                         | 8214 Westchester Drive Suite #850, Dallas, Texas 75225 |                         |             | <b>Depth of Boring:</b>  | 11.5'                         | <b>Diameter of Boring:</b> | 4"                              |                         |                                                                         |  |
| <b>Project Name:</b>                                                                           | Produced Water Pipeline Releases Nearby OWL SWD        |                         |             | <b>Depth of Well:</b>    | N/A                           | <b>Diameter of Screen:</b> | N/A                             |                         |                                                                         |  |
| <b>Project Address:</b>                                                                        | 32.1759, -103.3810 NAD 83                              |                         |             | <b>Length of Screen:</b> | N/A                           | <b>Diameter of Casing:</b> | N/A                             |                         |                                                                         |  |
| <b>Driller:</b>                                                                                | Atkins Engineering Associates Inc.                     |                         |             | <b>Length of Casing:</b> | N/A                           | <b>Slot Size:</b>          | N/A                             |                         |                                                                         |  |
| <b>Drilling Method:</b>                                                                        | CME Rig                                                | <b>Sampling Method:</b> | Split Spoon | <b>Logged By:</b>        | James F.                      | <b>Drilling Method:</b>    | CME Rig                         |                         |                                                                         |  |
| <b>Description / Remarks</b><br>(Color, Grain Size, Texture, Structure, Consistency, Moisture) |                                                        |                         |             | <b>Depth (feet)</b>      | <b>Sample Interval (feet)</b> | <b>PID (ppm)</b>           | <b>Chloride Screening (ppm)</b> | <b>Sample Core Zone</b> | <b>Well Completion</b><br>(graphical representation only, not to scale) |  |
| Surface Type: Topsoil, Light Red fine SAND, (SP), poorly graded, dry                           |                                                        |                         |             |                          |                               |                            |                                 |                         | Bentonite                                                               |  |
| Sub-surface Type: Red/light red SAND, (SP), poorly graded, dry                                 |                                                        |                         |             | -1-                      | 0.0-2.0                       | 0.0                        | 0                               |                         |                                                                         |  |
| Sub-surface Type: Grey Caliche, (CE), poorly graded, dry                                       |                                                        |                         |             | -2-                      |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -3-                      | 2.0-4.0                       |                            | 0                               |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -4-                      |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -5-                      | 4.0-6.0                       |                            | 0                               |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -6-                      |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -7-                      | 6.0-8.0                       |                            | 0                               |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -8-                      |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -9-                      | 8.0-10.0                      |                            | 0                               |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -10-                     |                               |                            |                                 |                         |                                                                         |  |
| NOTE: No water was encountered throughout installation this boring                             |                                                        |                         |             | -11-                     | 10.0-11.5                     |                            | 0                               |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -12-                     |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -13-                     |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -14-                     |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -15-                     |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -20-                     |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -21-                     |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -22-                     |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -23-                     |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -24-                     |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -27-                     |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -28-                     |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -29-                     |                               |                            |                                 |                         |                                                                         |  |
| These logs should not be used separately from the original report.                             |                                                        |                         |             | -30-                     |                               |                            |                                 |                         |                                                                         |  |



# RECORD OF SUBSURFACE EXPLORATION

## KJ Environmental & Civil Engineering

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|                         |                                                        |                         |             |                          |          |                            |                  |
|-------------------------|--------------------------------------------------------|-------------------------|-------------|--------------------------|----------|----------------------------|------------------|
| <b>Client Name:</b>     | OWL SWD Operating, LLC                                 |                         |             | <b>Well/Boring #</b>     | SB-2     | <b>Date Drilled:</b>       | Jan. 17-23, 2018 |
| <b>Client Address:</b>  | 8214 Westchester Drive Suite #850, Dallas, Texas 75225 |                         |             | <b>Depth of Boring:</b>  | 11'      | <b>Diameter of Boring:</b> | 4"               |
| <b>Project Name:</b>    | Produced Water Pipeline Releases Nearby OWL SWD        |                         |             | <b>Depth of Well:</b>    | N/A      | <b>Diameter of Screen:</b> | N/A              |
| <b>Project Address:</b> | 32.1759, -103.3810 NAD 83                              |                         |             | <b>Length of Screen:</b> | N/A      | <b>Diameter of Casing:</b> | N/A              |
| <b>Driller:</b>         | Atkins Engineering Associates Inc.                     |                         |             | <b>Length of Casing:</b> | N/A      | <b>Slot Size:</b>          | N/A              |
| <b>Drilling Method:</b> | CME Rig                                                | <b>Sampling Method:</b> | Split Spoon | <b>Logged By:</b>        | James F. | <b>Drilling Method:</b>    | CME Rig          |

| Description / Remarks<br>(Color, Grain Size, Texture, Structure, Consistency, Moisture) | Depth<br>(feet) | Sample<br>Interval<br>(feet) | PID<br>(ppm) | Chloride<br>Screening<br>(ppm) | Sample<br>Core<br>Zone | Well Completion<br>(graphical representation<br>only, not to scale) |  |  |
|-----------------------------------------------------------------------------------------|-----------------|------------------------------|--------------|--------------------------------|------------------------|---------------------------------------------------------------------|--|--|
| Surface Type: Topsoil, Light Red fine SAND, (SP), poorly graded, dry                    |                 |                              |              |                                |                        | Bentonite                                                           |  |  |
| Sub-surface Type: Red/light red SAND, (SP), poorly graded, dry                          | -1-             | 0.0-2.0                      | 0.6          | 10                             |                        |                                                                     |  |  |
| Sub-surface Type: Grey Caliche, (CE), poorly graded, dry                                | -2-             |                              |              |                                |                        |                                                                     |  |  |
|                                                                                         | -3-             | 2.0-4.0                      | 0.3          | 650                            |                        |                                                                     |  |  |
|                                                                                         | -4-             |                              |              |                                |                        |                                                                     |  |  |
|                                                                                         | -5-             | 4.0-6.0                      | 0.9          | 525                            |                        |                                                                     |  |  |
|                                                                                         | -6-             |                              |              |                                |                        |                                                                     |  |  |
| Sub-surface Type: Red Sandstone, (CS), with sand stringers, (SP), poorly graded, dry    | -7-             | 6.0-8.0                      | 1.0          | 10                             |                        |                                                                     |  |  |
|                                                                                         | -8-             |                              |              |                                |                        |                                                                     |  |  |
|                                                                                         | -9-             | 8.0-10.0                     | 0.9          | 5                              |                        |                                                                     |  |  |
| NOTE: No water was encountered throughout installation this boring                      | -10-            |                              |              |                                |                        |                                                                     |  |  |
|                                                                                         | -11-            | 10.0-11.0                    | 0.0          | 0                              |                        |                                                                     |  |  |
|                                                                                         | -12-            |                              |              |                                |                        |                                                                     |  |  |
|                                                                                         | -13-            |                              |              |                                |                        |                                                                     |  |  |
|                                                                                         | -14-            |                              |              |                                |                        |                                                                     |  |  |
|                                                                                         | -15-            |                              |              |                                |                        |                                                                     |  |  |
|                                                                                         | -20-            |                              |              |                                |                        |                                                                     |  |  |
|                                                                                         | -21-            |                              |              |                                |                        |                                                                     |  |  |
|                                                                                         | -22-            |                              |              |                                |                        |                                                                     |  |  |
|                                                                                         | -23-            |                              |              |                                |                        |                                                                     |  |  |
|                                                                                         | -24-            |                              |              |                                |                        |                                                                     |  |  |
|                                                                                         | -27-            |                              |              |                                |                        |                                                                     |  |  |
|                                                                                         | -28-            |                              |              |                                |                        |                                                                     |  |  |
|                                                                                         | -29-            |                              |              |                                |                        |                                                                     |  |  |
|                                                                                         | -30-            |                              |              |                                |                        |                                                                     |  |  |

These logs should not be used separately from the original report.



## RECORD OF SUBSURFACE EXPLORATION

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|                                                                                                |                                                        |                         |             |                          |                               |                            |                                 |                         |                                                                         |  |
|------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------------------------|-------------|--------------------------|-------------------------------|----------------------------|---------------------------------|-------------------------|-------------------------------------------------------------------------|--|
| <b>Client Name:</b>                                                                            | OWL SWD Operating, LLC                                 |                         |             | <b>Well/Boring #</b>     | SB-3                          | <b>Date Drilled:</b>       | Jan. 17-23, 2018                |                         |                                                                         |  |
| <b>Client Address:</b>                                                                         | 8214 Westchester Drive Suite #850, Dallas, Texas 75225 |                         |             | <b>Depth of Boring:</b>  | 11'                           | <b>Diameter of Boring:</b> | 4"                              |                         |                                                                         |  |
| <b>Project Name:</b>                                                                           | Produced Water Pipeline Releases Nearby OWL SWD        |                         |             | <b>Depth of Well:</b>    | N/A                           | <b>Diameter of Screen:</b> | N/A                             |                         |                                                                         |  |
| <b>Project Address:</b>                                                                        | 32.1759, -103.3810 NAD 83                              |                         |             | <b>Length of Screen:</b> | N/A                           | <b>Diameter of Casing:</b> | N/A                             |                         |                                                                         |  |
| <b>Driller:</b>                                                                                | Atkins Engineering Associates Inc.                     |                         |             | <b>Length of Casing:</b> | N/A                           | <b>Slot Size:</b>          | N/A                             |                         |                                                                         |  |
| <b>Drilling Method:</b>                                                                        | CME Rig                                                | <b>Sampling Method:</b> | Split Spoon | <b>Logged By:</b>        | James F.                      | <b>Drilling Method:</b>    | CME Rig                         |                         |                                                                         |  |
| <b>Description / Remarks</b><br>(Color, Grain Size, Texture, Structure, Consistency, Moisture) |                                                        |                         |             | <b>Depth (feet)</b>      | <b>Sample Interval (feet)</b> | <b>PID (ppm)</b>           | <b>Chloride Screening (ppm)</b> | <b>Sample Core Zone</b> | <b>Well Completion</b><br>(graphical representation only, not to scale) |  |
| Surface Type: Topsoil, Light Red fine SAND, (SP), poorly graded, dry                           |                                                        |                         |             |                          |                               |                            |                                 |                         | Bentonite                                                               |  |
| Sub-surface Type: Red/light red SAND, (SP), poorly graded, dry                                 |                                                        |                         |             | -1-                      | 0.0-2.0                       | 0.3                        | 0                               |                         |                                                                         |  |
| Sub-surface Type: Grey Caliche, (CE), poorly graded, dry                                       |                                                        |                         |             | -2-                      |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -3-                      | 2.0-4.0                       | 0.2                        | 0                               |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -4-                      |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -5-                      | 4.0-6.0                       | 0.0                        | 0                               |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -6-                      |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -7-                      | 6.0-8.0                       | 0.0                        | 0                               |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -8-                      |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -9-                      | 8.0-10.0                      | 0.0                        | 0                               |                         |                                                                         |  |
| NOTE: No water was encountered throughout installation this boring                             |                                                        |                         |             | -10-                     | 10.0-11.0                     | 0.0                        | 0                               |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -11-                     |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -12-                     |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -13-                     |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -14-                     |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -15-                     |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -20-                     |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -21-                     |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -22-                     |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -23-                     |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -24-                     |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -27-                     |                               |                            |                                 |                         |                                                                         |  |
| These logs should not be used separately from the original report.                             |                                                        |                         |             | -28-                     |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -29-                     |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -30-                     |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             |                          |                               |                            |                                 |                         |                                                                         |  |

## RECORD OF SUBSURFACE EXPLORATION

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|                         |                                                        |                         |             |                          |          |                            |                  |
|-------------------------|--------------------------------------------------------|-------------------------|-------------|--------------------------|----------|----------------------------|------------------|
| <b>Client Name:</b>     | OWL SWD Operating, LLC                                 |                         |             | <b>Well/Boring #</b>     | SB-4     | <b>Date Drilled:</b>       | Jan. 17-23, 2018 |
| <b>Client Address:</b>  | 8214 Westchester Drive Suite #850, Dallas, Texas 75225 |                         |             | <b>Depth of Boring:</b>  | 10.0'    | <b>Diameter of Boring:</b> | 4"               |
| <b>Project Name:</b>    | Produced Water Pipeline Releases Nearby OWL SWD        |                         |             | <b>Depth of Well:</b>    | N/A      | <b>Diameter of Screen:</b> | N/A              |
| <b>Project Address:</b> | 32.1759, -103.3810 NAD 83                              |                         |             | <b>Length of Screen:</b> | N/A      | <b>Diameter of Casing:</b> | N/A              |
| <b>Driller:</b>         | Atkins Engineering Associates Inc.                     |                         |             | <b>Length of Casing:</b> | N/A      | <b>Slot Size:</b>          | N/A              |
| <b>Drilling Method:</b> | CME Rig                                                | <b>Sampling Method:</b> | Split Spoon | <b>Logged By:</b>        | James F. | <b>Drilling Method:</b>    | CME Rig          |

| Description / Remarks<br>(Color, Grain Size, Texture, Structure, Consistency, Moisture) | Depth<br>(feet) | Sample<br>Interval<br>(feet) | PID<br>(ppm) | Chloride<br>Screening<br>(ppm) | Sample<br>Core<br>Zone | Well Completion<br><i>(graphical representation<br/>only, not to scale)</i> |  |  |
|-----------------------------------------------------------------------------------------|-----------------|------------------------------|--------------|--------------------------------|------------------------|-----------------------------------------------------------------------------|--|--|
| Surface Type: Topsoil, Light Red fine SAND, (SP), poorly graded, dry                    |                 |                              |              |                                |                        | Bentonite                                                                   |  |  |
| Sub-surface Type: Red/light red SAND, (SP), poorly graded, dry                          | -1-             | 0.0-2.0                      | 0.0          | 5                              |                        |                                                                             |  |  |
| Sub-surface Type: Grey Caliche, (CE), poorly graded, dry                                | -2-             |                              |              |                                |                        |                                                                             |  |  |
|                                                                                         | -3-             | 2.0-4.0                      |              | 5                              |                        |                                                                             |  |  |
|                                                                                         | -4-             |                              |              |                                |                        |                                                                             |  |  |
|                                                                                         | -5-             | 4.0-6.0                      |              | 0                              |                        |                                                                             |  |  |
|                                                                                         | -6-             |                              |              |                                |                        |                                                                             |  |  |
|                                                                                         | -7-             | 6.0-8.0                      |              | 0                              |                        |                                                                             |  |  |
|                                                                                         | -8-             |                              |              |                                |                        |                                                                             |  |  |
|                                                                                         | -9-             | 8.0-10.0                     |              | 5                              |                        |                                                                             |  |  |
|                                                                                         | -10-            |                              |              |                                |                        |                                                                             |  |  |
| NOTE: No water was encountered throughout installation this boring                      | -11-            |                              |              |                                |                        |                                                                             |  |  |
|                                                                                         | -12-            |                              |              |                                |                        |                                                                             |  |  |
|                                                                                         | -13-            |                              |              |                                |                        |                                                                             |  |  |
|                                                                                         | -14-            |                              |              |                                |                        |                                                                             |  |  |
|                                                                                         | -15-            |                              |              |                                |                        |                                                                             |  |  |
|                                                                                         | -20-            |                              |              |                                |                        |                                                                             |  |  |
|                                                                                         | -21-            |                              |              |                                |                        |                                                                             |  |  |
|                                                                                         | -22-            |                              |              |                                |                        |                                                                             |  |  |
|                                                                                         | -23-            |                              |              |                                |                        |                                                                             |  |  |
|                                                                                         | -24-            |                              |              |                                |                        |                                                                             |  |  |
|                                                                                         | -27-            |                              |              |                                |                        |                                                                             |  |  |
|                                                                                         | -28-            |                              |              |                                |                        |                                                                             |  |  |
|                                                                                         | -29-            |                              |              |                                |                        |                                                                             |  |  |
|                                                                                         | -30-            |                              |              |                                |                        |                                                                             |  |  |
| These logs should not be used separately from the original report.                      |                 |                              |              |                                |                        |                                                                             |  |  |



## RECORD OF SUBSURFACE EXPLORATION

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|------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------------------------|-------------|--------------------------|-------------------------------|----------------------------|---------------------------------|-------------------------|-------------------------------------------------------------------------|--|
| <b>Client Name:</b>                                                                            | OWL SWD Operating, LLC                                 |                         |             | <b>Well/Boring #</b>     | SB-5                          | <b>Date Drilled:</b>       | Jan. 17-23, 2018                |                         |                                                                         |  |
| <b>Client Address:</b>                                                                         | 8214 Westchester Drive Suite #850, Dallas, Texas 75225 |                         |             | <b>Depth of Boring:</b>  | 10.0'                         | <b>Diameter of Boring:</b> | 4"                              |                         |                                                                         |  |
| <b>Project Name:</b>                                                                           | Produced Water Pipeline Releases Nearby OWL SWD        |                         |             | <b>Depth of Well:</b>    | N/A                           | <b>Diameter of Screen:</b> | N/A                             |                         |                                                                         |  |
| <b>Project Address:</b>                                                                        | 32.1759, -103.3810 NAD 83                              |                         |             | <b>Length of Screen:</b> | N/A                           | <b>Diameter of Casing:</b> | N/A                             |                         |                                                                         |  |
| <b>Driller:</b>                                                                                | Atkins Engineering Associates Inc.                     |                         |             | <b>Length of Casing:</b> | N/A                           | <b>Slot Size:</b>          | N/A                             |                         |                                                                         |  |
| <b>Drilling Method:</b>                                                                        | CME Rig                                                | <b>Sampling Method:</b> | Split Spoon | <b>Logged By:</b>        | James F.                      | <b>Drilling Method:</b>    | CME Rig                         |                         |                                                                         |  |
| <b>Description / Remarks</b><br>(Color, Grain Size, Texture, Structure, Consistency, Moisture) |                                                        |                         |             | <b>Depth (feet)</b>      | <b>Sample Interval (feet)</b> | <b>PID (ppm)</b>           | <b>Chloride Screening (ppm)</b> | <b>Sample Core Zone</b> | <b>Well Completion</b><br>(graphical representation only, not to scale) |  |
| Surface Type: Topsoil, Light Red fine SAND, (SP), poorly graded, dry                           |                                                        |                         |             |                          |                               |                            |                                 |                         | Bentonite                                                               |  |
| Sub-surface Type: Red/light red SAND, (SP), poorly graded, dry                                 |                                                        |                         |             | -1-                      | 0.0-2.0                       | 0.0                        | 55                              |                         |                                                                         |  |
| Sub-surface Type: Grey Caliche, (CE), poorly graded, dry                                       |                                                        |                         |             | -2-                      |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -3-                      | 2.0-4.0                       |                            | 55                              |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -4-                      |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -5-                      | 4.0-6.0                       |                            | 175                             |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -6-                      |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -7-                      | 6.0-8.0                       |                            | 20                              |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -8-                      |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -9-                      | 8.0-10.0                      |                            | 5                               |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -10-                     |                               |                            |                                 |                         |                                                                         |  |
| NOTE: No water was encountered throughout installation this boring                             |                                                        |                         |             | -11-                     |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -12-                     |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -13-                     |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -14-                     |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -15-                     |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -20-                     |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -21-                     |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -22-                     |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -23-                     |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -24-                     |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -27-                     |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -28-                     |                               |                            |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -29-                     |                               |                            |                                 |                         |                                                                         |  |
| These logs should not be used separately from the original report.                             |                                                        |                         |             | -30-                     |                               |                            |                                 |                         |                                                                         |  |



# RECORD OF SUBSURFACE EXPLORATION

## KJ Environmental & Civil Engineering

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|                                                                                                |                                                        |                         |             |                          |                               |                            |                                 |                         |                                                                         |
|------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------------------------|-------------|--------------------------|-------------------------------|----------------------------|---------------------------------|-------------------------|-------------------------------------------------------------------------|
| <b>Client Name:</b>                                                                            | OWL SWD Operating, LLC                                 |                         |             | <b>Well/Boring #</b>     | SB-6                          | <b>Date Drilled:</b>       | Jan. 17-23, 2018                |                         |                                                                         |
| <b>Client Address:</b>                                                                         | 8214 Westchester Drive Suite #850, Dallas, Texas 75225 |                         |             | <b>Depth of Boring:</b>  | 16'                           | <b>Diameter of Boring:</b> | 4"                              |                         |                                                                         |
| <b>Project Name:</b>                                                                           | Produced Water Pipeline Releases Nearby OWL SWD        |                         |             | <b>Depth of Well:</b>    | N/A                           | <b>Diameter of Screen:</b> | N/A                             |                         |                                                                         |
| <b>Project Address:</b>                                                                        | 32.1759, -103.3810 NAD 83                              |                         |             | <b>Length of Screen:</b> | N/A                           | <b>Diameter of Casing:</b> | N/A                             |                         |                                                                         |
| <b>Driller:</b>                                                                                | Atkins Engineering Associates Inc.                     |                         |             | <b>Length of Casing:</b> | N/A                           | <b>Slot Size:</b>          | N/A                             |                         |                                                                         |
| <b>Drilling Method:</b>                                                                        | CME Rig                                                | <b>Sampling Method:</b> | Split Spoon | <b>Logged By:</b>        | James F.                      | <b>Drilling Method:</b>    | CME Rig                         |                         |                                                                         |
| <b>Description / Remarks</b><br>(Color, Grain Size, Texture, Structure, Consistency, Moisture) |                                                        |                         |             | <b>Depth (feet)</b>      | <b>Sample Interval (feet)</b> | <b>PID (ppm)</b>           | <b>Chloride Screening (ppm)</b> | <b>Sample Core Zone</b> | <b>Well Completion</b><br>(graphical representation only, not to scale) |
| Surface Type: Topsoil, Light Red fine SAND, (SP), poorly graded, dry                           |                                                        |                         |             |                          |                               |                            |                                 |                         | Bentonite                                                               |
| Sub-surface Type: Red/light red SAND, (SP), poorly graded, dry                                 |                                                        |                         |             | -1-                      | 0.0-2.0                       | 0.0                        | 7                               |                         |                                                                         |
| Sub-surface Type: Grey Caliche, (CE), poorly graded, dry                                       |                                                        |                         |             | -2-                      |                               |                            |                                 |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -3-                      | 2.0-4.0                       |                            | 350                             |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -4-                      |                               |                            |                                 |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -5-                      | 4.0-6.0                       |                            | 470                             |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -6-                      |                               |                            |                                 |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -7-                      | 6.0-8.0                       |                            | 300                             |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -8-                      |                               |                            |                                 |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -9-                      | 8.0-10.0                      |                            | 140                             |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -10-                     |                               |                            |                                 |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -11-                     | 10.0-12.0                     |                            | 250                             |                         |                                                                         |
| NOTE: No water was encountered throughout installation this boring                             |                                                        |                         |             | -12-                     |                               |                            |                                 |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -13-                     | 12.0-14.0                     |                            | 0                               |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -14-                     |                               |                            |                                 |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -15-                     | 14.0-16.0                     |                            | 0                               |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -16-                     |                               |                            |                                 |                         |                                                                         |
|                                                                                                |                                                        |                         |             |                          |                               |                            |                                 |                         |                                                                         |

*These logs should not be used separately from the original report.*



# RECORD OF SUBSURFACE EXPLORATION

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| <b>Client Name:</b>                                                                                          | OWL SWD Operating, LLC                                 |                         |             | <b>Well/Boring #</b>     | SB-7                         | <b>Date Drilled:</b>       | Jan. 17-23, 2018               |                        |                                                                     |  |
|--------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------------------------|-------------|--------------------------|------------------------------|----------------------------|--------------------------------|------------------------|---------------------------------------------------------------------|--|
| <b>Client Address:</b>                                                                                       | 8214 Westchester Drive Suite #850, Dallas, Texas 75225 |                         |             | <b>Depth of Boring:</b>  | 10.0'                        | <b>Diameter of Boring:</b> | 4"                             |                        |                                                                     |  |
| <b>Project Name:</b>                                                                                         | Produced Water Pipeline Releases Nearby OWL SWD        |                         |             | <b>Depth of Well:</b>    | N/A                          | <b>Diameter of Screen:</b> | N/A                            |                        |                                                                     |  |
| <b>Project Address:</b>                                                                                      | 32.1759, -103.3810 NAD 83                              |                         |             | <b>Length of Screen:</b> | N/A                          | <b>Diameter of Casing:</b> | N/A                            |                        |                                                                     |  |
| <b>Driller:</b>                                                                                              | Atkins Engineering Associates Inc.                     |                         |             | <b>Length of Casing:</b> | N/A                          | <b>Slot Size:</b>          | N/A                            |                        |                                                                     |  |
| <b>Drilling Method:</b>                                                                                      | CME Rig                                                | <b>Sampling Method:</b> | Split Spoon | <b>Logged By:</b>        | James F.                     | <b>Drilling Method:</b>    | CME Rig                        |                        |                                                                     |  |
| Description / Remarks<br>(Color, Grain Size, Texture, Structure, Consistency, Moisture)                      |                                                        |                         |             | Depth<br>(feet)          | Sample<br>Interval<br>(feet) | PID<br>(ppm)               | Chloride<br>Screening<br>(ppm) | Sample<br>Core<br>Zone | Well Completion<br>(graphical representation<br>only, not to scale) |  |
| Surface Type: Topsoil, Light Red fine SAND, (SP), poorly graded, dry                                         |                                                        |                         |             |                          |                              |                            |                                |                        | Bentonite                                                           |  |
| Sub-surface Type: Red/light red SAND, (SP), poorly graded, dry                                               |                                                        |                         |             | -1-                      | 0.0-2.0                      | 0.0                        | 0                              |                        |                                                                     |  |
| Sub-surface Type: Grey Caliche, (CE), poorly graded, dry                                                     |                                                        |                         |             | -2-                      |                              |                            |                                |                        |                                                                     |  |
|                                                                                                              |                                                        |                         |             | -3-                      | 2.0-4.0                      | 0.0                        | 5                              |                        |                                                                     |  |
|                                                                                                              |                                                        |                         |             | -4-                      |                              |                            |                                |                        |                                                                     |  |
|                                                                                                              |                                                        |                         |             | -5-                      | 4.0-6.0                      | 1.0                        | 0                              |                        |                                                                     |  |
|                                                                                                              |                                                        |                         |             | -6-                      |                              |                            |                                |                        |                                                                     |  |
| Sub-surface Type: Grey Caliche, (CE), and Red Sandstone, (CS), with sand stringers, (SP), poorly graded, dry |                                                        |                         |             | -7-                      | 6.0-8.0                      | 2.0                        | 0                              |                        |                                                                     |  |
|                                                                                                              |                                                        |                         |             | -8-                      |                              |                            |                                |                        |                                                                     |  |
|                                                                                                              |                                                        |                         |             | -9-                      | 8.0-10.0                     | 3.0                        | 0                              |                        |                                                                     |  |
| NOTE: No water was encountered throughout installation this boring                                           |                                                        |                         |             | -10-                     |                              |                            |                                |                        |                                                                     |  |
|                                                                                                              |                                                        |                         |             | -11-                     |                              |                            |                                |                        |                                                                     |  |
|                                                                                                              |                                                        |                         |             | -12-                     |                              |                            |                                |                        |                                                                     |  |
|                                                                                                              |                                                        |                         |             | -13-                     |                              |                            |                                |                        |                                                                     |  |
|                                                                                                              |                                                        |                         |             | -14-                     |                              |                            |                                |                        |                                                                     |  |
|                                                                                                              |                                                        |                         |             | -15-                     |                              |                            |                                |                        |                                                                     |  |
|                                                                                                              |                                                        |                         |             | -20-                     |                              |                            |                                |                        |                                                                     |  |
|                                                                                                              |                                                        |                         |             | -21-                     |                              |                            |                                |                        |                                                                     |  |
|                                                                                                              |                                                        |                         |             | -22-                     |                              |                            |                                |                        |                                                                     |  |
|                                                                                                              |                                                        |                         |             | -23-                     |                              |                            |                                |                        |                                                                     |  |
|                                                                                                              |                                                        |                         |             | -24-                     |                              |                            |                                |                        |                                                                     |  |
| These logs should not be used separately from the original report.                                           |                                                        |                         |             | -27-                     |                              |                            |                                |                        |                                                                     |  |
|                                                                                                              |                                                        |                         |             | -28-                     |                              |                            |                                |                        |                                                                     |  |
|                                                                                                              |                                                        |                         |             | -29-                     |                              |                            |                                |                        |                                                                     |  |
|                                                                                                              |                                                        |                         |             | -30-                     |                              |                            |                                |                        |                                                                     |  |
|                                                                                                              |                                                        |                         |             |                          |                              |                            |                                |                        |                                                                     |  |



## RECORD OF SUBSURFACE EXPLORATION

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|                                                                                                |                                                        |                         |             |                          |                               |                                |                                 |                         |                                                                         |  |
|------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------------------------|-------------|--------------------------|-------------------------------|--------------------------------|---------------------------------|-------------------------|-------------------------------------------------------------------------|--|
| <b>Client Name:</b>                                                                            | OWL SWD Operating, LLC                                 |                         |             | <b>Well/Boring #</b>     | SB-8                          | <b>Date Drilled:</b>           | Jan. 17-23, 2018                |                         |                                                                         |  |
| <b>Client Address:</b>                                                                         | 8214 Westchester Drive Suite #850, Dallas, Texas 75225 |                         |             | <b>Depth of Boring:</b>  | 10.0'                         | <b>Diameter of Boring:</b>     | 4"                              |                         |                                                                         |  |
| <b>Project Name:</b>                                                                           | Produced Water Pipeline Releases Nearby OWL SWD        |                         |             | <b>Depth of Well:</b>    | N/A                           | <b>Diameter of Screen:</b>     | N/A                             |                         |                                                                         |  |
| <b>Project Address:</b>                                                                        | 32.1759, -103.3810 NAD 83                              |                         |             | <b>Length of Screen:</b> | N/A                           | <b>Diameter of Casing:</b>     | N/A                             |                         |                                                                         |  |
| <b>Driller:</b>                                                                                | Atkins Engineering Associates Inc.                     |                         |             | <b>Length of Casing:</b> | N/A                           | <b>Slot Size:</b>              | N/A                             |                         |                                                                         |  |
| <b>Drilling Method:</b>                                                                        | CME Rig                                                | <b>Sampling Method:</b> | Split Spoon | <b>Logged By:</b>        | James F.                      | <b>Drilling Method:</b>        | CME Rig                         |                         |                                                                         |  |
| <b>Description / Remarks</b><br>(Color, Grain Size, Texture, Structure, Consistency, Moisture) |                                                        |                         |             | <b>Depth (feet)</b>      | <b>Sample Interval (feet)</b> | <b>PID (ppm)</b>               | <b>Chloride Screening (ppm)</b> | <b>Sample Core Zone</b> | <b>Well Completion</b><br>(graphical representation only, not to scale) |  |
| Surface Type: Topsoil, Light Red fine SAND, (SP), poorly graded, dry                           |                                                        |                         |             |                          |                               |                                |                                 |                         | Bentonite                                                               |  |
| Sub-surface Type: Red/light red SAND, (SP), poorly graded, dry                                 |                                                        |                         |             | -1-                      | 0.0-2.0                       | <div>&lt;1.0</div> <div></div> | 0                               |                         |                                                                         |  |
| Sub-surface Type: Grey Caliche, (CE), poorly graded, dry                                       |                                                        |                         |             | -2-                      |                               |                                |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -3-                      | 2.0-4.0                       |                                | 0                               |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -4-                      |                               |                                |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -5-                      | 4.0-6.0                       |                                | 0                               |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -6-                      |                               |                                |                                 |                         |                                                                         |  |
| NOTE: No water was encountered throughout installation this boring                             |                                                        |                         |             | -7-                      | 6.0-8.0                       | 5                              |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -8-                      |                               |                                |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -9-                      | 8.0-10.0                      | 5                              |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -10-                     |                               |                                |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -11-                     |                               |                                |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -12-                     |                               |                                |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -13-                     |                               |                                |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -14-                     |                               |                                |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -15-                     |                               |                                |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -20-                     |                               |                                |                                 |                         |                                                                         |  |
| -21-                                                                                           |                                                        |                         |             |                          |                               |                                |                                 |                         |                                                                         |  |
| -22-                                                                                           |                                                        |                         |             |                          |                               |                                |                                 |                         |                                                                         |  |
| -23-                                                                                           |                                                        |                         |             |                          |                               |                                |                                 |                         |                                                                         |  |
| -24-                                                                                           |                                                        |                         |             |                          |                               |                                |                                 |                         |                                                                         |  |
| -27-                                                                                           |                                                        |                         |             |                          |                               |                                |                                 |                         |                                                                         |  |
| -28-                                                                                           |                                                        |                         |             |                          |                               |                                |                                 |                         |                                                                         |  |
| -29-                                                                                           |                                                        |                         |             |                          |                               |                                |                                 |                         |                                                                         |  |
| These logs should not be used separately from the original report.                             |                                                        |                         |             | -30-                     |                               |                                |                                 |                         |                                                                         |  |



## RECORD OF SUBSURFACE EXPLORATION

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|                                                                                                |                                                        |                         |             |                          |                               |                                |                                 |                         |                                                                         |  |
|------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------------------------|-------------|--------------------------|-------------------------------|--------------------------------|---------------------------------|-------------------------|-------------------------------------------------------------------------|--|
| <b>Client Name:</b>                                                                            | OWL SWD Operating, LLC                                 |                         |             | <b>Well/Boring #</b>     | SB-9                          | <b>Date Drilled:</b>           | Jan. 17-23, 2018                |                         |                                                                         |  |
| <b>Client Address:</b>                                                                         | 8214 Westchester Drive Suite #850, Dallas, Texas 75225 |                         |             | <b>Depth of Boring:</b>  | 10.0'                         | <b>Diameter of Boring:</b>     | 4"                              |                         |                                                                         |  |
| <b>Project Name:</b>                                                                           | Produced Water Pipeline Releases Nearby OWL SWD        |                         |             | <b>Depth of Well:</b>    | N/A                           | <b>Diameter of Screen:</b>     | N/A                             |                         |                                                                         |  |
| <b>Project Address:</b>                                                                        | 32.1759, -103.3810 NAD 83                              |                         |             | <b>Length of Screen:</b> | N/A                           | <b>Diameter of Casing:</b>     | N/A                             |                         |                                                                         |  |
| <b>Driller:</b>                                                                                | Atkins Engineering Associates Inc.                     |                         |             | <b>Length of Casing:</b> | N/A                           | <b>Slot Size:</b>              | N/A                             |                         |                                                                         |  |
| <b>Drilling Method:</b>                                                                        | CME Rig                                                | <b>Sampling Method:</b> | Split Spoon | <b>Logged By:</b>        | James F.                      | <b>Drilling Method:</b>        | CME Rig                         |                         |                                                                         |  |
| <b>Description / Remarks</b><br>(Color, Grain Size, Texture, Structure, Consistency, Moisture) |                                                        |                         |             | <b>Depth (feet)</b>      | <b>Sample Interval (feet)</b> | <b>PID (ppm)</b>               | <b>Chloride Screening (ppm)</b> | <b>Sample Core Zone</b> | <b>Well Completion</b><br>(graphical representation only, not to scale) |  |
| Surface Type: Topsoil, Light Red fine SAND, (SP), poorly graded, dry                           |                                                        |                         |             |                          |                               |                                |                                 |                         | Bentonite                                                               |  |
| Sub-surface Type: Red/light red SAND, (SP), poorly graded, dry                                 |                                                        |                         |             | -1-                      | 0.0-2.0                       | <div>&lt;1.0</div> <div></div> | 55                              |                         |                                                                         |  |
| Sub-surface Type: Grey Caliche, (CE), poorly graded, dry                                       |                                                        |                         |             | -2-                      |                               |                                |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -3-                      | 2.0-4.0                       |                                | 125                             |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -4-                      |                               |                                |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -5-                      | 4.0-6.0                       |                                | 30                              |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -6-                      |                               |                                |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -7-                      | 6.0-8.0                       |                                | 20                              |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -8-                      |                               |                                |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -9-                      | 8.0-10.0                      |                                | 10                              |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -10-                     |                               |                                |                                 |                         |                                                                         |  |
| NOTE: No water was encountered throughout installation this boring                             |                                                        |                         |             | -11-                     |                               |                                |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -12-                     |                               |                                |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -13-                     |                               |                                |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -14-                     |                               |                                |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -15-                     |                               |                                |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -20-                     |                               |                                |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -21-                     |                               |                                |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -22-                     |                               |                                |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -23-                     |                               |                                |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -24-                     |                               |                                |                                 |                         |                                                                         |  |
| These logs should not be used separately from the original report.                             |                                                        |                         |             | -27-                     |                               |                                |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -28-                     |                               |                                |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -29-                     |                               |                                |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             | -30-                     |                               |                                |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             |                          |                               |                                |                                 |                         |                                                                         |  |
|                                                                                                |                                                        |                         |             |                          |                               |                                |                                 |                         |                                                                         |  |



## RECORD OF SUBSURFACE EXPLORATION

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|                                                                                                |                                                        |                         |             |                          |                               |                            |                                 |                         |                                                                         |
|------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------------------------|-------------|--------------------------|-------------------------------|----------------------------|---------------------------------|-------------------------|-------------------------------------------------------------------------|
| <b>Client Name:</b>                                                                            | OWL SWD Operating, LLC                                 |                         |             | <b>Well/Boring #</b>     | SB-10                         | <b>Date Drilled:</b>       | Jan. 17-23, 2018                |                         |                                                                         |
| <b>Client Address:</b>                                                                         | 8214 Westchester Drive Suite #850, Dallas, Texas 75225 |                         |             | <b>Depth of Boring:</b>  | 10.0'                         | <b>Diameter of Boring:</b> | 4"                              |                         |                                                                         |
| <b>Project Name:</b>                                                                           | Produced Water Pipeline Releases Nearby OWL SWD        |                         |             | <b>Depth of Well:</b>    | N/A                           | <b>Diameter of Screen:</b> | N/A                             |                         |                                                                         |
| <b>Project Address:</b>                                                                        | 32.1759, -103.3810 NAD 83                              |                         |             | <b>Length of Screen:</b> | N/A                           | <b>Diameter of Casing:</b> | N/A                             |                         |                                                                         |
| <b>Driller:</b>                                                                                | Atkins Engineering Associates Inc.                     |                         |             | <b>Length of Casing:</b> | N/A                           | <b>Slot Size:</b>          | N/A                             |                         |                                                                         |
| <b>Drilling Method:</b>                                                                        | CME Rig                                                | <b>Sampling Method:</b> | Split Spoon | <b>Logged By:</b>        | James F.                      | <b>Drilling Method:</b>    | CME Rig                         |                         |                                                                         |
| <b>Description / Remarks</b><br>(Color, Grain Size, Texture, Structure, Consistency, Moisture) |                                                        |                         |             | <b>Depth (feet)</b>      | <b>Sample Interval (feet)</b> | <b>PID (ppm)</b>           | <b>Chloride Screening (ppm)</b> | <b>Sample Core Zone</b> | <b>Well Completion</b><br>(graphical representation only, not to scale) |
| Surface Type: Topsoil, Light Red fine SAND, (SP), poorly graded, dry                           |                                                        |                         |             |                          |                               |                            |                                 |                         | Bentonite                                                               |
| Sub-surface Type: Red/light red SAND, (SP), poorly graded, dry                                 |                                                        |                         |             | -1-                      | 0.0-2.0                       | <1.0                       | 5                               |                         |                                                                         |
| Sub-surface Type: Grey Caliche, (CE), poorly graded, dry                                       |                                                        |                         |             | -2-                      |                               |                            |                                 |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -3-                      | 2.0-4.0                       |                            | 5                               |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -4-                      |                               |                            |                                 |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -5-                      | 4.0-6.0                       |                            | 5                               |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -6-                      |                               |                            |                                 |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -7-                      | 6.0-8.0                       |                            | 0                               |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -8-                      |                               |                            |                                 |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -9-                      | 8.0-10.0                      |                            | 0                               |                         |                                                                         |
| NOTE: No water was encountered throughout installation this boring                             |                                                        |                         |             | -10-                     |                               |                            |                                 |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -11-                     |                               |                            |                                 |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -12-                     |                               |                            |                                 |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -13-                     |                               |                            |                                 |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -14-                     |                               |                            |                                 |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -15-                     |                               |                            |                                 |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -20-                     |                               |                            |                                 |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -21-                     |                               |                            |                                 |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -22-                     |                               |                            |                                 |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -23-                     |                               |                            |                                 |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -24-                     |                               |                            |                                 |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -27-                     |                               |                            |                                 |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -28-                     |                               |                            |                                 |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -29-                     |                               |                            |                                 |                         |                                                                         |
| These logs should not be used separately from the original report.                             |                                                        |                         |             | -30-                     |                               |                            |                                 |                         |                                                                         |

## RECORD OF SUBSURFACE EXPLORATION

## KJ Environmental & Civil Engineering

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940-387-0805 • FAX 940-387-0830

|                         |                                                        |                         |             |                          |          |                            |                  |
|-------------------------|--------------------------------------------------------|-------------------------|-------------|--------------------------|----------|----------------------------|------------------|
| <b>Client Name:</b>     | OWL SWD Operating, LLC                                 |                         |             | <b>Well/Boring #</b>     | SB-11    | <b>Date Drilled:</b>       | Jan. 17-23, 2018 |
| <b>Client Address:</b>  | 8214 Westchester Drive Suite #850, Dallas, Texas 75225 |                         |             | <b>Depth of Boring:</b>  | 11'      | <b>Diameter of Boring:</b> | 4"               |
| <b>Project Name:</b>    | Produced Water Pipeline Releases Nearby OWL SWD        |                         |             | <b>Depth of Well:</b>    | N/A      | <b>Diameter of Screen:</b> | N/A              |
| <b>Project Address:</b> | 32.1759, -103.3810 NAD 83                              |                         |             | <b>Length of Screen:</b> | N/A      | <b>Diameter of Casing:</b> | N/A              |
| <b>Driller:</b>         | Atkins Engineering Associates Inc.                     |                         |             | <b>Length of Casing:</b> | N/A      | <b>Slot Size:</b>          | N/A              |
| <b>Drilling Method:</b> | CME Rig                                                | <b>Sampling Method:</b> | Split Spoon | <b>Logged By:</b>        | James F. | <b>Drilling Method:</b>    | CME Rig          |

| Description / Remarks<br>(Color, Grain Size, Texture, Structure, Consistency, Moisture) | Depth<br>(feet)                                                         | Sample<br>Interval<br>(feet) | PID<br>(ppm)       | Chloride<br>Screening<br>(ppm) | Sample<br>Core<br>Zone | Well Completion<br>(graphical representation<br>only, not to scale) |  |  |
|-----------------------------------------------------------------------------------------|-------------------------------------------------------------------------|------------------------------|--------------------|--------------------------------|------------------------|---------------------------------------------------------------------|--|--|
| Surface Type: Topsoil, Light Red fine SAND, (SP), poorly graded, dry                    | -1-<br><br>-2-<br>-3-<br>-4-<br>-5-<br>-6-<br>-7-<br>-8-<br>-9-<br>-10- |                              | <div>&lt;1.0</div> |                                |                        | Bentonite                                                           |  |  |
| Sub-surface Type: Red/light red SAND, (SP), poorly graded, dry                          |                                                                         | 0.0-2.0                      |                    | 0                              |                        |                                                                     |  |  |
| Sub-surface Type: Grey Caliche, (CE), poorly graded, dry                                |                                                                         | 2.0-4.0                      |                    | 0                              |                        |                                                                     |  |  |
|                                                                                         |                                                                         | 4.0-6.0                      |                    | 10                             |                        |                                                                     |  |  |
|                                                                                         |                                                                         | 6.0-8.0                      |                    | 10                             |                        |                                                                     |  |  |
|                                                                                         |                                                                         | 8.0-10.0                     |                    | 10                             |                        |                                                                     |  |  |
|                                                                                         |                                                                         | 10.0-11.0                    |                    | 0                              |                        |                                                                     |  |  |
|                                                                                         |                                                                         |                              |                    |                                |                        |                                                                     |  |  |
|                                                                                         |                                                                         |                              |                    |                                |                        |                                                                     |  |  |
|                                                                                         |                                                                         |                              |                    |                                |                        |                                                                     |  |  |
| NOTE: No water was encountered throughout installation this boring                      | -11-                                                                    |                              |                    |                                |                        |                                                                     |  |  |
|                                                                                         | -12-                                                                    |                              |                    |                                |                        |                                                                     |  |  |
|                                                                                         | -13-                                                                    |                              |                    |                                |                        |                                                                     |  |  |
|                                                                                         | -14-                                                                    |                              |                    |                                |                        |                                                                     |  |  |
|                                                                                         | -15-                                                                    |                              |                    |                                |                        |                                                                     |  |  |
|                                                                                         | -20-                                                                    |                              |                    |                                |                        |                                                                     |  |  |
|                                                                                         | -21-                                                                    |                              |                    |                                |                        |                                                                     |  |  |
|                                                                                         | -22-                                                                    |                              |                    |                                |                        |                                                                     |  |  |
|                                                                                         | -23-                                                                    |                              |                    |                                |                        |                                                                     |  |  |
|                                                                                         | -24-                                                                    |                              |                    |                                |                        |                                                                     |  |  |
|                                                                                         | -27-                                                                    |                              |                    |                                |                        |                                                                     |  |  |
|                                                                                         | -28-                                                                    |                              |                    |                                |                        |                                                                     |  |  |
|                                                                                         | -29-                                                                    |                              |                    |                                |                        |                                                                     |  |  |
| These logs should not be used separately from the original report.                      | -30-                                                                    |                              |                    |                                |                        |                                                                     |  |  |



## RECORD OF SUBSURFACE EXPLORATION

## KJ Environmental &amp; Civil Engineering

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|                                                                                                |                                                        |                         |             |                          |                               |                            |                                 |                         |                                                                         |
|------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------------------------|-------------|--------------------------|-------------------------------|----------------------------|---------------------------------|-------------------------|-------------------------------------------------------------------------|
| <b>Client Name:</b>                                                                            | OWL SWD Operating, LLC                                 |                         |             | <b>Well/Boring #</b>     | SB-12                         | <b>Date Drilled:</b>       | Jan. 17-23, 2018                |                         |                                                                         |
| <b>Client Address:</b>                                                                         | 8214 Westchester Drive Suite #850, Dallas, Texas 75225 |                         |             | <b>Depth of Boring:</b>  | 11'                           | <b>Diameter of Boring:</b> | 4"                              |                         |                                                                         |
| <b>Project Name:</b>                                                                           | Produced Water Pipeline Releases Nearby OWL SWD        |                         |             | <b>Depth of Well:</b>    | N/A                           | <b>Diameter of Screen:</b> | N/A                             |                         |                                                                         |
| <b>Project Address:</b>                                                                        | 32.1759, -103.3810 NAD 83                              |                         |             | <b>Length of Screen:</b> | N/A                           | <b>Diameter of Casing:</b> | N/A                             |                         |                                                                         |
| <b>Driller:</b>                                                                                | Atkins Engineering Associates Inc.                     |                         |             | <b>Length of Casing:</b> | N/A                           | <b>Slot Size:</b>          | N/A                             |                         |                                                                         |
| <b>Drilling Method:</b>                                                                        | CME Rig                                                | <b>Sampling Method:</b> | Split Spoon | <b>Logged By:</b>        | James F.                      | <b>Drilling Method:</b>    | CME Rig                         |                         |                                                                         |
| <b>Description / Remarks</b><br>(Color, Grain Size, Texture, Structure, Consistency, Moisture) |                                                        |                         |             | <b>Depth (feet)</b>      | <b>Sample Interval (feet)</b> | <b>PID (ppm)</b>           | <b>Chloride Screening (ppm)</b> | <b>Sample Core Zone</b> | <b>Well Completion</b><br>(graphical representation only, not to scale) |
| Surface Type: Topsoil, Light Red fine SAND, (SP), poorly graded, dry                           |                                                        |                         |             |                          |                               |                            |                                 |                         | Bentonite                                                               |
| Sub-surface Type: Red/light red SAND, (SP), poorly graded, dry                                 |                                                        |                         |             | -1-                      | 0.0-2.0                       | <1.0                       | 0                               |                         |                                                                         |
| Sub-surface Type: Grey Caliche, (CE), poorly graded, dry                                       |                                                        |                         |             | -2-                      |                               |                            |                                 |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -3-                      | 2.0-4.0                       |                            | 5                               |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -4-                      |                               |                            |                                 |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -5-                      | 4.0-6.0                       |                            | 0                               |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -6-                      |                               |                            |                                 |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -7-                      | 6.0-8.0                       |                            | 5                               |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -8-                      |                               |                            |                                 |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -9-                      | 8.0-10.0                      |                            | 5                               |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -10-                     |                               |                            |                                 |                         |                                                                         |
| NOTE: No water was encountered throughout installation this boring                             |                                                        |                         |             | -11-                     | 10.0-11.0                     |                            | 0                               |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -12-                     |                               |                            |                                 |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -13-                     |                               |                            |                                 |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -14-                     |                               |                            |                                 |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -15-                     |                               |                            |                                 |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -20-                     |                               |                            |                                 |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -21-                     |                               |                            |                                 |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -22-                     |                               |                            |                                 |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -23-                     |                               |                            |                                 |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -24-                     |                               |                            |                                 |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -27-                     |                               |                            |                                 |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -28-                     |                               |                            |                                 |                         |                                                                         |
|                                                                                                |                                                        |                         |             | -29-                     |                               |                            |                                 |                         |                                                                         |
| These logs should not be used separately from the original report.                             |                                                        |                         |             | -30-                     |                               |                            |                                 |                         |                                                                         |

## RECORD OF SUBSURFACE EXPLORATION

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|                         |                                                        |                         |             |                          |          |                            |                  |
|-------------------------|--------------------------------------------------------|-------------------------|-------------|--------------------------|----------|----------------------------|------------------|
| <b>Client Name:</b>     | OWL SWD Operating, LLC                                 |                         |             | <b>Well/Boring #</b>     | SB-13    | <b>Date Drilled:</b>       | Jan. 17-23, 2018 |
| <b>Client Address:</b>  | 8214 Westchester Drive Suite #850, Dallas, Texas 75225 |                         |             | <b>Depth of Boring:</b>  | 11'      | <b>Diameter of Boring:</b> | 4"               |
| <b>Project Name:</b>    | Produced Water Pipeline Releases Nearby OWL SWD        |                         |             | <b>Depth of Well:</b>    | N/A      | <b>Diameter of Screen:</b> | N/A              |
| <b>Project Address:</b> | 32.1759, -103.3810 NAD 83                              |                         |             | <b>Length of Screen:</b> | N/A      | <b>Diameter of Casing:</b> | N/A              |
| <b>Driller:</b>         | Atkins Engineering Associates Inc.                     |                         |             | <b>Length of Casing:</b> | N/A      | <b>Slot Size:</b>          | N/A              |
| <b>Drilling Method:</b> | CME Rig                                                | <b>Sampling Method:</b> | Split Spoon | <b>Logged By:</b>        | James F. | <b>Drilling Method:</b>    | CME Rig          |

| Description / Remarks<br>(Color, Grain Size, Texture, Structure, Consistency, Moisture) | Depth<br>(feet)                                                         | Sample<br>Interval<br>(feet) | PID<br>(ppm)       | Chloride<br>Screening<br>(ppm) | Sample<br>Core<br>Zone | Well Completion<br>(graphical representation<br>only, not to scale) |  |  |
|-----------------------------------------------------------------------------------------|-------------------------------------------------------------------------|------------------------------|--------------------|--------------------------------|------------------------|---------------------------------------------------------------------|--|--|
| Surface Type: Topsoil, Light Red fine SAND, (SP), poorly graded, dry                    | -1-<br><br>-2-<br>-3-<br>-4-<br>-5-<br>-6-<br>-7-<br>-8-<br>-9-<br>-10- |                              | <div>&lt;1.0</div> |                                |                        | Bentonite                                                           |  |  |
| Sub-surface Type: Red/light red SAND, (SP), poorly graded, dry                          |                                                                         | 0.0-2.0                      |                    | 0                              |                        |                                                                     |  |  |
| Sub-surface Type: Grey Caliche, (CE), poorly graded, dry                                |                                                                         | 2.0-4.0                      |                    | 0                              |                        |                                                                     |  |  |
|                                                                                         |                                                                         | 4.0-6.0                      |                    | 0                              |                        |                                                                     |  |  |
|                                                                                         |                                                                         | 6.0-8.0                      |                    | 0                              |                        |                                                                     |  |  |
|                                                                                         |                                                                         | 8.0-10.0                     |                    | 0                              |                        |                                                                     |  |  |
|                                                                                         |                                                                         | 10.0-11.0                    |                    | 0                              |                        |                                                                     |  |  |
|                                                                                         |                                                                         |                              |                    |                                |                        |                                                                     |  |  |
|                                                                                         |                                                                         |                              |                    |                                |                        |                                                                     |  |  |
|                                                                                         |                                                                         |                              |                    |                                |                        |                                                                     |  |  |
| NOTE: No water was encountered throughout installation this boring                      | -11-                                                                    |                              |                    |                                |                        |                                                                     |  |  |
| These logs should not be used separately from the original report.                      | -12-                                                                    |                              |                    |                                |                        |                                                                     |  |  |
|                                                                                         | -13-                                                                    |                              |                    |                                |                        |                                                                     |  |  |
|                                                                                         | -14-                                                                    |                              |                    |                                |                        |                                                                     |  |  |
|                                                                                         | -15-                                                                    |                              |                    |                                |                        |                                                                     |  |  |
|                                                                                         | -20-                                                                    |                              |                    |                                |                        |                                                                     |  |  |
|                                                                                         | -21-                                                                    |                              |                    |                                |                        |                                                                     |  |  |
|                                                                                         | -22-                                                                    |                              |                    |                                |                        |                                                                     |  |  |
|                                                                                         | -23-                                                                    |                              |                    |                                |                        |                                                                     |  |  |
|                                                                                         | -24-                                                                    |                              |                    |                                |                        |                                                                     |  |  |
|                                                                                         | -27-                                                                    |                              |                    |                                |                        |                                                                     |  |  |
| -28-                                                                                    |                                                                         |                              |                    |                                |                        |                                                                     |  |  |
| -29-                                                                                    |                                                                         |                              |                    |                                |                        |                                                                     |  |  |
| -30-                                                                                    |                                                                         |                              |                    |                                |                        |                                                                     |  |  |

## RECORD OF SUBSURFACE EXPLORATION

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|                         |                                                        |                         |             |                          |          |                            |                  |
|-------------------------|--------------------------------------------------------|-------------------------|-------------|--------------------------|----------|----------------------------|------------------|
| <b>Client Name:</b>     | OWL SWD Operating, LLC                                 |                         |             | <b>Well/Boring #</b>     | SB-14    | <b>Date Drilled:</b>       | Jan. 17-23, 2018 |
| <b>Client Address:</b>  | 8214 Westchester Drive Suite #850, Dallas, Texas 75225 |                         |             | <b>Depth of Boring:</b>  | 10.0'    | <b>Diameter of Boring:</b> | 4"               |
| <b>Project Name:</b>    | Produced Water Pipeline Releases Nearby OWL SWD        |                         |             | <b>Depth of Well:</b>    | N/A      | <b>Diameter of Screen:</b> | N/A              |
| <b>Project Address:</b> | 32.1759, -103.3810 NAD 83                              |                         |             | <b>Length of Screen:</b> | N/A      | <b>Diameter of Casing:</b> | N/A              |
| <b>Driller:</b>         | Atkins Engineering Associates Inc.                     |                         |             | <b>Length of Casing:</b> | N/A      | <b>Slot Size:</b>          | N/A              |
| <b>Drilling Method:</b> | CME Rig                                                | <b>Sampling Method:</b> | Split Spoon | <b>Logged By:</b>        | James F. | <b>Drilling Method:</b>    | CME Rig          |

| Description / Remarks<br>(Color, Grain Size, Texture, Structure, Consistency, Moisture) | Depth<br>(feet)                                                                                              | Sample<br>Interval<br>(feet) | PID<br>(ppm)       | Chloride<br>Screening<br>(ppm) | Sample<br>Core<br>Zone | Well Completion<br>(graphical representation<br>only, not to scale) |  |  |
|-----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|------------------------------|--------------------|--------------------------------|------------------------|---------------------------------------------------------------------|--|--|
| Surface Type: Topsoil, Light Red fine SAND, (SP), poorly graded, dry                    | -1-<br>-2-<br>-3-<br>-4-<br>-5-<br>-6-<br>-7-<br>-8-<br>-9-<br>-10-                                          |                              | <div>&lt;1.0</div> |                                |                        | Bentonite                                                           |  |  |
| Sub-surface Type: Red/light red SAND, (SP), poorly graded, dry                          |                                                                                                              | 0.0-2.0                      |                    | 5                              |                        |                                                                     |  |  |
| Sub-surface Type: Grey Caliche, (CE), poorly graded, dry                                |                                                                                                              | 2.0-4.0                      |                    | 5                              |                        |                                                                     |  |  |
|                                                                                         |                                                                                                              | 4.0-6.0                      |                    | 15                             |                        |                                                                     |  |  |
|                                                                                         |                                                                                                              | 6.0-8.0                      |                    | 30                             |                        |                                                                     |  |  |
|                                                                                         |                                                                                                              | 8.0-10.0                     |                    | 30                             |                        |                                                                     |  |  |
|                                                                                         |                                                                                                              |                              |                    |                                |                        |                                                                     |  |  |
|                                                                                         |                                                                                                              |                              |                    |                                |                        |                                                                     |  |  |
|                                                                                         |                                                                                                              |                              |                    |                                |                        |                                                                     |  |  |
|                                                                                         |                                                                                                              |                              |                    |                                |                        |                                                                     |  |  |
| NOTE: No water was encountered throughout installation this boring                      | -11-<br>-12-<br>-13-<br>-14-<br>-15-<br>-20-<br>-21-<br>-22-<br>-23-<br>-24-<br>-27-<br>-28-<br>-29-<br>-30- |                              |                    |                                |                        |                                                                     |  |  |
| These logs should not be used separately from the original report.                      |                                                                                                              |                              |                    |                                |                        |                                                                     |  |  |

## **APPENDIX E**

### Laboratory Analytical Reports



# Certificate of Analysis Summary 573941

OWL SWD Operating LLC, Dallas, TX

Project Name: IRP-4820



Project Id: OWL091317D  
Contact: Phillip Sanders  
Project Location: JAL NM

Date Received in Lab: Thu Jan-18-18 05:00 pm  
Report Date: 26-FEB-18  
Project Manager: Kelsey Brooks

| Analysis Requested                            | Lab Id:    | 573941-001      | 573941-002      | 573941-003      | 573941-004      | 573941-005      | 573941-006      |
|-----------------------------------------------|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                                               | Field Id:  | BG 0-2          | BG 2-4          | BG 4-6          | SB1 0-2         | SB1 2-4         | SB1 4-6         |
|                                               | Depth:     | 2- ft           | 4- ft           | 6- ft           | 2- ft           | 4- ft           | 6- ft           |
|                                               | Matrix:    | SOIL            | SOIL            | SOIL            | SOIL            | SOIL            | SOIL            |
|                                               | Sampled:   | Jan-17-18 10:30 | Jan-17-18 10:40 | Jan-17-18 10:50 | Jan-17-18 11:30 | Jan-17-18 11:40 | Jan-17-18 11:50 |
| Chloride by EPA 300<br>SUB: TX104704215-18-24 | Extracted: | Feb-23-18 10:31 | Feb-23-18 10:31 | Feb-23-18 10:31 | Feb-23-18 10:31 | Feb-23-18 10:31 | Feb-23-18 10:31 |
|                                               | Analyzed:  | Feb-23-18 17:57 | Feb-23-18 18:29 | Feb-23-18 18:39 | Feb-23-18 18:50 | Feb-23-18 19:00 | Feb-23-18 19:11 |
|                                               | Units/RL:  | mg/kg RL        | mg/kg RL        | mg/kg RL        | mg/kg RL        | mg/kg RL        | mg/kg RL        |
| Chloride                                      |            | <9.92 9.92      | <9.98 9.98      | <9.84 9.84      | <9.96 9.96      | <9.94 9.94      | <9.84 9.84      |

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Version: 1.9%

Kelsey Brooks  
Project Manager



# Certificate of Analysis Summary 573941

OWL SWD Operating LLC, Dallas, TX

Project Name: IRP-4820



Project Id: OWL091317D

Contact: Phillip Sanders

Project Location: JAL NM

Date Received in Lab: Thu Jan-18-18 05:00 pm

Report Date: 26-FEB-18

Project Manager: Kelsey Brooks

| <i>Analysis Requested</i>                             | <i>Lab Id:</i>    | 573941-007      | 573941-008      | 573941-009      | 573941-010       | 573941-011       | 573941-012       |
|-------------------------------------------------------|-------------------|-----------------|-----------------|-----------------|------------------|------------------|------------------|
|                                                       | <i>Field Id:</i>  | SB1 6-8         | SB1 8-10        | SB1 10-11.51    | SB2 0-2          | SB2 2-4          | SB2 4-6          |
|                                                       | <i>Depth:</i>     | 8- ft           | 10- ft          | 11.5- ft        | 2- ft            | 4- ft            | 6- ft            |
|                                                       | <i>Matrix:</i>    | SOIL            | SOIL            | SOIL            | SOIL             | SOIL             | SOIL             |
|                                                       | <i>Sampled:</i>   | Jan-17-18 12:00 | Jan-17-18 12:10 | Jan-17-18 12:20 | Jan-17-18 12:30  | Jan-17-18 12:40  | Jan-17-18 12:50  |
| <b>BTEX by EPA 8021B</b>                              | <i>Extracted:</i> |                 |                 |                 | Jan-24-18 16:00  | Jan-23-18 08:30  | Jan-23-18 08:30  |
|                                                       | <i>Analyzed:</i>  |                 |                 |                 | Jan-24-18 19:30  | Jan-23-18 20:49  | Jan-23-18 21:08  |
|                                                       | <i>Units/RL:</i>  |                 |                 |                 | mg/kg RL         | mg/kg RL         | mg/kg RL         |
| Benzene                                               |                   |                 |                 |                 | <0.00336 0.00336 | <0.00200 0.00200 | <0.00201 0.00201 |
| Toluene                                               |                   |                 |                 |                 | <0.00336 0.00336 | <0.00200 0.00200 | <0.00201 0.00201 |
| Ethylbenzene                                          |                   |                 |                 |                 | <0.00336 0.00336 | <0.00200 0.00200 | <0.00201 0.00201 |
| m,p-Xylenes                                           |                   |                 |                 |                 | <0.00671 0.00671 | <0.00399 0.00399 | <0.00402 0.00402 |
| o-Xylene                                              |                   |                 |                 |                 | <0.00336 0.00336 | <0.00200 0.00200 | <0.00201 0.00201 |
| Total Xylenes                                         |                   |                 |                 |                 | <0.00336 0.00336 | <0.00200 0.00200 | <0.00201 0.00201 |
| Total BTEX                                            |                   |                 |                 |                 | <0.00336 0.00336 | <0.00200 0.00200 | <0.00201 0.00201 |
| <b>Chloride by EPA 300<br/>SUB: TX104704215-18-24</b> | <i>Extracted:</i> | Feb-23-18 10:31 | Feb-26-18 12:00 | Feb-26-18 12:00 | Jan-23-18 12:00  | Jan-23-18 12:00  | Jan-23-18 12:00  |
|                                                       | <i>Analyzed:</i>  | Feb-23-18 19:21 | Feb-26-18 12:25 | Feb-26-18 12:35 | Jan-23-18 16:56  | Jan-23-18 17:03  | Jan-23-18 16:21  |
|                                                       | <i>Units/RL:</i>  | mg/kg RL        | mg/kg RL        | mg/kg RL        | mg/kg RL         | mg/kg RL         | mg/kg RL         |
| Chloride                                              |                   | 43.9 9.80       | 31.2 9.90       | 106 9.88        | 16.8 4.99        | 2680 25.0        | 1220 5.00        |
| <b>TPH By SW8015 Mod</b>                              | <i>Extracted:</i> |                 |                 |                 | Jan-23-18 14:00  | Jan-23-18 14:00  | Jan-23-18 14:00  |
|                                                       | <i>Analyzed:</i>  |                 |                 |                 | Jan-23-18 17:06  | Jan-23-18 18:05  | Jan-23-18 18:25  |
|                                                       | <i>Units/RL:</i>  |                 |                 |                 | mg/kg RL         | mg/kg RL         | mg/kg RL         |
| Gasoline Range Hydrocarbons (GRO)                     |                   |                 |                 |                 | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       |
| Diesel Range Organics (DRO)                           |                   |                 |                 |                 | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       |
| Oil Range Hydrocarbons (ORO)                          |                   |                 |                 |                 | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       |
| Total TPH                                             |                   |                 |                 |                 | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       |

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Kelsey Brooks  
Project Manager



# Certificate of Analysis Summary 573941

OWL SWD Operating LLC, Dallas, TX

Project Name: IRP-4820



Project Id: OWL091317D  
Contact: Phillip Sanders  
Project Location: JAL NM

Date Received in Lab: Thu Jan-18-18 05:00 pm  
Report Date: 26-FEB-18  
Project Manager: Kelsey Brooks

| Analysis Requested           | Lab Id:                           | 573941-013       | 573941-014       | 573941-015       | 573941-016      | 573941-017      | 573941-018      |
|------------------------------|-----------------------------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|
|                              | Field Id:                         | SB2 6-8          | SB2 8-10         | SB2 10-11        | SB3 0-2         | SB3 2-4         | SB3 4-6         |
|                              | Depth:                            | 8- ft            | 10- ft           | 11- ft           | 2- ft           | 4- ft           | 6- ft           |
|                              | Matrix:                           | SOIL             | SOIL             | SOIL             | SOIL            | SOIL            | SOIL            |
|                              | Sampled:                          | Jan-17-18 13:00  | Jan-17-18 13:10  | Jan-17-18 13:20  | Jan-17-18 14:00 | Jan-17-18 14:10 | Jan-17-18 14:20 |
| BTEX by EPA 8021B            | Extracted:                        | Jan-23-18 08:30  | Jan-23-18 08:30  | Jan-23-18 08:30  |                 |                 |                 |
|                              | Analyzed:                         | Jan-23-18 21:27  | Jan-23-18 21:46  | Jan-23-18 22:05  |                 |                 |                 |
|                              | Units/RL:                         | mg/kg RL         | mg/kg RL         | mg/kg RL         |                 |                 |                 |
|                              | Benzene                           | <0.00199 0.00199 | <0.00201 0.00201 | <0.00202 0.00202 |                 |                 |                 |
|                              | Toluene                           | <0.00199 0.00199 | <0.00201 0.00201 | <0.00202 0.00202 |                 |                 |                 |
| Ethylbenzene                 |                                   | <0.00199 0.00199 | <0.00201 0.00201 | <0.00202 0.00202 |                 |                 |                 |
| m,p-Xylenes                  |                                   | <0.00398 0.00398 | <0.00402 0.00402 | <0.00403 0.00403 |                 |                 |                 |
| o-Xylene                     |                                   | <0.00199 0.00199 | <0.00201 0.00201 | <0.00202 0.00202 |                 |                 |                 |
| Total Xylenes                |                                   | <0.00199 0.00199 | <0.00201 0.00201 | <0.00202 0.00202 |                 |                 |                 |
| Total BTEX                   |                                   | <0.00199 0.00199 | <0.00201 0.00201 | <0.00202 0.00202 |                 |                 |                 |
| Chloride by EPA 300          | Extracted:                        | Jan-23-18 12:00  | Jan-23-18 12:00  | Jan-23-18 12:00  | Feb-26-18 12:00 | Feb-23-18 10:31 | Feb-23-18 10:31 |
|                              | Analyzed:                         | Jan-23-18 17:10  | Jan-23-18 17:17  | Jan-23-18 17:24  | Feb-26-18 12:46 | Feb-23-18 19:32 | Feb-23-18 20:03 |
|                              | Units/RL:                         | mg/kg RL         | mg/kg RL         | mg/kg RL         | mg/kg RL        | mg/kg RL        | mg/kg RL        |
|                              | Chloride                          | 236 5.01         | 32.2 5.01        | <4.99 4.99       | <9.94 9.94      | <9.78 9.78      | <9.80 9.80      |
|                              |                                   |                  |                  |                  |                 |                 |                 |
| TPH By SW8015 Mod            | Extracted:                        | Jan-23-18 14:00  | Jan-23-18 14:00  | Jan-23-18 14:00  |                 |                 |                 |
|                              | Analyzed:                         | Jan-23-18 18:45  | Jan-23-18 19:06  | Jan-23-18 19:26  |                 |                 |                 |
|                              | Units/RL:                         | mg/kg RL         | mg/kg RL         | mg/kg RL         |                 |                 |                 |
|                              | Gasoline Range Hydrocarbons (GRO) | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       |                 |                 |                 |
|                              | Diesel Range Organics (DRO)       | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       |                 |                 |                 |
| Oil Range Hydrocarbons (ORO) |                                   | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       |                 |                 |                 |
| Total TPH                    |                                   | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       |                 |                 |                 |

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Kelsey Brooks  
Project Manager



# Certificate of Analysis Summary 573941

OWL SWD Operating LLC, Dallas, TX

Project Name: IRP-4820



Project Id: OWL091317D  
Contact: Phillip Sanders  
Project Location: JAL NM

Date Received in Lab: Thu Jan-18-18 05:00 pm  
Report Date: 26-FEB-18  
Project Manager: Kelsey Brooks

| Analysis Requested                            | Lab Id:    | 573941-019      | 573941-020      | 573941-021      | 573941-022      | 573941-023      | 573941-024      |
|-----------------------------------------------|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                                               | Field Id:  | SB3 6-8         | SB3 8-10        | SB3 10-11       | SB4 0-2         | SB4 2-4         | SB4 4-6 (1)     |
|                                               | Depth:     | 8- ft           | 10- ft          | 11- ft          | 2- ft           | 4- ft           | 6- ft           |
|                                               | Matrix:    | SOIL            | SOIL            | SOIL            | SOIL            | SOIL            | SOIL            |
|                                               | Sampled:   | Jan-17-18 14:30 | Jan-17-18 14:40 | Jan-17-18 14:50 | Jan-17-18 14:55 | Jan-17-18 15:00 | Jan-17-18 15:10 |
| Chloride by EPA 300<br>SUB: TX104704215-18-24 | Extracted: | Feb-23-18 10:31 | Feb-23-18 07:29 | Feb-23-18 07:29 | Feb-23-18 07:29 | Feb-23-18 07:29 | Feb-23-18 07:29 |
|                                               | Analyzed:  | Feb-23-18 20:14 | Feb-23-18 21:17 | Feb-23-18 21:48 | Feb-23-18 21:58 | Feb-23-18 22:09 | Feb-23-18 22:19 |
|                                               | Units/RL:  | mg/kg RL        | mg/kg RL        | mg/kg RL        | mg/kg RL        | mg/kg RL        | mg/kg RL        |
| Chloride                                      |            | <9.90 9.90      | 20.5 9.84       | 65.8 9.92       | 39.8 9.96       | <9.96 9.96      | <9.78 9.78      |

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Kelsey Brooks  
Project Manager



# Certificate of Analysis Summary 573941

OWL SWD Operating LLC, Dallas, TX

Project Name: IRP-4820



Project Id: OWL091317D  
Contact: Phillip Sanders  
Project Location: JAL NM

Date Received in Lab: Thu Jan-18-18 05:00 pm  
Report Date: 26-FEB-18  
Project Manager: Kelsey Brooks

| Analysis Requested                            | Lab Id:                           | 573941-025      | 573941-026      | 573941-027       | 573941-028       | 573941-029       | 573941-030       |
|-----------------------------------------------|-----------------------------------|-----------------|-----------------|------------------|------------------|------------------|------------------|
|                                               | Field Id:                         | SB4 6-8         | SB4 8-10        | SB5 0-2          | SB5 2-4          | SB5 4-6          | SB5 6-8          |
|                                               | Depth:                            | 8- ft           | 10- ft          | 2- ft            | 4- ft            | 6- ft            | 8- ft            |
|                                               | Matrix:                           | SOIL            | SOIL            | SOIL             | SOIL             | SOIL             | SOIL             |
|                                               | Sampled:                          | Jan-17-18 15:20 | Jan-17-18 15:30 | Jan-17-18 15:45  | Jan-17-18 15:55  | Jan-17-18 16:00  | Jan-17-18 16:10  |
| BTEX by EPA 8021B                             | Extracted:                        |                 |                 | Jan-24-18 16:00  | Jan-23-18 08:30  | Jan-23-18 08:30  | Jan-23-18 08:30  |
|                                               | Analyzed:                         |                 |                 | Jan-24-18 19:49  | Jan-23-18 16:41  | Jan-23-18 22:43  | Jan-23-18 23:02  |
|                                               | Units/RL:                         |                 |                 | mg/kg RL         | mg/kg RL         | mg/kg RL         | mg/kg RL         |
|                                               | Benzene                           |                 |                 | <0.00332 0.00332 | <0.00202 0.00202 | <0.00201 0.00201 | <0.00199 0.00199 |
|                                               | Toluene                           |                 |                 | <0.00332 0.00332 | <0.00202 0.00202 | <0.00201 0.00201 | <0.00199 0.00199 |
| Ethylbenzene                                  |                                   |                 |                 | <0.00332 0.00332 | <0.00202 0.00202 | <0.00201 0.00201 | <0.00199 0.00199 |
| m,p-Xylenes                                   |                                   |                 |                 | <0.00664 0.00664 | <0.00403 0.00403 | <0.00402 0.00402 | <0.00398 0.00398 |
| o-Xylene                                      |                                   |                 |                 | <0.00332 0.00332 | <0.00202 0.00202 | <0.00201 0.00201 | <0.00199 0.00199 |
| Total Xylenes                                 |                                   |                 |                 | <0.00332 0.00332 | <0.00202 0.00202 | <0.00201 0.00201 | <0.00199 0.00199 |
| Total BTEX                                    |                                   |                 |                 | <0.00332 0.00332 | <0.00202 0.00202 | <0.00201 0.00201 | <0.00199 0.00199 |
| Chloride by EPA 300<br>SUB: TX104704215-18-24 | Extracted:                        | Feb-23-18 07:29 | Feb-23-18 07:29 | Jan-23-18 12:00  | Jan-23-18 12:00  | Jan-23-18 12:00  | Jan-23-18 12:00  |
|                                               | Analyzed:                         | Feb-23-18 22:51 | Feb-23-18 23:01 | Jan-23-18 17:31  | Jan-23-18 17:38  | Jan-23-18 17:45  | Jan-23-18 17:52  |
|                                               | Units/RL:                         | mg/kg RL        | mg/kg RL        | mg/kg RL         | mg/kg RL         | mg/kg RL         | mg/kg RL         |
|                                               | Chloride                          | <9.92 9.92      | <9.90 9.90      | 1330 24.9        | 1580 24.9        | 486 5.00         | 51.7 5.00        |
|                                               |                                   |                 |                 |                  |                  |                  |                  |
| TPH By SW8015 Mod                             | Extracted:                        |                 |                 | Jan-23-18 14:00  | Jan-23-18 14:00  | Jan-23-18 14:00  | Jan-23-18 14:00  |
|                                               | Analyzed:                         |                 |                 | Jan-23-18 19:46  | Jan-23-18 20:05  | Jan-23-18 20:25  | Jan-23-18 20:46  |
|                                               | Units/RL:                         |                 |                 | mg/kg RL         | mg/kg RL         | mg/kg RL         | mg/kg RL         |
|                                               | Gasoline Range Hydrocarbons (GRO) |                 |                 | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       |
|                                               | Diesel Range Organics (DRO)       |                 |                 | 43.2 15.0        | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       |
| Oil Range Hydrocarbons (ORO)                  |                                   |                 |                 | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       |
| Total TPH                                     |                                   |                 |                 | 43.2 15.0        | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       |

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Kelsey Brooks  
Project Manager



# Certificate of Analysis Summary 573941

OWL SWD Operating LLC, Dallas, TX

Project Name: IRP-4820



**Project Id:** OWL091317D  
**Contact:** Phillip Sanders  
**Project Location:** JAL NM

**Date Received in Lab:** Thu Jan-18-18 05:00 pm  
**Report Date:** 26-FEB-18  
**Project Manager:** Kelsey Brooks

| <i>Analysis Requested</i>         | <i>Lab Id:</i>    | 573941-031       | 573941-032       | 573941-033       | 573941-034       | 573941-035       | 573941-036       |
|-----------------------------------|-------------------|------------------|------------------|------------------|------------------|------------------|------------------|
|                                   | <i>Field Id:</i>  | SB5 8-10         | SB6 0-2          | SB6 2-4          | SB6 4-6          | SB6 6-8          | SB6 8-10         |
|                                   | <i>Depth:</i>     | 10- ft           | 2- ft            | 4- ft            | 6- ft            | 8- ft            | 10- ft           |
|                                   | <i>Matrix:</i>    | SOIL             | SOIL             | SOIL             | SOIL             | SOIL             | SOIL             |
|                                   | <i>Sampled:</i>   | Jan-17-18 16:20  | Jan-17-18 16:30  | Jan-17-18 16:40  | Jan-17-18 16:50  | Jan-17-18 17:00  | Jan-17-18 17:10  |
| <b>BTEX by EPA 8021B</b>          | <i>Extracted:</i> | Jan-23-18 08:30  | Jan-23-18 08:30  | Jan-23-18 17:00  | Jan-23-18 17:00  | Jan-23-18 17:00  | Jan-24-18 16:00  |
|                                   | <i>Analyzed:</i>  | Jan-23-18 23:21  | Jan-23-18 17:00  | Jan-24-18 04:58  | Jan-24-18 08:07  | Jan-24-18 08:26  | Jan-24-18 20:08  |
|                                   | <i>Units/RL:</i>  | mg/kg RL         | mg/kg RL         | mg/kg RL         | mg/kg RL         | mg/kg RL         | mg/kg RL         |
| Benzene                           |                   | <0.00200 0.00200 | <0.00200 0.00200 | <0.00201 0.00201 | <0.00200 0.00200 | <0.00199 0.00199 | <0.00330 0.00330 |
| Toluene                           |                   | <0.00200 0.00200 | <0.00200 0.00200 | <0.00201 0.00201 | <0.00200 0.00200 | <0.00199 0.00199 | <0.00330 0.00330 |
| Ethylbenzene                      |                   | <0.00200 0.00200 | <0.00200 0.00200 | <0.00201 0.00201 | <0.00200 0.00200 | <0.00199 0.00199 | <0.00330 0.00330 |
| m,p-Xylenes                       |                   | <0.00399 0.00399 | <0.00401 0.00401 | <0.00402 0.00402 | <0.00399 0.00399 | <0.00398 0.00398 | <0.00660 0.00660 |
| o-Xylene                          |                   | <0.00200 0.00200 | <0.00200 0.00200 | <0.00201 0.00201 | <0.00200 0.00200 | <0.00199 0.00199 | <0.00330 0.00330 |
| Total Xylenes                     |                   | <0.00200 0.00200 | <0.00200 0.00200 | <0.00201 0.00201 | <0.00200 0.00200 | <0.00199 0.00199 | <0.00330 0.00330 |
| Total BTEX                        |                   | <0.00200 0.00200 | <0.00200 0.00200 | <0.00201 0.00201 | <0.00200 0.00200 | <0.00199 0.00199 | <0.00330 0.00330 |
| <b>Chloride by EPA 300</b>        | <i>Extracted:</i> | Jan-23-18 12:00  | Jan-23-18 12:00  | Jan-23-18 12:00  | Jan-23-18 12:00  | Jan-23-18 12:00  | Jan-23-18 12:00  |
|                                   | <i>Analyzed:</i>  | Jan-23-18 17:59  | Jan-23-18 18:34  | Jan-23-18 18:41  | Jan-23-18 18:48  | Jan-23-18 18:55  | Jan-23-18 19:02  |
|                                   | <i>Units/RL:</i>  | mg/kg RL         | mg/kg RL         | mg/kg RL         | mg/kg RL         | mg/kg RL         | mg/kg RL         |
| Chloride                          |                   | 23.7 4.97        | <4.98 4.98       | 404 4.97         | 1070 4.99        | 454 4.96         | 121 5.00         |
| <b>TPH By SW8015 Mod</b>          | <i>Extracted:</i> | Jan-23-18 14:00  | Jan-23-18 14:00  | Jan-23-18 14:00  | Jan-23-18 14:00  | Jan-23-18 14:00  | Jan-23-18 14:00  |
|                                   | <i>Analyzed:</i>  | Jan-23-18 21:47  | Jan-23-18 22:07  | Jan-23-18 22:27  | Jan-23-18 22:50  | Jan-23-18 23:10  | Jan-23-18 23:29  |
|                                   | <i>Units/RL:</i>  | mg/kg RL         | mg/kg RL         | mg/kg RL         | mg/kg RL         | mg/kg RL         | mg/kg RL         |
| Gasoline Range Hydrocarbons (GRO) |                   | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       |
| Diesel Range Organics (DRO)       |                   | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       |
| Oil Range Hydrocarbons (ORO)      |                   | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       |
| Total TPH                         |                   | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       |

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Kelsey Brooks  
Project Manager



# Certificate of Analysis Summary 573941

OWL SWD Operating LLC, Dallas, TX

Project Name: IRP-4820



Project Id: OWL091317D  
Contact: Phillip Sanders  
Project Location: JAL NM

Date Received in Lab: Thu Jan-18-18 05:00 pm  
Report Date: 26-FEB-18  
Project Manager: Kelsey Brooks

| <i>Analysis Requested</i>         | <i>Lab Id:</i>    | 573941-037       | 573941-038       | 573941-039       | 573941-040      | 573941-041      | 573941-042      |
|-----------------------------------|-------------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|
|                                   | <i>Field Id:</i>  | SB6 10-12        | SB6 12-14        | SB6 14-16        | SB7 0-2         | SB7 2-4         | SB7 4-6         |
|                                   | <i>Depth:</i>     | 12- ft           | 14- ft           | 16- ft           | 2- ft           | 4- ft           | 6- ft           |
|                                   | <i>Matrix:</i>    | SOIL             | SOIL             | SOIL             | SOIL            | SOIL            | SOIL            |
|                                   | <i>Sampled:</i>   | Jan-17-18 17:20  | Jan-17-18 17:30  | Jan-17-18 17:40  | Jan-18-18 08:00 | Jan-18-18 08:10 | Jan-18-18 08:20 |
| <b>BTEX by EPA 8021B</b>          | <i>Extracted:</i> | Jan-23-18 17:00  | Jan-24-18 16:00  | Jan-24-18 16:00  |                 |                 |                 |
|                                   | <i>Analyzed:</i>  | Jan-24-18 09:04  | Jan-24-18 20:27  | Jan-24-18 20:46  |                 |                 |                 |
|                                   | <i>Units/RL:</i>  | mg/kg RL         | mg/kg RL         | mg/kg RL         |                 |                 |                 |
| Benzene                           |                   | <0.00198 0.00198 | <0.00338 0.00338 | <0.00346 0.00346 |                 |                 |                 |
| Toluene                           |                   | <0.00198 0.00198 | <0.00338 0.00338 | <0.00346 0.00346 |                 |                 |                 |
| Ethylbenzene                      |                   | <0.00198 0.00198 | <0.00338 0.00338 | <0.00346 0.00346 |                 |                 |                 |
| m,p-Xylenes                       |                   | <0.00396 0.00396 | <0.00676 0.00676 | <0.00692 0.00692 |                 |                 |                 |
| o-Xylene                          |                   | <0.00198 0.00198 | <0.00338 0.00338 | <0.00346 0.00346 |                 |                 |                 |
| Total Xylenes                     |                   | <0.00198 0.00198 | <0.00338 0.00338 | <0.00346 0.00346 |                 |                 |                 |
| Total BTEX                        |                   | <0.00198 0.00198 | <0.00338 0.00338 | <0.00346 0.00346 |                 |                 |                 |
| <b>Chloride by EPA 300</b>        | <i>Extracted:</i> | Jan-23-18 12:00  | Jan-23-18 12:00  | Jan-23-18 12:00  | Feb-23-18 07:29 | Feb-23-18 07:29 | Feb-23-18 07:29 |
|                                   | <i>Analyzed:</i>  | Jan-23-18 19:09  | Jan-23-18 19:16  | Jan-23-18 19:23  | Feb-23-18 23:12 | Feb-23-18 23:22 | Feb-23-18 23:33 |
|                                   | <i>Units/RL:</i>  | mg/kg RL         | mg/kg RL         | mg/kg RL         | mg/kg RL        | mg/kg RL        | mg/kg RL        |
| Chloride                          |                   | 540 5.00         | 162 5.00         | 420 5.00         | <9.82 9.82      | <9.86 9.86      | <9.96 9.96      |
| <b>TPH By SW8015 Mod</b>          | <i>Extracted:</i> | Jan-23-18 14:00  | Jan-23-18 14:00  | Jan-23-18 14:00  |                 |                 |                 |
|                                   | <i>Analyzed:</i>  | Jan-23-18 23:49  | Jan-24-18 00:09  | Jan-24-18 00:30  |                 |                 |                 |
|                                   | <i>Units/RL:</i>  | mg/kg RL         | mg/kg RL         | mg/kg RL         |                 |                 |                 |
| Gasoline Range Hydrocarbons (GRO) |                   | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       |                 |                 |                 |
| Diesel Range Organics (DRO)       |                   | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       |                 |                 |                 |
| Oil Range Hydrocarbons (ORO)      |                   | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       |                 |                 |                 |
| Total TPH                         |                   | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       |                 |                 |                 |

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Kelsey Brooks  
Project Manager



# Certificate of Analysis Summary 573941

OWL SWD Operating LLC, Dallas, TX

Project Name: IRP-4820



Project Id: OWL091317D  
Contact: Phillip Sanders  
Project Location: JAL NM

Date Received in Lab: Thu Jan-18-18 05:00 pm  
Report Date: 26-FEB-18  
Project Manager: Kelsey Brooks

| Analysis Requested                            | Lab Id:    | 573941-043      | 573941-044      | 573941-045       | 573941-046       | 573941-047       | 573941-048       |
|-----------------------------------------------|------------|-----------------|-----------------|------------------|------------------|------------------|------------------|
|                                               | Field Id:  | SB7 6-8         | SB7 8-10        | SB8 0-2          | SB8 2-4          | SB8 4-6          | SB8 6-8          |
|                                               | Depth:     | 8- ft           | 10- ft          | 2- ft            | 4- ft            | 6- ft            | 8- ft            |
|                                               | Matrix:    | SOIL            | SOIL            | SOIL             | SOIL             | SOIL             | SOIL             |
|                                               | Sampled:   | Jan-18-18 08:30 | Jan-18-18 08:40 | Jan-18-18 08:50  | Jan-18-18 09:00  | Jan-18-18 09:10  | Jan-18-18 09:20  |
| BTEX by EPA 8021B                             | Extracted: |                 |                 | Jan-23-18 17:00  | Jan-23-18 17:00  | Jan-23-18 17:00  | Jan-23-18 17:00  |
|                                               | Analyzed:  |                 |                 | Jan-24-18 10:01  | Jan-24-18 02:09  | Jan-24-18 02:28  | Jan-24-18 02:46  |
| Units/RL:                                     |            |                 |                 | mg/kg RL         | mg/kg RL         | mg/kg RL         | mg/kg RL         |
| Benzene                                       |            |                 |                 | <0.00202 0.00202 | <0.00200 0.00200 | <0.00200 0.00200 | <0.00199 0.00199 |
| Toluene                                       |            |                 |                 | <0.00202 0.00202 | <0.00200 0.00200 | <0.00200 0.00200 | <0.00199 0.00199 |
| Ethylbenzene                                  |            |                 |                 | <0.00202 0.00202 | <0.00200 0.00200 | <0.00200 0.00200 | <0.00199 0.00199 |
| m,p-Xylenes                                   |            |                 |                 | <0.00403 0.00403 | <0.00401 0.00401 | <0.00401 0.00401 | <0.00398 0.00398 |
| o-Xylene                                      |            |                 |                 | <0.00202 0.00202 | <0.00200 0.00200 | <0.00200 0.00200 | <0.00199 0.00199 |
| Total Xylenes                                 |            |                 |                 | <0.00202 0.00202 | <0.00200 0.00200 | <0.00200 0.00200 | <0.00199 0.00199 |
| Total BTEX                                    |            |                 |                 | <0.00202 0.00202 | <0.00200 0.00200 | <0.00200 0.00200 | <0.00199 0.00199 |
| Chloride by EPA 300<br>SUB: TX104704215-18-24 | Extracted: | Feb-23-18 07:29 | Feb-23-18 07:29 | Jan-23-18 12:00  | Jan-23-18 16:45  | Jan-23-18 16:45  | Jan-23-18 16:45  |
|                                               | Analyzed:  | Feb-23-18 23:43 | Feb-23-18 23:54 | Jan-23-18 19:44  | Jan-23-18 20:12  | Jan-23-18 20:33  | Jan-23-18 20:40  |
|                                               | Units/RL:  | mg/kg RL        | mg/kg RL        | mg/kg RL         | mg/kg RL         | mg/kg RL         | mg/kg RL         |
| Chloride                                      |            | <9.78 9.78      | <9.82 9.82      | <5.01 5.01       | <5.02 5.02       | 7.60 4.98        | <5.00 5.00       |
| TPH By SW8015 Mod                             | Extracted: |                 |                 | Jan-23-18 14:00  | Jan-23-18 14:00  | Jan-23-18 14:00  | Jan-23-18 14:00  |
|                                               | Analyzed:  |                 |                 | Jan-24-18 00:52  | Jan-24-18 02:34  | Jan-24-18 03:32  | Jan-24-18 03:52  |
|                                               | Units/RL:  |                 |                 | mg/kg RL         | mg/kg RL         | mg/kg RL         | mg/kg RL         |
| Gasoline Range Hydrocarbons (GRO)             |            |                 |                 | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       |
| Diesel Range Organics (DRO)                   |            |                 |                 | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       |
| Oil Range Hydrocarbons (ORO)                  |            |                 |                 | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       |
| Total TPH                                     |            |                 |                 | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       |

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Kelsey Brooks  
Project Manager



# Certificate of Analysis Summary 573941

OWL SWD Operating LLC, Dallas, TX

Project Name: IRP-4820



Project Id: OWL091317D  
Contact: Phillip Sanders  
Project Location: JAL NM

Date Received in Lab: Thu Jan-18-18 05:00 pm  
Report Date: 26-FEB-18  
Project Manager: Kelsey Brooks

| Analysis Requested           | Lab Id:                           | 573941-049       | 573941-050      | 573941-051      | 573941-052      | 573941-053      | 573941-054      |
|------------------------------|-----------------------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                              | Field Id:                         | SB8 8-10 (1)     | SB9 0-2         | SB9 2-4         | SB9 4-6         | SB9 6-8         | SB9 8-10        |
|                              | Depth:                            | 10- ft           | 2- ft           | 4- ft           | 6- ft           | 8- ft           | 10- ft          |
|                              | Matrix:                           | SOIL             | SOIL            | SOIL            | SOIL            | SOIL            | SOIL            |
|                              | Sampled:                          | Jan-18-18 09:30  | Jan-18-18 10:15 | Jan-18-18 10:20 | Jan-18-18 10:30 | Jan-18-18 10:40 | Jan-18-18 10:50 |
| BTEX by EPA 8021B            | Extracted:                        | Jan-23-18 17:00  |                 |                 |                 |                 |                 |
|                              | Analyzed:                         | Jan-24-18 03:05  |                 |                 |                 |                 |                 |
|                              | Units/RL:                         | mg/kg RL         |                 |                 |                 |                 |                 |
|                              | Benzene                           | <0.00199 0.00199 |                 |                 |                 |                 |                 |
|                              | Toluene                           | <0.00199 0.00199 |                 |                 |                 |                 |                 |
| Ethylbenzene                 |                                   | <0.00199 0.00199 |                 |                 |                 |                 |                 |
| m,p-Xylenes                  |                                   | <0.00398 0.00398 |                 |                 |                 |                 |                 |
| o-Xylene                     |                                   | <0.00199 0.00199 |                 |                 |                 |                 |                 |
| Total Xylenes                |                                   | <0.00199 0.00199 |                 |                 |                 |                 |                 |
| Total BTEX                   |                                   | <0.00199 0.00199 |                 |                 |                 |                 |                 |
| Chloride by EPA 300          | Extracted:                        | Jan-23-18 16:45  | Feb-23-18 07:29 | Feb-23-18 07:29 | Feb-23-18 07:29 | Feb-23-18 07:29 | Feb-23-18 07:29 |
|                              | Analyzed:                         | Jan-23-18 20:47  | Feb-24-18 00:04 | Feb-24-18 00:15 | Feb-24-18 00:25 | Feb-24-18 00:57 | Feb-26-18 15:00 |
|                              | Units/RL:                         | mg/kg RL         | mg/kg RL        | mg/kg RL        | mg/kg RL        | mg/kg RL        | mg/kg RL        |
|                              | Chloride                          | <5.00 5.00       | 238 9.90        | 486 9.88        | 24.8 9.84       | 23.5 9.92       | <9.86 9.86      |
|                              |                                   |                  |                 |                 |                 |                 |                 |
| TPH By SW8015 Mod            | Extracted:                        | Jan-23-18 14:00  |                 |                 |                 |                 |                 |
|                              | Analyzed:                         | Jan-24-18 04:12  |                 |                 |                 |                 |                 |
|                              | Units/RL:                         | mg/kg RL         |                 |                 |                 |                 |                 |
|                              | Gasoline Range Hydrocarbons (GRO) | <15.0 15.0       |                 |                 |                 |                 |                 |
|                              | Diesel Range Organics (DRO)       | <15.0 15.0       |                 |                 |                 |                 |                 |
| Oil Range Hydrocarbons (ORO) |                                   | <15.0 15.0       |                 |                 |                 |                 |                 |
| Total TPH                    |                                   | <15.0 15.0       |                 |                 |                 |                 |                 |

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Kelsey Brooks  
Project Manager



# Certificate of Analysis Summary 573941

OWL SWD Operating LLC, Dallas, TX

Project Name: IRP-4820



Project Id: OWL091317D  
Contact: Phillip Sanders  
Project Location: JAL NM

Date Received in Lab: Thu Jan-18-18 05:00 pm  
Report Date: 26-FEB-18  
Project Manager: Kelsey Brooks

| Analysis Requested                | Lab Id:    | 573941-055       | 573941-056       | 573941-057       | 573941-058       | 573941-059       | 573941-060      |
|-----------------------------------|------------|------------------|------------------|------------------|------------------|------------------|-----------------|
|                                   | Field Id:  | SB10 0-2         | SB10 2-4         | SB10 4-6         | SB10 6-8         | SB10 8-10        | SB4 4-6 (2)     |
|                                   | Depth:     | 2- ft            | 4- ft            | 6- ft            | 8- ft            | 10- ft           | 6- ft           |
|                                   | Matrix:    | SOIL             | SOIL             | SOIL             | SOIL             | SOIL             | SOIL            |
|                                   | Sampled:   | Jan-18-18 11:00  | Jan-18-18 11:10  | Jan-18-18 11:20  | Jan-18-18 11:30  | Jan-18-18 11:40  | Jan-18-18 11:40 |
| BTEX by EPA 8021B                 | Extracted: | Jan-23-18 17:00  | Jan-23-18 17:00  | Jan-23-18 17:00  | Jan-23-18 17:00  | Jan-23-18 17:00  |                 |
|                                   | Analyzed:  | Jan-24-18 03:24  | Jan-24-18 03:43  | Jan-24-18 04:02  | Jan-24-18 04:20  | Jan-24-18 04:39  |                 |
|                                   | Units/RL:  | mg/kg RL         | mg/kg RL         | mg/kg RL         | mg/kg RL         | mg/kg RL         |                 |
|                                   |            |                  |                  |                  |                  |                  |                 |
| Benzene                           |            | <0.00200 0.00200 | <0.00199 0.00199 | <0.00200 0.00200 | <0.00201 0.00201 | <0.00200 0.00200 |                 |
| Toluene                           |            | <0.00200 0.00200 | <0.00199 0.00199 | <0.00200 0.00200 | <0.00201 0.00201 | <0.00200 0.00200 |                 |
| Ethylbenzene                      |            | <0.00200 0.00200 | <0.00199 0.00199 | <0.00200 0.00200 | <0.00201 0.00201 | <0.00200 0.00200 |                 |
| m,p-Xylenes                       |            | <0.00401 0.00401 | <0.00398 0.00398 | <0.00399 0.00399 | <0.00402 0.00402 | <0.00401 0.00401 |                 |
| o-Xylene                          |            | <0.00200 0.00200 | <0.00199 0.00199 | <0.00200 0.00200 | <0.00201 0.00201 | <0.00200 0.00200 |                 |
| Total Xylenes                     |            | <0.00200 0.00200 | <0.00199 0.00199 | <0.00200 0.00200 | <0.00201 0.00201 | <0.00200 0.00200 |                 |
| Total BTEX                        |            | <0.00200 0.00200 | <0.00199 0.00199 | <0.00200 0.00200 | <0.00201 0.00201 | <0.00200 0.00200 |                 |
| Chloride by EPA 300               | Extracted: | Jan-23-18 16:45  | Jan-23-18 16:45  | Jan-23-18 16:45  | Jan-23-18 16:45  | Jan-23-18 16:45  | Feb-23-18 07:29 |
|                                   | Analyzed:  | Jan-23-18 21:07  | Jan-23-18 21:14  | Jan-23-18 21:21  | Jan-23-18 21:28  | Jan-23-18 21:35  | Feb-24-18 01:07 |
|                                   | Units/RL:  | mg/kg RL         | mg/kg RL         | mg/kg RL         | mg/kg RL         | mg/kg RL         | mg/kg RL        |
|                                   |            |                  |                  |                  |                  |                  |                 |
| Chloride                          |            | <5.01 5.01       | <5.01 5.01       | 6.70 5.01        | <4.98 4.98       | 9.61 5.01        | <9.92 9.92      |
| TPH By SW8015 Mod                 | Extracted: | Jan-23-18 14:00  | Jan-23-18 14:00  | Jan-23-18 14:00  | Jan-23-18 14:00  | Jan-23-18 14:00  |                 |
|                                   | Analyzed:  | Jan-24-18 04:32  | Jan-24-18 04:52  | Jan-24-18 05:14  | Jan-24-18 05:35  | Jan-24-18 05:55  |                 |
|                                   | Units/RL:  | mg/kg RL         | mg/kg RL         | mg/kg RL         | mg/kg RL         | mg/kg RL         |                 |
|                                   |            |                  |                  |                  |                  |                  |                 |
| Gasoline Range Hydrocarbons (GRO) |            | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       |                 |
| Diesel Range Organics (DRO)       |            | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       |                 |
| Oil Range Hydrocarbons (ORO)      |            | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       |                 |
| Total TPH                         |            | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       | <15.0 15.0       |                 |

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Kelsey Brooks  
Project Manager



# Certificate of Analysis Summary 573941

OWL SWD Operating LLC, Dallas, TX

Project Name: IRP-4820



Project Id: OWL091317D  
Contact: Phillip Sanders  
Project Location: JAL NM

Date Received in Lab: Thu Jan-18-18 05:00 pm  
Report Date: 26-FEB-18  
Project Manager: Kelsey Brooks

|                                                       |                   |                 |                 |  |  |  |  |
|-------------------------------------------------------|-------------------|-----------------|-----------------|--|--|--|--|
| <b>Analysis Requested</b>                             | <b>Lab Id:</b>    | 573941-061      | 573941-062      |  |  |  |  |
|                                                       | <b>Field Id:</b>  | BG 6-8          | SB8 8-10 (2)    |  |  |  |  |
|                                                       | <b>Depth:</b>     | 8- ft           | 10- ft          |  |  |  |  |
|                                                       | <b>Matrix:</b>    | SOIL            | SOIL            |  |  |  |  |
|                                                       | <b>Sampled:</b>   | Jan-18-18 11:40 | Jan-18-18 11:40 |  |  |  |  |
| <b>Chloride by EPA 300<br/>SUB: TX104704215-18-24</b> | <b>Extracted:</b> | Feb-23-18 07:29 | Feb-23-18 07:29 |  |  |  |  |
|                                                       | <b>Analyzed:</b>  | Feb-24-18 01:18 | Feb-24-18 01:28 |  |  |  |  |
|                                                       | <b>Units/RL:</b>  | mg/kg RL        | mg/kg RL        |  |  |  |  |
| Chloride                                              |                   | <9.96 9.96      | <10.0 10.0      |  |  |  |  |

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Kelsey Brooks  
Project Manager

# Analytical Report 573941

## for OWL SWD Operating LLC

**Project Manager: Phillip Sanders**

**IRP-4820**

**OWL091317D**

**26-FEB-18**

Collected By: Client



**1211 W. Florida Ave, Midland TX 79701**

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-17-23), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)  
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab code: TX01468):

Texas (T104704295-17-15), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab code: TX00127): Texas (T104704221-17-12)

Xenco-Lubbock (EPA Lab code: TX00139): Texas (T104704219-17-16)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-17-13)

Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)



26-FEB-18

Project Manager: **Phillip Sanders**  
**OWL SWD Operating LLC**  
8214 Westchester Dr. Suite 850  
Dallas, TX 75225

Reference: XENCO Report No(s): **573941**  
**IRP-4820**  
Project Address: JAL NM

**Phillip Sanders:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 573941. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 573941 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

**Kelsey Brooks**

Project Manager

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## OWL SWD Operating LLC, Dallas, TX

IRP-4820

| Sample Id    | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|--------------|--------|----------------|--------------|---------------|
| BG 0-2       | S      | 01-17-18 10:30 | 2 ft         | 573941-001    |
| BG 2-4       | S      | 01-17-18 10:40 | 4 ft         | 573941-002    |
| BG 4-6       | S      | 01-17-18 10:50 | 6 ft         | 573941-003    |
| SB1 0-2      | S      | 01-17-18 11:30 | 2 ft         | 573941-004    |
| SB1 2-4      | S      | 01-17-18 11:40 | 4 ft         | 573941-005    |
| SB1 4-6      | S      | 01-17-18 11:50 | 6 ft         | 573941-006    |
| SB1 6-8      | S      | 01-17-18 12:00 | 8 ft         | 573941-007    |
| SB1 8-10     | S      | 01-17-18 12:10 | 10 ft        | 573941-008    |
| SB1 10-11.51 | S      | 01-17-18 12:20 | 11.5 ft      | 573941-009    |
| SB2 0-2      | S      | 01-17-18 12:30 | 2 ft         | 573941-010    |
| SB2 2-4      | S      | 01-17-18 12:40 | 4 ft         | 573941-011    |
| SB2 4-6      | S      | 01-17-18 12:50 | 6 ft         | 573941-012    |
| SB2 6-8      | S      | 01-17-18 13:00 | 8 ft         | 573941-013    |
| SB2 8-10     | S      | 01-17-18 13:10 | 10 ft        | 573941-014    |
| SB2 10-11    | S      | 01-17-18 13:20 | 11 ft        | 573941-015    |
| SB3 0-2      | S      | 01-17-18 14:00 | 2 ft         | 573941-016    |
| SB3 2-4      | S      | 01-17-18 14:10 | 4 ft         | 573941-017    |
| SB3 4-6      | S      | 01-17-18 14:20 | 6 ft         | 573941-018    |
| SB3 6-8      | S      | 01-17-18 14:30 | 8 ft         | 573941-019    |
| SB3 8-10     | S      | 01-17-18 14:40 | 10 ft        | 573941-020    |
| SB3 10-11    | S      | 01-17-18 14:50 | 11 ft        | 573941-021    |
| SB4 0-2      | S      | 01-17-18 14:55 | 2 ft         | 573941-022    |
| SB4 2-4      | S      | 01-17-18 15:00 | 4 ft         | 573941-023    |
| SB4 4-6 (1)  | S      | 01-17-18 15:10 | 6 ft         | 573941-024    |
| SB4 6-8      | S      | 01-17-18 15:20 | 8 ft         | 573941-025    |
| SB4 8-10     | S      | 01-17-18 15:30 | 10 ft        | 573941-026    |
| SB5 0-2      | S      | 01-17-18 15:45 | 2 ft         | 573941-027    |
| SB5 2-4      | S      | 01-17-18 15:55 | 4 ft         | 573941-028    |
| SB5 4-6      | S      | 01-17-18 16:00 | 6 ft         | 573941-029    |
| SB5 6-8      | S      | 01-17-18 16:10 | 8 ft         | 573941-030    |
| SB5 8-10     | S      | 01-17-18 16:20 | 10 ft        | 573941-031    |
| SB6 0-2      | S      | 01-17-18 16:30 | 2 ft         | 573941-032    |
| SB6 2-4      | S      | 01-17-18 16:40 | 4 ft         | 573941-033    |
| SB6 4-6      | S      | 01-17-18 16:50 | 6 ft         | 573941-034    |
| SB6 6-8      | S      | 01-17-18 17:00 | 8 ft         | 573941-035    |
| SB6 8-10     | S      | 01-17-18 17:10 | 10 ft        | 573941-036    |
| SB6 10-12    | S      | 01-17-18 17:20 | 12 ft        | 573941-037    |
| SB6 12-14    | S      | 01-17-18 17:30 | 14 ft        | 573941-038    |
| SB6 14-16    | S      | 01-17-18 17:40 | 16 ft        | 573941-039    |
| SB7 0-2      | S      | 01-18-18 08:00 | 2 ft         | 573941-040    |
| SB7 2-4      | S      | 01-18-18 08:10 | 4 ft         | 573941-041    |
| SB7 4-6      | S      | 01-18-18 08:20 | 6 ft         | 573941-042    |
| SB7 6-8      | S      | 01-18-18 08:30 | 8 ft         | 573941-043    |



## Sample Cross Reference 573941



### OWL SWD Operating LLC, Dallas, TX

IRP-4820

|              |   |                |       |            |
|--------------|---|----------------|-------|------------|
| SB7 8-10     | S | 01-18-18 08:40 | 10 ft | 573941-044 |
| SB8 0-2      | S | 01-18-18 08:50 | 2 ft  | 573941-045 |
| SB8 2-4      | S | 01-18-18 09:00 | 4 ft  | 573941-046 |
| SB8 4-6      | S | 01-18-18 09:10 | 6 ft  | 573941-047 |
| SB8 6-8      | S | 01-18-18 09:20 | 8 ft  | 573941-048 |
| SB8 8-10 (1) | S | 01-18-18 09:30 | 10 ft | 573941-049 |
| SB9 0-2      | S | 01-18-18 10:15 | 2 ft  | 573941-050 |
| SB9 2-4      | S | 01-18-18 10:20 | 4 ft  | 573941-051 |
| SB9 4-6      | S | 01-18-18 10:30 | 6 ft  | 573941-052 |
| SB9 6-8      | S | 01-18-18 10:40 | 8 ft  | 573941-053 |
| SB9 8-10     | S | 01-18-18 10:50 | 10 ft | 573941-054 |
| SB10 0-2     | S | 01-18-18 11:00 | 2 ft  | 573941-055 |
| SB10 2-4     | S | 01-18-18 11:10 | 4 ft  | 573941-056 |
| SB10 4-6     | S | 01-18-18 11:20 | 6 ft  | 573941-057 |
| SB10 6-8     | S | 01-18-18 11:30 | 8 ft  | 573941-058 |
| SB10 8-10    | S | 01-18-18 11:40 | 10 ft | 573941-059 |
| SB4 4-6 (2)  | S | 01-18-18 11:40 | 6 ft  | 573941-060 |
| BG 6-8       | S | 01-18-18 11:40 | 8 ft  | 573941-061 |
| SB8 8-10 (2) | S | 01-18-18 11:40 | 10 ft | 573941-062 |



## CASE NARRATIVE

**Client Name:** OWL SWD Operating LLC

**Project Name:** IRP-4820

Project ID: OWL091317D  
Work Order Number(s): 573941

Report Date: 26-FEB-18  
Date Received: 01/18/2018

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### Sample receipt non conformance and comments:

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#### Sample receipt non conformance and comments per sample:

None

#### Analytical non conformance and comments:

Batch: LBA-3039101 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3039105 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Lab Sample ID 573941-046 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Toluene recovered below QC limits in the Matrix Spike. Benzene, Ethylbenzene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 573941-033, -034, -035, -037, -045, -046, -047, -048, -049, -055, -056, -057, -058, -059.

The Laboratory Control Sample for Toluene, Benzene, m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3039239 Chloride by EPA 300

Lab Sample ID 573941-031 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 573941-010, -011, -012, -013, -014, -015, -027, -028, -029, -030, -031, -032, -033, -034, -035, -036, -037, -038, -039, -045.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3039242 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



## Certificate of Analytical Results 573941



### OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **BG 0-2**  
Lab Sample Id: 573941-001

Matrix: Soil  
Date Collected: 01.17.18 10.30

Date Received: 01.18.18 17.00  
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3042053

Date Prep: 02.23.18 10.31

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: TX104704215-18-24

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <9.92  | 9.92 | mg/kg | 02.23.18 17.57 | U    | 1   |



## Certificate of Analytical Results 573941



### OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **BG 2-4**  
Lab Sample Id: 573941-002

Matrix: Soil  
Date Collected: 01.17.18 10.40

Date Received: 01.18.18 17.00  
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3042053

Date Prep: 02.23.18 10.31

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: TX104704215-18-24

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <9.98  | 9.98 | mg/kg | 02.23.18 18.29 | U    | 1   |



## Certificate of Analytical Results 573941



### OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **BG 4-6**  
Lab Sample Id: 573941-003

Matrix: Soil  
Date Collected: 01.17.18 10.50

Date Received: 01.18.18 17.00  
Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3042053

Date Prep: 02.23.18 10.31

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: TX104704215-18-24

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <9.84  | 9.84 | mg/kg | 02.23.18 18.39 | U    | 1   |



## Certificate of Analytical Results 573941



### OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB1 0-2**  
Lab Sample Id: 573941-004

Matrix: Soil  
Date Collected: 01.17.18 11.30

Date Received: 01.18.18 17.00  
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3042053

Date Prep: 02.23.18 10.31

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: TX104704215-18-24

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <9.96  | 9.96 | mg/kg | 02.23.18 18.50 | U    | 1   |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB1 2-4**  
Lab Sample Id: 573941-005

Matrix: Soil  
Date Collected: 01.17.18 11.40

Date Received: 01.18.18 17.00  
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3042053

Date Prep: 02.23.18 10.31

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: TX104704215-18-24

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <9.94  | 9.94 | mg/kg | 02.23.18 19.00 | U    | 1   |



## Certificate of Analytical Results 573941



### OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB1 4-6**  
Lab Sample Id: 573941-006

Matrix: Soil  
Date Collected: 01.17.18 11.50

Date Received: 01.18.18 17.00  
Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3042053

Date Prep: 02.23.18 10.31

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: TX104704215-18-24

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <9.84  | 9.84 | mg/kg | 02.23.18 19.11 | U    | 1   |



## Certificate of Analytical Results 573941



### OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB1 6-8**  
Lab Sample Id: 573941-007

Matrix: Soil  
Date Collected: 01.17.18 12.00

Date Received: 01.18.18 17.00  
Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3042053

Date Prep: 02.23.18 10.31

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: TX104704215-18-24

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | 43.9   | 9.80 | mg/kg | 02.23.18 19.21 |      | 1   |



## Certificate of Analytical Results 573941



### OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB1 8-10**

Matrix: Soil

Date Received: 01.18.18 17.00

Lab Sample Id: 573941-008

Date Collected: 01.17.18 12.10

Sample Depth: 10 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.26.18 12.00

Basis: Wet Weight

Seq Number: 3042112

SUB: TX104704215-18-24

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | 31.2   | 9.90 | mg/kg | 02.26.18 12.25 |      | 1   |



## Certificate of Analytical Results 573941



### OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB1 10-11.51**

Matrix: Soil

Date Received: 01.18.18 17.00

Lab Sample Id: 573941-009

Date Collected: 01.17.18 12.20

Sample Depth: 11.5 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.26.18 12.00

Basis: Wet Weight

Seq Number: 3042112

SUB: TX104704215-18-24

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | 106    | 9.88 | mg/kg | 02.26.18 12.35 |      | 1   |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB2 0-2**  
Lab Sample Id: 573941-010

Matrix: Soil  
Date Collected: 01.17.18 12.30

Date Received: 01.18.18 17.00  
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300  
Tech: OJS  
Analyst: OJS  
Seq Number: 3039239

Date Prep: 01.23.18 12.00

Prep Method: E300P  
% Moisture:  
Basis: Wet Weight

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | 16.8   | 4.99 | mg/kg | 01.23.18 16.56 |      | 1   |

Analytical Method: TPH By SW8015 Mod  
Tech: ARM  
Analyst: ARM  
Seq Number: 3039134

Date Prep: 01.23.18 14.00

Prep Method: TX1005P  
% Moisture:  
Basis: Wet Weight

| Parameter                         | Cas Number        | Result            | RL           | Units         | Analysis Date        | Flag        | Dil |
|-----------------------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Gasoline Range Hydrocarbons (GRO) | PHC610            | <15.0             | 15.0         | mg/kg         | 01.23.18 17.06       | U           | 1   |
| Diesel Range Organics (DRO)       | C10C28DRO         | <15.0             | 15.0         | mg/kg         | 01.23.18 17.06       | U           | 1   |
| Oil Range Hydrocarbons (ORO)      | PHCG2835          | <15.0             | 15.0         | mg/kg         | 01.23.18 17.06       | U           | 1   |
| Total TPH                         | PHC635            | <15.0             | 15.0         | mg/kg         | 01.23.18 17.06       | U           | 1   |
| <b>Surrogate</b>                  | <b>Cas Number</b> | <b>% Recovery</b> | <b>Units</b> | <b>Limits</b> | <b>Analysis Date</b> | <b>Flag</b> |     |
| 1-Chlorooctane                    | 111-85-3          | 113               | %            | 70-135        | 01.23.18 17.06       |             |     |
| o-Terphenyl                       | 84-15-1           | 115               | %            | 70-135        | 01.23.18 17.06       |             |     |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB2 0-2**  
Lab Sample Id: 573941-010

Matrix: Soil  
Date Collected: 01.17.18 12.30

Date Received: 01.18.18 17.00  
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3039242

Date Prep: 01.24.18 16.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

| Parameter            | Cas Number        | Result            | RL           | Units         | Analysis Date        | Flag        | Dil |
|----------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Benzene              | 71-43-2           | <0.00336          | 0.00336      | mg/kg         | 01.24.18 19.30       | U           | 1   |
| Toluene              | 108-88-3          | <0.00336          | 0.00336      | mg/kg         | 01.24.18 19.30       | U           | 1   |
| Ethylbenzene         | 100-41-4          | <0.00336          | 0.00336      | mg/kg         | 01.24.18 19.30       | U           | 1   |
| m,p-Xylenes          | 179601-23-1       | <0.00671          | 0.00671      | mg/kg         | 01.24.18 19.30       | U           | 1   |
| o-Xylene             | 95-47-6           | <0.00336          | 0.00336      | mg/kg         | 01.24.18 19.30       | U           | 1   |
| Total Xylenes        | 1330-20-7         | <0.00336          | 0.00336      | mg/kg         | 01.24.18 19.30       | U           | 1   |
| Total BTEX           |                   | <0.00336          | 0.00336      | mg/kg         | 01.24.18 19.30       | U           | 1   |
| <b>Surrogate</b>     | <b>Cas Number</b> | <b>% Recovery</b> | <b>Units</b> | <b>Limits</b> | <b>Analysis Date</b> | <b>Flag</b> |     |
| 1,4-Difluorobenzene  | 540-36-3          | 88                | %            | 80-120        | 01.24.18 19.30       |             |     |
| 4-Bromofluorobenzene | 460-00-4          | 94                | %            | 80-120        | 01.24.18 19.30       |             |     |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB2 2-4**  
Lab Sample Id: 573941-011

Matrix: Soil  
Date Collected: 01.17.18 12.40

Date Received: 01.18.18 17.00  
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3039239

Date Prep: 01.23.18 12.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | 2680   | 25.0 | mg/kg | 01.23.18 17.03 |      | 5   |

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3039134

Date Prep: 01.23.18 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

| Parameter                         | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------------------------------|------------|--------|------|-------|----------------|------|-----|
| Gasoline Range Hydrocarbons (GRO) | PHC610     | <15.0  | 15.0 | mg/kg | 01.23.18 18.05 | U    | 1   |
| Diesel Range Organics (DRO)       | C10C28DRO  | <15.0  | 15.0 | mg/kg | 01.23.18 18.05 | U    | 1   |
| Oil Range Hydrocarbons (ORO)      | PHCG2835   | <15.0  | 15.0 | mg/kg | 01.23.18 18.05 | U    | 1   |
| Total TPH                         | PHC635     | <15.0  | 15.0 | mg/kg | 01.23.18 18.05 | U    | 1   |

| Surrogate      | Cas Number | % Recovery | Units | Limits | Analysis Date  | Flag |
|----------------|------------|------------|-------|--------|----------------|------|
| 1-Chlorooctane | 111-85-3   | 116        | %     | 70-135 | 01.23.18 18.05 |      |
| o-Terphenyl    | 84-15-1    | 119        | %     | 70-135 | 01.23.18 18.05 |      |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB2 2-4**  
Lab Sample Id: 573941-011

Matrix: Soil  
Date Collected: 01.17.18 12.40

Date Received: 01.18.18 17.00  
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3039101

Date Prep: 01.23.18 08.30

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

| Parameter            | Cas Number        | Result            | RL           | Units         | Analysis Date        | Flag        | Dil |
|----------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Benzene              | 71-43-2           | <0.00200          | 0.00200      | mg/kg         | 01.23.18 20.49       | U           | 1   |
| Toluene              | 108-88-3          | <0.00200          | 0.00200      | mg/kg         | 01.23.18 20.49       | U           | 1   |
| Ethylbenzene         | 100-41-4          | <0.00200          | 0.00200      | mg/kg         | 01.23.18 20.49       | U           | 1   |
| m,p-Xylenes          | 179601-23-1       | <0.00399          | 0.00399      | mg/kg         | 01.23.18 20.49       | U           | 1   |
| o-Xylene             | 95-47-6           | <0.00200          | 0.00200      | mg/kg         | 01.23.18 20.49       | U           | 1   |
| Total Xylenes        | 1330-20-7         | <0.00200          | 0.00200      | mg/kg         | 01.23.18 20.49       | U           | 1   |
| Total BTEX           |                   | <0.00200          | 0.00200      | mg/kg         | 01.23.18 20.49       | U           | 1   |
|                      |                   |                   |              |               |                      |             |     |
| <b>Surrogate</b>     | <b>Cas Number</b> | <b>% Recovery</b> | <b>Units</b> | <b>Limits</b> | <b>Analysis Date</b> | <b>Flag</b> |     |
| 4-Bromofluorobenzene | 460-00-4          | 90                | %            | 80-120        | 01.23.18 20.49       |             |     |
| 1,4-Difluorobenzene  | 540-36-3          | 94                | %            | 80-120        | 01.23.18 20.49       |             |     |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB2 4-6**  
Lab Sample Id: 573941-012

Matrix: Soil  
Date Collected: 01.17.18 12.50

Date Received: 01.18.18 17.00  
Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300  
Tech: OJS  
Analyst: OJS  
Seq Number: 3039239

Date Prep: 01.23.18 12.00

Prep Method: E300P  
% Moisture:  
Basis: Wet Weight

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | 1220   | 5.00 | mg/kg | 01.23.18 16.21 |      | 1   |

Analytical Method: TPH By SW8015 Mod  
Tech: ARM  
Analyst: ARM  
Seq Number: 3039134

Date Prep: 01.23.18 14.00

Prep Method: TX1005P  
% Moisture:  
Basis: Wet Weight

| Parameter                         | Cas Number        | Result            | RL           | Units         | Analysis Date        | Flag        | Dil |
|-----------------------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Gasoline Range Hydrocarbons (GRO) | PHC610            | <15.0             | 15.0         | mg/kg         | 01.23.18 18.25       | U           | 1   |
| Diesel Range Organics (DRO)       | C10C28DRO         | <15.0             | 15.0         | mg/kg         | 01.23.18 18.25       | U           | 1   |
| Oil Range Hydrocarbons (ORO)      | PHCG2835          | <15.0             | 15.0         | mg/kg         | 01.23.18 18.25       | U           | 1   |
| Total TPH                         | PHC635            | <15.0             | 15.0         | mg/kg         | 01.23.18 18.25       | U           | 1   |
| <b>Surrogate</b>                  | <b>Cas Number</b> | <b>% Recovery</b> | <b>Units</b> | <b>Limits</b> | <b>Analysis Date</b> | <b>Flag</b> |     |
| 1-Chlorooctane                    | 111-85-3          | 106               | %            | 70-135        | 01.23.18 18.25       |             |     |
| o-Terphenyl                       | 84-15-1           | 108               | %            | 70-135        | 01.23.18 18.25       |             |     |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB2 4-6**  
Lab Sample Id: 573941-012

Matrix: Soil  
Date Collected: 01.17.18 12.50

Date Received: 01.18.18 17.00  
Sample Depth: 6 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3039101

Date Prep: 01.23.18 08.30

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

| Parameter            | Cas Number        | Result            | RL           | Units         | Analysis Date        | Flag        | Dil |
|----------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Benzene              | 71-43-2           | <0.00201          | 0.00201      | mg/kg         | 01.23.18 21.08       | U           | 1   |
| Toluene              | 108-88-3          | <0.00201          | 0.00201      | mg/kg         | 01.23.18 21.08       | U           | 1   |
| Ethylbenzene         | 100-41-4          | <0.00201          | 0.00201      | mg/kg         | 01.23.18 21.08       | U           | 1   |
| m,p-Xylenes          | 179601-23-1       | <0.00402          | 0.00402      | mg/kg         | 01.23.18 21.08       | U           | 1   |
| o-Xylene             | 95-47-6           | <0.00201          | 0.00201      | mg/kg         | 01.23.18 21.08       | U           | 1   |
| Total Xylenes        | 1330-20-7         | <0.00201          | 0.00201      | mg/kg         | 01.23.18 21.08       | U           | 1   |
| Total BTEX           |                   | <0.00201          | 0.00201      | mg/kg         | 01.23.18 21.08       | U           | 1   |
| <b>Surrogate</b>     | <b>Cas Number</b> | <b>% Recovery</b> | <b>Units</b> | <b>Limits</b> | <b>Analysis Date</b> | <b>Flag</b> |     |
| 1,4-Difluorobenzene  | 540-36-3          | 101               | %            | 80-120        | 01.23.18 21.08       |             |     |
| 4-Bromofluorobenzene | 460-00-4          | 87                | %            | 80-120        | 01.23.18 21.08       |             |     |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB2 6-8**  
Lab Sample Id: 573941-013

Matrix: Soil  
Date Collected: 01.17.18 13.00

Date Received: 01.18.18 17.00  
Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300  
Tech: OJS  
Analyst: OJS  
Seq Number: 3039239

Date Prep: 01.23.18 12.00

Prep Method: E300P  
% Moisture:  
Basis: Wet Weight

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | 236    | 5.01 | mg/kg | 01.23.18 17.10 |      | 1   |

Analytical Method: TPH By SW8015 Mod  
Tech: ARM  
Analyst: ARM  
Seq Number: 3039134

Date Prep: 01.23.18 14.00

Prep Method: TX1005P  
% Moisture:  
Basis: Wet Weight

| Parameter                         | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------------------------------|------------|--------|------|-------|----------------|------|-----|
| Gasoline Range Hydrocarbons (GRO) | PHC610     | <15.0  | 15.0 | mg/kg | 01.23.18 18.45 | U    | 1   |
| Diesel Range Organics (DRO)       | C10C28DRO  | <15.0  | 15.0 | mg/kg | 01.23.18 18.45 | U    | 1   |
| Oil Range Hydrocarbons (ORO)      | PHCG2835   | <15.0  | 15.0 | mg/kg | 01.23.18 18.45 | U    | 1   |
| Total TPH                         | PHC635     | <15.0  | 15.0 | mg/kg | 01.23.18 18.45 | U    | 1   |

| Surrogate      | Cas Number | % Recovery | Units | Limits | Analysis Date  | Flag |
|----------------|------------|------------|-------|--------|----------------|------|
| 1-Chlorooctane | 111-85-3   | 108        | %     | 70-135 | 01.23.18 18.45 |      |
| o-Terphenyl    | 84-15-1    | 110        | %     | 70-135 | 01.23.18 18.45 |      |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB2 6-8**  
Lab Sample Id: 573941-013

Matrix: Soil  
Date Collected: 01.17.18 13.00

Date Received: 01.18.18 17.00  
Sample Depth: 8 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 01.23.18 08.30

Basis: Wet Weight

Seq Number: 3039101

| Parameter            | Cas Number        | Result            | RL           | Units         | Analysis Date        | Flag        | Dil |
|----------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Benzene              | 71-43-2           | <0.00199          | 0.00199      | mg/kg         | 01.23.18 21.27       | U           | 1   |
| Toluene              | 108-88-3          | <0.00199          | 0.00199      | mg/kg         | 01.23.18 21.27       | U           | 1   |
| Ethylbenzene         | 100-41-4          | <0.00199          | 0.00199      | mg/kg         | 01.23.18 21.27       | U           | 1   |
| m,p-Xylenes          | 179601-23-1       | <0.00398          | 0.00398      | mg/kg         | 01.23.18 21.27       | U           | 1   |
| o-Xylene             | 95-47-6           | <0.00199          | 0.00199      | mg/kg         | 01.23.18 21.27       | U           | 1   |
| Total Xylenes        | 1330-20-7         | <0.00199          | 0.00199      | mg/kg         | 01.23.18 21.27       | U           | 1   |
| Total BTEX           |                   | <0.00199          | 0.00199      | mg/kg         | 01.23.18 21.27       | U           | 1   |
| <b>Surrogate</b>     | <b>Cas Number</b> | <b>% Recovery</b> | <b>Units</b> | <b>Limits</b> | <b>Analysis Date</b> | <b>Flag</b> |     |
| 1,4-Difluorobenzene  | 540-36-3          | 100               | %            | 80-120        | 01.23.18 21.27       |             |     |
| 4-Bromofluorobenzene | 460-00-4          | 85                | %            | 80-120        | 01.23.18 21.27       |             |     |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB2 8-10**  
Lab Sample Id: 573941-014

Matrix: Soil  
Date Collected: 01.17.18 13.10

Date Received: 01.18.18 17.00  
Sample Depth: 10 ft

Analytical Method: Chloride by EPA 300  
Tech: OJS  
Analyst: OJS  
Seq Number: 3039239

Date Prep: 01.23.18 12.00

Prep Method: E300P  
% Moisture:  
Basis: Wet Weight

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | 32.2   | 5.01 | mg/kg | 01.23.18 17.17 |      | 1   |

Analytical Method: TPH By SW8015 Mod  
Tech: ARM  
Analyst: ARM  
Seq Number: 3039134

Date Prep: 01.23.18 14.00

Prep Method: TX1005P  
% Moisture:  
Basis: Wet Weight

| Parameter                         | Cas Number        | Result            | RL           | Units         | Analysis Date        | Flag        | Dil |
|-----------------------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Gasoline Range Hydrocarbons (GRO) | PHC610            | <15.0             | 15.0         | mg/kg         | 01.23.18 19.06       | U           | 1   |
| Diesel Range Organics (DRO)       | C10C28DRO         | <15.0             | 15.0         | mg/kg         | 01.23.18 19.06       | U           | 1   |
| Oil Range Hydrocarbons (ORO)      | PHCG2835          | <15.0             | 15.0         | mg/kg         | 01.23.18 19.06       | U           | 1   |
| Total TPH                         | PHC635            | <15.0             | 15.0         | mg/kg         | 01.23.18 19.06       | U           | 1   |
| <b>Surrogate</b>                  | <b>Cas Number</b> | <b>% Recovery</b> | <b>Units</b> | <b>Limits</b> | <b>Analysis Date</b> | <b>Flag</b> |     |
| 1-Chlorooctane                    | 111-85-3          | 111               | %            | 70-135        | 01.23.18 19.06       |             |     |
| o-Terphenyl                       | 84-15-1           | 110               | %            | 70-135        | 01.23.18 19.06       |             |     |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB2 8-10**  
Lab Sample Id: 573941-014

Matrix: Soil  
Date Collected: 01.17.18 13.10

Date Received: 01.18.18 17.00  
Sample Depth: 10 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3039101

Date Prep: 01.23.18 08.30

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

| Parameter            | Cas Number        | Result            | RL           | Units         | Analysis Date        | Flag        | Dil |
|----------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Benzene              | 71-43-2           | <0.00201          | 0.00201      | mg/kg         | 01.23.18 21.46       | U           | 1   |
| Toluene              | 108-88-3          | <0.00201          | 0.00201      | mg/kg         | 01.23.18 21.46       | U           | 1   |
| Ethylbenzene         | 100-41-4          | <0.00201          | 0.00201      | mg/kg         | 01.23.18 21.46       | U           | 1   |
| m,p-Xylenes          | 179601-23-1       | <0.00402          | 0.00402      | mg/kg         | 01.23.18 21.46       | U           | 1   |
| o-Xylene             | 95-47-6           | <0.00201          | 0.00201      | mg/kg         | 01.23.18 21.46       | U           | 1   |
| Total Xylenes        | 1330-20-7         | <0.00201          | 0.00201      | mg/kg         | 01.23.18 21.46       | U           | 1   |
| Total BTEX           |                   | <0.00201          | 0.00201      | mg/kg         | 01.23.18 21.46       | U           | 1   |
| <b>Surrogate</b>     | <b>Cas Number</b> | <b>% Recovery</b> | <b>Units</b> | <b>Limits</b> | <b>Analysis Date</b> | <b>Flag</b> |     |
| 1,4-Difluorobenzene  | 540-36-3          | 97                | %            | 80-120        | 01.23.18 21.46       |             |     |
| 4-Bromofluorobenzene | 460-00-4          | 87                | %            | 80-120        | 01.23.18 21.46       |             |     |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB2 10-11**

Matrix: Soil

Date Received: 01.18.18 17.00

Lab Sample Id: 573941-015

Date Collected: 01.17.18 13.20

Sample Depth: 11 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Analyst: OJS

Date Prep: 01.23.18 12.00

Basis: Wet Weight

Seq Number: 3039239

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <4.99  | 4.99 | mg/kg | 01.23.18 17.24 | U    | 1   |

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 01.23.18 14.00

Basis: Wet Weight

Seq Number: 3039134

| Parameter                         | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------------------------------|------------|--------|------|-------|----------------|------|-----|
| Gasoline Range Hydrocarbons (GRO) | PHC610     | <15.0  | 15.0 | mg/kg | 01.23.18 19.26 | U    | 1   |
| Diesel Range Organics (DRO)       | C10C28DRO  | <15.0  | 15.0 | mg/kg | 01.23.18 19.26 | U    | 1   |
| Oil Range Hydrocarbons (ORO)      | PHCG2835   | <15.0  | 15.0 | mg/kg | 01.23.18 19.26 | U    | 1   |
| Total TPH                         | PHC635     | <15.0  | 15.0 | mg/kg | 01.23.18 19.26 | U    | 1   |

| Surrogate      | Cas Number | % Recovery | Units | Limits | Analysis Date  | Flag |
|----------------|------------|------------|-------|--------|----------------|------|
| 1-Chlorooctane | 111-85-3   | 120        | %     | 70-135 | 01.23.18 19.26 |      |
| o-Terphenyl    | 84-15-1    | 121        | %     | 70-135 | 01.23.18 19.26 |      |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB2 10-11**

Matrix: Soil

Date Received: 01.18.18 17.00

Lab Sample Id: 573941-015

Date Collected: 01.17.18 13.20

Sample Depth: 11 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 01.23.18 08.30

Basis: Wet Weight

Seq Number: 3039101

| Parameter            | Cas Number        | Result            | RL           | Units         | Analysis Date        | Flag        | Dil |
|----------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Benzene              | 71-43-2           | <0.00202          | 0.00202      | mg/kg         | 01.23.18 22.05       | U           | 1   |
| Toluene              | 108-88-3          | <0.00202          | 0.00202      | mg/kg         | 01.23.18 22.05       | U           | 1   |
| Ethylbenzene         | 100-41-4          | <0.00202          | 0.00202      | mg/kg         | 01.23.18 22.05       | U           | 1   |
| m,p-Xylenes          | 179601-23-1       | <0.00403          | 0.00403      | mg/kg         | 01.23.18 22.05       | U           | 1   |
| o-Xylene             | 95-47-6           | <0.00202          | 0.00202      | mg/kg         | 01.23.18 22.05       | U           | 1   |
| Total Xylenes        | 1330-20-7         | <0.00202          | 0.00202      | mg/kg         | 01.23.18 22.05       | U           | 1   |
| Total BTEX           |                   | <0.00202          | 0.00202      | mg/kg         | 01.23.18 22.05       | U           | 1   |
| <b>Surrogate</b>     | <b>Cas Number</b> | <b>% Recovery</b> | <b>Units</b> | <b>Limits</b> | <b>Analysis Date</b> | <b>Flag</b> |     |
| 4-Bromofluorobenzene | 460-00-4          | 83                | %            | 80-120        | 01.23.18 22.05       |             |     |
| 1,4-Difluorobenzene  | 540-36-3          | 97                | %            | 80-120        | 01.23.18 22.05       |             |     |



## Certificate of Analytical Results 573941



### OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB3 0-2**  
Lab Sample Id: 573941-016

Matrix: Soil  
Date Collected: 01.17.18 14.00

Date Received: 01.18.18 17.00  
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3042112

Date Prep: 02.26.18 12.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: TX104704215-18-24

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <9.94  | 9.94 | mg/kg | 02.26.18 12.46 | U    | 1   |



## Certificate of Analytical Results 573941



### OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB3 2-4**  
Lab Sample Id: 573941-017

Matrix: Soil  
Date Collected: 01.17.18 14.10

Date Received: 01.18.18 17.00  
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3042053

Date Prep: 02.23.18 10.31

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: TX104704215-18-24

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <9.78  | 9.78 | mg/kg | 02.23.18 19.32 | U    | 1   |



## Certificate of Analytical Results 573941



### OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB3 4-6**  
Lab Sample Id: 573941-018

Matrix: Soil  
Date Collected: 01.17.18 14.20

Date Received: 01.18.18 17.00  
Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3042053

Date Prep: 02.23.18 10.31

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: TX104704215-18-24

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <9.80  | 9.80 | mg/kg | 02.23.18 20.03 | U    | 1   |



## Certificate of Analytical Results 573941



### OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB3 6-8**  
Lab Sample Id: 573941-019

Matrix: Soil  
Date Collected: 01.17.18 14.30

Date Received: 01.18.18 17.00  
Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3042053

Date Prep: 02.23.18 10.31

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: TX104704215-18-24

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <9.90  | 9.90 | mg/kg | 02.23.18 20.14 | U    | 1   |



## Certificate of Analytical Results 573941



### OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB3 8-10**

Matrix: Soil

Date Received: 01.18.18 17.00

Lab Sample Id: 573941-020

Date Collected: 01.17.18 14.40

Sample Depth: 10 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.23.18 07.29

Basis: Wet Weight

Seq Number: 3042055

SUB: TX104704215-18-24

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | 20.5   | 9.84 | mg/kg | 02.23.18 21.17 |      | 1   |



## Certificate of Analytical Results 573941



### OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB3 10-11**

Matrix: Soil

Date Received: 01.18.18 17.00

Lab Sample Id: 573941-021

Date Collected: 01.17.18 14.50

Sample Depth: 11 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.23.18 07.29

Basis: Wet Weight

Seq Number: 3042055

SUB: TX104704215-18-24

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | 65.8   | 9.92 | mg/kg | 02.23.18 21.48 |      | 1   |



## Certificate of Analytical Results 573941



### OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB4 0-2**  
Lab Sample Id: 573941-022

Matrix: Soil  
Date Collected: 01.17.18 14.55

Date Received: 01.18.18 17.00  
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3042055

Date Prep: 02.23.18 07.29

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: TX104704215-18-24

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | 39.8   | 9.96 | mg/kg | 02.23.18 21.58 |      | 1   |



## Certificate of Analytical Results 573941



### OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB4 2-4**  
Lab Sample Id: 573941-023

Matrix: Soil  
Date Collected: 01.17.18 15.00

Date Received: 01.18.18 17.00  
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3042055

Date Prep: 02.23.18 07.29

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: TX104704215-18-24

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <9.96  | 9.96 | mg/kg | 02.23.18 22.09 | U    | 1   |



## Certificate of Analytical Results 573941



### OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB4 4-6 (1)**

Matrix: Soil

Date Received: 01.18.18 17.00

Lab Sample Id: 573941-024

Date Collected: 01.17.18 15.10

Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.23.18 07.29

Basis: Wet Weight

Seq Number: 3042055

SUB: TX104704215-18-24

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <9.78  | 9.78 | mg/kg | 02.23.18 22.19 | U    | 1   |



## Certificate of Analytical Results 573941



### OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB4 6-8**  
Lab Sample Id: 573941-025

Matrix: Soil  
Date Collected: 01.17.18 15.20

Date Received: 01.18.18 17.00  
Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3042055

Date Prep: 02.23.18 07.29

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: TX104704215-18-24

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <9.92  | 9.92 | mg/kg | 02.23.18 22.51 | U    | 1   |



## Certificate of Analytical Results 573941



### OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB4 8-10**

Matrix: Soil

Date Received: 01.18.18 17.00

Lab Sample Id: 573941-026

Date Collected: 01.17.18 15.30

Sample Depth: 10 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.23.18 07.29

Basis: Wet Weight

Seq Number: 3042055

SUB: TX104704215-18-24

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <9.90  | 9.90 | mg/kg | 02.23.18 23.01 | U    | 1   |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB5 0-2**  
Lab Sample Id: 573941-027

Matrix: Soil  
Date Collected: 01.17.18 15.45

Date Received: 01.18.18 17.00  
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300  
Tech: OJS  
Analyst: OJS  
Seq Number: 3039239

Date Prep: 01.23.18 12.00

Prep Method: E300P  
% Moisture:  
Basis: Wet Weight

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | 1330   | 24.9 | mg/kg | 01.23.18 17.31 |      | 5   |

Analytical Method: TPH By SW8015 Mod  
Tech: ARM  
Analyst: ARM  
Seq Number: 3039134

Date Prep: 01.23.18 14.00

Prep Method: TX1005P  
% Moisture:  
Basis: Wet Weight

| Parameter                         | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------------------------------|------------|--------|------|-------|----------------|------|-----|
| Gasoline Range Hydrocarbons (GRO) | PHC610     | <15.0  | 15.0 | mg/kg | 01.23.18 19.46 | U    | 1   |
| Diesel Range Organics (DRO)       | C10C28DRO  | 43.2   | 15.0 | mg/kg | 01.23.18 19.46 |      | 1   |
| Oil Range Hydrocarbons (ORO)      | PHCG2835   | <15.0  | 15.0 | mg/kg | 01.23.18 19.46 | U    | 1   |
| Total TPH                         | PHC635     | 43.2   | 15.0 | mg/kg | 01.23.18 19.46 |      | 1   |

| Surrogate      | Cas Number | % Recovery | Units | Limits | Analysis Date  | Flag |
|----------------|------------|------------|-------|--------|----------------|------|
| 1-Chlorooctane | 111-85-3   | 109        | %     | 70-135 | 01.23.18 19.46 |      |
| o-Terphenyl    | 84-15-1    | 108        | %     | 70-135 | 01.23.18 19.46 |      |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB5 0-2**  
Lab Sample Id: 573941-027

Matrix: Soil  
Date Collected: 01.17.18 15.45

Date Received: 01.18.18 17.00  
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 01.24.18 16.00

Basis: Wet Weight

Seq Number: 3039242

| Parameter            | Cas Number        | Result            | RL           | Units         | Analysis Date        | Flag        | Dil |
|----------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Benzene              | 71-43-2           | <0.00332          | 0.00332      | mg/kg         | 01.24.18 19.49       | U           | 1   |
| Toluene              | 108-88-3          | <0.00332          | 0.00332      | mg/kg         | 01.24.18 19.49       | U           | 1   |
| Ethylbenzene         | 100-41-4          | <0.00332          | 0.00332      | mg/kg         | 01.24.18 19.49       | U           | 1   |
| m,p-Xylenes          | 179601-23-1       | <0.00664          | 0.00664      | mg/kg         | 01.24.18 19.49       | U           | 1   |
| o-Xylene             | 95-47-6           | <0.00332          | 0.00332      | mg/kg         | 01.24.18 19.49       | U           | 1   |
| Total Xylenes        | 1330-20-7         | <0.00332          | 0.00332      | mg/kg         | 01.24.18 19.49       | U           | 1   |
| Total BTEX           |                   | <0.00332          | 0.00332      | mg/kg         | 01.24.18 19.49       | U           | 1   |
| <b>Surrogate</b>     | <b>Cas Number</b> | <b>% Recovery</b> | <b>Units</b> | <b>Limits</b> | <b>Analysis Date</b> | <b>Flag</b> |     |
| 1,4-Difluorobenzene  | 540-36-3          | 98                | %            | 80-120        | 01.24.18 19.49       |             |     |
| 4-Bromofluorobenzene | 460-00-4          | 96                | %            | 80-120        | 01.24.18 19.49       |             |     |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB5 2-4**  
Lab Sample Id: 573941-028

Matrix: Soil  
Date Collected: 01.17.18 15.55

Date Received: 01.18.18 17.00  
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300  
Tech: OJS  
Analyst: OJS  
Seq Number: 3039239

Date Prep: 01.23.18 12.00

Prep Method: E300P  
% Moisture:  
Basis: Wet Weight

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | 1580   | 24.9 | mg/kg | 01.23.18 17.38 |      | 5   |

Analytical Method: TPH By SW8015 Mod  
Tech: ARM  
Analyst: ARM  
Seq Number: 3039134

Date Prep: 01.23.18 14.00

Prep Method: TX1005P  
% Moisture:  
Basis: Wet Weight

| Parameter                         | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------------------------------|------------|--------|------|-------|----------------|------|-----|
| Gasoline Range Hydrocarbons (GRO) | PHC610     | <15.0  | 15.0 | mg/kg | 01.23.18 20.05 | U    | 1   |
| Diesel Range Organics (DRO)       | C10C28DRO  | <15.0  | 15.0 | mg/kg | 01.23.18 20.05 | U    | 1   |
| Oil Range Hydrocarbons (ORO)      | PHCG2835   | <15.0  | 15.0 | mg/kg | 01.23.18 20.05 | U    | 1   |
| Total TPH                         | PHC635     | <15.0  | 15.0 | mg/kg | 01.23.18 20.05 | U    | 1   |

| Surrogate      | Cas Number | % Recovery | Units | Limits | Analysis Date  | Flag |
|----------------|------------|------------|-------|--------|----------------|------|
| 1-Chlorooctane | 111-85-3   | 112        | %     | 70-135 | 01.23.18 20.05 |      |
| o-Terphenyl    | 84-15-1    | 112        | %     | 70-135 | 01.23.18 20.05 |      |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB5 2-4**  
Lab Sample Id: 573941-028

Matrix: Soil  
Date Collected: 01.17.18 15.55

Date Received: 01.18.18 17.00  
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 01.23.18 08.30

Basis: Wet Weight

Seq Number: 3039101

| Parameter            | Cas Number        | Result            | RL           | Units         | Analysis Date        | Flag        | Dil |
|----------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Benzene              | 71-43-2           | <0.00202          | 0.00202      | mg/kg         | 01.23.18 16.41       | U           | 1   |
| Toluene              | 108-88-3          | <0.00202          | 0.00202      | mg/kg         | 01.23.18 16.41       | U           | 1   |
| Ethylbenzene         | 100-41-4          | <0.00202          | 0.00202      | mg/kg         | 01.23.18 16.41       | U           | 1   |
| m,p-Xylenes          | 179601-23-1       | <0.00403          | 0.00403      | mg/kg         | 01.23.18 16.41       | U           | 1   |
| o-Xylene             | 95-47-6           | <0.00202          | 0.00202      | mg/kg         | 01.23.18 16.41       | U           | 1   |
| Total Xylenes        | 1330-20-7         | <0.00202          | 0.00202      | mg/kg         | 01.23.18 16.41       | U           | 1   |
| Total BTEX           |                   | <0.00202          | 0.00202      | mg/kg         | 01.23.18 16.41       | U           | 1   |
| <b>Surrogate</b>     | <b>Cas Number</b> | <b>% Recovery</b> | <b>Units</b> | <b>Limits</b> | <b>Analysis Date</b> | <b>Flag</b> |     |
| 1,4-Difluorobenzene  | 540-36-3          | 97                | %            | 80-120        | 01.23.18 16.41       |             |     |
| 4-Bromofluorobenzene | 460-00-4          | 88                | %            | 80-120        | 01.23.18 16.41       |             |     |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB5 4-6**  
Lab Sample Id: 573941-029

Matrix: Soil  
Date Collected: 01.17.18 16.00

Date Received: 01.18.18 17.00  
Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300  
Tech: OJS  
Analyst: OJS  
Seq Number: 3039239

Date Prep: 01.23.18 12.00

Prep Method: E300P  
% Moisture:  
Basis: Wet Weight

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | 486    | 5.00 | mg/kg | 01.23.18 17.45 |      | 1   |

Analytical Method: TPH By SW8015 Mod  
Tech: ARM  
Analyst: ARM  
Seq Number: 3039134

Date Prep: 01.23.18 14.00

Prep Method: TX1005P  
% Moisture:  
Basis: Wet Weight

| Parameter                         | Cas Number        | Result            | RL           | Units         | Analysis Date        | Flag        | Dil |
|-----------------------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Gasoline Range Hydrocarbons (GRO) | PHC610            | <15.0             | 15.0         | mg/kg         | 01.23.18 20.25       | U           | 1   |
| Diesel Range Organics (DRO)       | C10C28DRO         | <15.0             | 15.0         | mg/kg         | 01.23.18 20.25       | U           | 1   |
| Oil Range Hydrocarbons (ORO)      | PHCG2835          | <15.0             | 15.0         | mg/kg         | 01.23.18 20.25       | U           | 1   |
| Total TPH                         | PHC635            | <15.0             | 15.0         | mg/kg         | 01.23.18 20.25       | U           | 1   |
| <b>Surrogate</b>                  | <b>Cas Number</b> | <b>% Recovery</b> | <b>Units</b> | <b>Limits</b> | <b>Analysis Date</b> | <b>Flag</b> |     |
| 1-Chlorooctane                    | 111-85-3          | 104               | %            | 70-135        | 01.23.18 20.25       |             |     |
| o-Terphenyl                       | 84-15-1           | 105               | %            | 70-135        | 01.23.18 20.25       |             |     |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB5 4-6**  
Lab Sample Id: 573941-029

Matrix: Soil  
Date Collected: 01.17.18 16.00

Date Received: 01.18.18 17.00  
Sample Depth: 6 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3039101

Date Prep: 01.23.18 08.30

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

| Parameter            | Cas Number        | Result            | RL           | Units         | Analysis Date        | Flag        | Dil |
|----------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Benzene              | 71-43-2           | <0.00201          | 0.00201      | mg/kg         | 01.23.18 22.43       | U           | 1   |
| Toluene              | 108-88-3          | <0.00201          | 0.00201      | mg/kg         | 01.23.18 22.43       | U           | 1   |
| Ethylbenzene         | 100-41-4          | <0.00201          | 0.00201      | mg/kg         | 01.23.18 22.43       | U           | 1   |
| m,p-Xylenes          | 179601-23-1       | <0.00402          | 0.00402      | mg/kg         | 01.23.18 22.43       | U           | 1   |
| o-Xylene             | 95-47-6           | <0.00201          | 0.00201      | mg/kg         | 01.23.18 22.43       | U           | 1   |
| Total Xylenes        | 1330-20-7         | <0.00201          | 0.00201      | mg/kg         | 01.23.18 22.43       | U           | 1   |
| Total BTEX           |                   | <0.00201          | 0.00201      | mg/kg         | 01.23.18 22.43       | U           | 1   |
| <b>Surrogate</b>     | <b>Cas Number</b> | <b>% Recovery</b> | <b>Units</b> | <b>Limits</b> | <b>Analysis Date</b> | <b>Flag</b> |     |
| 1,4-Difluorobenzene  | 540-36-3          | 98                | %            | 80-120        | 01.23.18 22.43       |             |     |
| 4-Bromofluorobenzene | 460-00-4          | 88                | %            | 80-120        | 01.23.18 22.43       |             |     |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB5 6-8**  
Lab Sample Id: 573941-030

Matrix: Soil  
Date Collected: 01.17.18 16.10

Date Received: 01.18.18 17.00  
Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300  
Tech: OJS  
Analyst: OJS  
Seq Number: 3039239

Date Prep: 01.23.18 12.00

Prep Method: E300P  
% Moisture:  
Basis: Wet Weight

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | 51.7   | 5.00 | mg/kg | 01.23.18 17.52 |      | 1   |

Analytical Method: TPH By SW8015 Mod  
Tech: ARM  
Analyst: ARM  
Seq Number: 3039134

Date Prep: 01.23.18 14.00

Prep Method: TX1005P  
% Moisture:  
Basis: Wet Weight

| Parameter                         | Cas Number        | Result            | RL           | Units         | Analysis Date        | Flag        | Dil |
|-----------------------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Gasoline Range Hydrocarbons (GRO) | PHC610            | <15.0             | 15.0         | mg/kg         | 01.23.18 20.46       | U           | 1   |
| Diesel Range Organics (DRO)       | C10C28DRO         | <15.0             | 15.0         | mg/kg         | 01.23.18 20.46       | U           | 1   |
| Oil Range Hydrocarbons (ORO)      | PHCG2835          | <15.0             | 15.0         | mg/kg         | 01.23.18 20.46       | U           | 1   |
| Total TPH                         | PHC635            | <15.0             | 15.0         | mg/kg         | 01.23.18 20.46       | U           | 1   |
| <b>Surrogate</b>                  | <b>Cas Number</b> | <b>% Recovery</b> | <b>Units</b> | <b>Limits</b> | <b>Analysis Date</b> | <b>Flag</b> |     |
| 1-Chlorooctane                    | 111-85-3          | 110               | %            | 70-135        | 01.23.18 20.46       |             |     |
| o-Terphenyl                       | 84-15-1           | 107               | %            | 70-135        | 01.23.18 20.46       |             |     |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB5 6-8**  
Lab Sample Id: 573941-030

Matrix: Soil  
Date Collected: 01.17.18 16.10

Date Received: 01.18.18 17.00  
Sample Depth: 8 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3039101

Date Prep: 01.23.18 08.30

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

| Parameter            | Cas Number        | Result            | RL           | Units         | Analysis Date        | Flag        | Dil |
|----------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Benzene              | 71-43-2           | <0.00199          | 0.00199      | mg/kg         | 01.23.18 23.02       | U           | 1   |
| Toluene              | 108-88-3          | <0.00199          | 0.00199      | mg/kg         | 01.23.18 23.02       | U           | 1   |
| Ethylbenzene         | 100-41-4          | <0.00199          | 0.00199      | mg/kg         | 01.23.18 23.02       | U           | 1   |
| m,p-Xylenes          | 179601-23-1       | <0.00398          | 0.00398      | mg/kg         | 01.23.18 23.02       | U           | 1   |
| o-Xylene             | 95-47-6           | <0.00199          | 0.00199      | mg/kg         | 01.23.18 23.02       | U           | 1   |
| Total Xylenes        | 1330-20-7         | <0.00199          | 0.00199      | mg/kg         | 01.23.18 23.02       | U           | 1   |
| Total BTEX           |                   | <0.00199          | 0.00199      | mg/kg         | 01.23.18 23.02       | U           | 1   |
| <b>Surrogate</b>     | <b>Cas Number</b> | <b>% Recovery</b> | <b>Units</b> | <b>Limits</b> | <b>Analysis Date</b> | <b>Flag</b> |     |
| 1,4-Difluorobenzene  | 540-36-3          | 98                | %            | 80-120        | 01.23.18 23.02       |             |     |
| 4-Bromofluorobenzene | 460-00-4          | 92                | %            | 80-120        | 01.23.18 23.02       |             |     |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB5 8-10**  
Lab Sample Id: 573941-031

Matrix: Soil  
Date Collected: 01.17.18 16.20

Date Received: 01.18.18 17.00  
Sample Depth: 10 ft

Analytical Method: Chloride by EPA 300  
Tech: OJS  
Analyst: OJS  
Seq Number: 3039239

Date Prep: 01.23.18 12.00

Prep Method: E300P  
% Moisture:  
Basis: Wet Weight

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | 23.7   | 4.97 | mg/kg | 01.23.18 17.59 |      | 1   |

Analytical Method: TPH By SW8015 Mod  
Tech: ARM  
Analyst: ARM  
Seq Number: 3039134

Date Prep: 01.23.18 14.00

Prep Method: TX1005P  
% Moisture:  
Basis: Wet Weight

| Parameter                         | Cas Number        | Result            | RL           | Units         | Analysis Date        | Flag        | Dil |
|-----------------------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Gasoline Range Hydrocarbons (GRO) | PHC610            | <15.0             | 15.0         | mg/kg         | 01.23.18 21.47       | U           | 1   |
| Diesel Range Organics (DRO)       | C10C28DRO         | <15.0             | 15.0         | mg/kg         | 01.23.18 21.47       | U           | 1   |
| Oil Range Hydrocarbons (ORO)      | PHCG2835          | <15.0             | 15.0         | mg/kg         | 01.23.18 21.47       | U           | 1   |
| Total TPH                         | PHC635            | <15.0             | 15.0         | mg/kg         | 01.23.18 21.47       | U           | 1   |
| <b>Surrogate</b>                  | <b>Cas Number</b> | <b>% Recovery</b> | <b>Units</b> | <b>Limits</b> | <b>Analysis Date</b> | <b>Flag</b> |     |
| 1-Chlorooctane                    | 111-85-3          | 116               | %            | 70-135        | 01.23.18 21.47       |             |     |
| o-Terphenyl                       | 84-15-1           | 117               | %            | 70-135        | 01.23.18 21.47       |             |     |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB5 8-10**  
Lab Sample Id: 573941-031

Matrix: Soil  
Date Collected: 01.17.18 16.20

Date Received: 01.18.18 17.00  
Sample Depth: 10 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 01.23.18 08.30

Basis: Wet Weight

Seq Number: 3039101

| Parameter            | Cas Number        | Result            | RL           | Units         | Analysis Date        | Flag        | Dil |
|----------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Benzene              | 71-43-2           | <0.00200          | 0.00200      | mg/kg         | 01.23.18 23.21       | U           | 1   |
| Toluene              | 108-88-3          | <0.00200          | 0.00200      | mg/kg         | 01.23.18 23.21       | U           | 1   |
| Ethylbenzene         | 100-41-4          | <0.00200          | 0.00200      | mg/kg         | 01.23.18 23.21       | U           | 1   |
| m,p-Xylenes          | 179601-23-1       | <0.00399          | 0.00399      | mg/kg         | 01.23.18 23.21       | U           | 1   |
| o-Xylene             | 95-47-6           | <0.00200          | 0.00200      | mg/kg         | 01.23.18 23.21       | U           | 1   |
| Total Xylenes        | 1330-20-7         | <0.00200          | 0.00200      | mg/kg         | 01.23.18 23.21       | U           | 1   |
| Total BTEX           |                   | <0.00200          | 0.00200      | mg/kg         | 01.23.18 23.21       | U           | 1   |
| <b>Surrogate</b>     | <b>Cas Number</b> | <b>% Recovery</b> | <b>Units</b> | <b>Limits</b> | <b>Analysis Date</b> | <b>Flag</b> |     |
| 1,4-Difluorobenzene  | 540-36-3          | 95                | %            | 80-120        | 01.23.18 23.21       |             |     |
| 4-Bromofluorobenzene | 460-00-4          | 84                | %            | 80-120        | 01.23.18 23.21       |             |     |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB6 0-2**  
Lab Sample Id: 573941-032

Matrix: Soil  
Date Collected: 01.17.18 16.30

Date Received: 01.18.18 17.00  
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300  
Tech: OJS  
Analyst: OJS  
Seq Number: 3039239

Date Prep: 01.23.18 12.00

Prep Method: E300P  
% Moisture:  
Basis: Wet Weight

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <4.98  | 4.98 | mg/kg | 01.23.18 18.34 | U    | 1   |

Analytical Method: TPH By SW8015 Mod  
Tech: ARM  
Analyst: ARM  
Seq Number: 3039134

Date Prep: 01.23.18 14.00

Prep Method: TX1005P  
% Moisture:  
Basis: Wet Weight

| Parameter                         | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------------------------------|------------|--------|------|-------|----------------|------|-----|
| Gasoline Range Hydrocarbons (GRO) | PHC610     | <15.0  | 15.0 | mg/kg | 01.23.18 22.07 | U    | 1   |
| Diesel Range Organics (DRO)       | C10C28DRO  | <15.0  | 15.0 | mg/kg | 01.23.18 22.07 | U    | 1   |
| Oil Range Hydrocarbons (ORO)      | PHCG2835   | <15.0  | 15.0 | mg/kg | 01.23.18 22.07 | U    | 1   |
| Total TPH                         | PHC635     | <15.0  | 15.0 | mg/kg | 01.23.18 22.07 | U    | 1   |

| Surrogate      | Cas Number | % Recovery | Units | Limits | Analysis Date  | Flag |
|----------------|------------|------------|-------|--------|----------------|------|
| 1-Chlorooctane | 111-85-3   | 110        | %     | 70-135 | 01.23.18 22.07 |      |
| o-Terphenyl    | 84-15-1    | 109        | %     | 70-135 | 01.23.18 22.07 |      |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB6 0-2**  
Lab Sample Id: 573941-032

Matrix: Soil  
Date Collected: 01.17.18 16.30

Date Received: 01.18.18 17.00  
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3039101

Date Prep: 01.23.18 08.30

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

| Parameter            | Cas Number        | Result            | RL           | Units         | Analysis Date        | Flag        | Dil |
|----------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Benzene              | 71-43-2           | <0.00200          | 0.00200      | mg/kg         | 01.23.18 17.00       | U           | 1   |
| Toluene              | 108-88-3          | <0.00200          | 0.00200      | mg/kg         | 01.23.18 17.00       | U           | 1   |
| Ethylbenzene         | 100-41-4          | <0.00200          | 0.00200      | mg/kg         | 01.23.18 17.00       | U           | 1   |
| m,p-Xylenes          | 179601-23-1       | <0.00401          | 0.00401      | mg/kg         | 01.23.18 17.00       | U           | 1   |
| o-Xylene             | 95-47-6           | <0.00200          | 0.00200      | mg/kg         | 01.23.18 17.00       | U           | 1   |
| Total Xylenes        | 1330-20-7         | <0.00200          | 0.00200      | mg/kg         | 01.23.18 17.00       | U           | 1   |
| Total BTEX           |                   | <0.00200          | 0.00200      | mg/kg         | 01.23.18 17.00       | U           | 1   |
| <b>Surrogate</b>     | <b>Cas Number</b> | <b>% Recovery</b> | <b>Units</b> | <b>Limits</b> | <b>Analysis Date</b> | <b>Flag</b> |     |
| 4-Bromofluorobenzene | 460-00-4          | 94                | %            | 80-120        | 01.23.18 17.00       |             |     |
| 1,4-Difluorobenzene  | 540-36-3          | 97                | %            | 80-120        | 01.23.18 17.00       |             |     |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB6 2-4**  
Lab Sample Id: 573941-033

Matrix: Soil  
Date Collected: 01.17.18 16.40

Date Received: 01.18.18 17.00  
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300  
Tech: OJS  
Analyst: OJS  
Seq Number: 3039239

Date Prep: 01.23.18 12.00

Prep Method: E300P  
% Moisture:  
Basis: Wet Weight

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | 404    | 4.97 | mg/kg | 01.23.18 18.41 |      | 1   |

Analytical Method: TPH By SW8015 Mod  
Tech: ARM  
Analyst: ARM  
Seq Number: 3039134

Date Prep: 01.23.18 14.00

Prep Method: TX1005P  
% Moisture:  
Basis: Wet Weight

| Parameter                         | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------------------------------|------------|--------|------|-------|----------------|------|-----|
| Gasoline Range Hydrocarbons (GRO) | PHC610     | <15.0  | 15.0 | mg/kg | 01.23.18 22.27 | U    | 1   |
| Diesel Range Organics (DRO)       | C10C28DRO  | <15.0  | 15.0 | mg/kg | 01.23.18 22.27 | U    | 1   |
| Oil Range Hydrocarbons (ORO)      | PHCG2835   | <15.0  | 15.0 | mg/kg | 01.23.18 22.27 | U    | 1   |
| Total TPH                         | PHC635     | <15.0  | 15.0 | mg/kg | 01.23.18 22.27 | U    | 1   |

| Surrogate      | Cas Number | % Recovery | Units | Limits | Analysis Date  | Flag |
|----------------|------------|------------|-------|--------|----------------|------|
| 1-Chlorooctane | 111-85-3   | 109        | %     | 70-135 | 01.23.18 22.27 |      |
| o-Terphenyl    | 84-15-1    | 108        | %     | 70-135 | 01.23.18 22.27 |      |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB6 2-4**  
Lab Sample Id: 573941-033

Matrix: Soil  
Date Collected: 01.17.18 16.40

Date Received: 01.18.18 17.00  
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3039105

Date Prep: 01.23.18 17.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

| Parameter            | Cas Number        | Result            | RL           | Units         | Analysis Date        | Flag        | Dil |
|----------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Benzene              | 71-43-2           | <0.00201          | 0.00201      | mg/kg         | 01.24.18 04.58       | U           | 1   |
| Toluene              | 108-88-3          | <0.00201          | 0.00201      | mg/kg         | 01.24.18 04.58       | U           | 1   |
| Ethylbenzene         | 100-41-4          | <0.00201          | 0.00201      | mg/kg         | 01.24.18 04.58       | U           | 1   |
| m,p-Xylenes          | 179601-23-1       | <0.00402          | 0.00402      | mg/kg         | 01.24.18 04.58       | U           | 1   |
| o-Xylene             | 95-47-6           | <0.00201          | 0.00201      | mg/kg         | 01.24.18 04.58       | U           | 1   |
| Total Xylenes        | 1330-20-7         | <0.00201          | 0.00201      | mg/kg         | 01.24.18 04.58       | U           | 1   |
| Total BTEX           |                   | <0.00201          | 0.00201      | mg/kg         | 01.24.18 04.58       | U           | 1   |
| <b>Surrogate</b>     | <b>Cas Number</b> | <b>% Recovery</b> | <b>Units</b> | <b>Limits</b> | <b>Analysis Date</b> | <b>Flag</b> |     |
| 4-Bromofluorobenzene | 460-00-4          | 93                | %            | 80-120        | 01.24.18 04.58       |             |     |
| 1,4-Difluorobenzene  | 540-36-3          | 97                | %            | 80-120        | 01.24.18 04.58       |             |     |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB6 4-6**  
Lab Sample Id: 573941-034

Matrix: Soil  
Date Collected: 01.17.18 16.50

Date Received: 01.18.18 17.00  
Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300  
Tech: OJS  
Analyst: OJS  
Seq Number: 3039239

Date Prep: 01.23.18 12.00

Prep Method: E300P  
% Moisture:  
Basis: Wet Weight

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | 1070   | 4.99 | mg/kg | 01.23.18 18.48 |      | 1   |

Analytical Method: TPH By SW8015 Mod  
Tech: ARM  
Analyst: ARM  
Seq Number: 3039134

Date Prep: 01.23.18 14.00

Prep Method: TX1005P  
% Moisture:  
Basis: Wet Weight

| Parameter                         | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------------------------------|------------|--------|------|-------|----------------|------|-----|
| Gasoline Range Hydrocarbons (GRO) | PHC610     | <15.0  | 15.0 | mg/kg | 01.23.18 22.50 | U    | 1   |
| Diesel Range Organics (DRO)       | C10C28DRO  | <15.0  | 15.0 | mg/kg | 01.23.18 22.50 | U    | 1   |
| Oil Range Hydrocarbons (ORO)      | PHCG2835   | <15.0  | 15.0 | mg/kg | 01.23.18 22.50 | U    | 1   |
| Total TPH                         | PHC635     | <15.0  | 15.0 | mg/kg | 01.23.18 22.50 | U    | 1   |

| Surrogate      | Cas Number | % Recovery | Units | Limits | Analysis Date  | Flag |
|----------------|------------|------------|-------|--------|----------------|------|
| 1-Chlorooctane | 111-85-3   | 96         | %     | 70-135 | 01.23.18 22.50 |      |
| o-Terphenyl    | 84-15-1    | 99         | %     | 70-135 | 01.23.18 22.50 |      |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB6 4-6**  
Lab Sample Id: 573941-034

Matrix: Soil  
Date Collected: 01.17.18 16.50

Date Received: 01.18.18 17.00  
Sample Depth: 6 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3039105

Date Prep: 01.23.18 17.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

| Parameter            | Cas Number        | Result            | RL           | Units         | Analysis Date        | Flag        | Dil |
|----------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Benzene              | 71-43-2           | <0.00200          | 0.00200      | mg/kg         | 01.24.18 08.07       | U           | 1   |
| Toluene              | 108-88-3          | <0.00200          | 0.00200      | mg/kg         | 01.24.18 08.07       | U           | 1   |
| Ethylbenzene         | 100-41-4          | <0.00200          | 0.00200      | mg/kg         | 01.24.18 08.07       | U           | 1   |
| m,p-Xylenes          | 179601-23-1       | <0.00399          | 0.00399      | mg/kg         | 01.24.18 08.07       | U           | 1   |
| o-Xylene             | 95-47-6           | <0.00200          | 0.00200      | mg/kg         | 01.24.18 08.07       | U           | 1   |
| Total Xylenes        | 1330-20-7         | <0.00200          | 0.00200      | mg/kg         | 01.24.18 08.07       | U           | 1   |
| Total BTEX           |                   | <0.00200          | 0.00200      | mg/kg         | 01.24.18 08.07       | U           | 1   |
|                      |                   |                   |              |               |                      |             |     |
| <b>Surrogate</b>     | <b>Cas Number</b> | <b>% Recovery</b> | <b>Units</b> | <b>Limits</b> | <b>Analysis Date</b> | <b>Flag</b> |     |
| 4-Bromofluorobenzene | 460-00-4          | 86                | %            | 80-120        | 01.24.18 08.07       |             |     |
| 1,4-Difluorobenzene  | 540-36-3          | 98                | %            | 80-120        | 01.24.18 08.07       |             |     |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB6 6-8**  
Lab Sample Id: 573941-035

Matrix: Soil  
Date Collected: 01.17.18 17.00

Date Received: 01.18.18 17.00  
Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300  
Tech: OJS  
Analyst: OJS  
Seq Number: 3039239

Date Prep: 01.23.18 12.00

Prep Method: E300P  
% Moisture:  
Basis: Wet Weight

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | 454    | 4.96 | mg/kg | 01.23.18 18.55 |      | 1   |

Analytical Method: TPH By SW8015 Mod  
Tech: ARM  
Analyst: ARM  
Seq Number: 3039134

Date Prep: 01.23.18 14.00

Prep Method: TX1005P  
% Moisture:  
Basis: Wet Weight

| Parameter                         | Cas Number        | Result            | RL           | Units         | Analysis Date        | Flag        | Dil |
|-----------------------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Gasoline Range Hydrocarbons (GRO) | PHC610            | <15.0             | 15.0         | mg/kg         | 01.23.18 23.10       | U           | 1   |
| Diesel Range Organics (DRO)       | C10C28DRO         | <15.0             | 15.0         | mg/kg         | 01.23.18 23.10       | U           | 1   |
| Oil Range Hydrocarbons (ORO)      | PHCG2835          | <15.0             | 15.0         | mg/kg         | 01.23.18 23.10       | U           | 1   |
| Total TPH                         | PHC635            | <15.0             | 15.0         | mg/kg         | 01.23.18 23.10       | U           | 1   |
| <b>Surrogate</b>                  | <b>Cas Number</b> | <b>% Recovery</b> | <b>Units</b> | <b>Limits</b> | <b>Analysis Date</b> | <b>Flag</b> |     |
| 1-Chlorooctane                    | 111-85-3          | 105               | %            | 70-135        | 01.23.18 23.10       |             |     |
| o-Terphenyl                       | 84-15-1           | 107               | %            | 70-135        | 01.23.18 23.10       |             |     |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB6 6-8**  
Lab Sample Id: 573941-035

Matrix: Soil  
Date Collected: 01.17.18 17.00

Date Received: 01.18.18 17.00  
Sample Depth: 8 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 01.23.18 17.00

Basis: Wet Weight

Seq Number: 3039105

| Parameter            | Cas Number        | Result            | RL           | Units         | Analysis Date        | Flag        | Dil |
|----------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Benzene              | 71-43-2           | <0.00199          | 0.00199      | mg/kg         | 01.24.18 08.26       | U           | 1   |
| Toluene              | 108-88-3          | <0.00199          | 0.00199      | mg/kg         | 01.24.18 08.26       | U           | 1   |
| Ethylbenzene         | 100-41-4          | <0.00199          | 0.00199      | mg/kg         | 01.24.18 08.26       | U           | 1   |
| m,p-Xylenes          | 179601-23-1       | <0.00398          | 0.00398      | mg/kg         | 01.24.18 08.26       | U           | 1   |
| o-Xylene             | 95-47-6           | <0.00199          | 0.00199      | mg/kg         | 01.24.18 08.26       | U           | 1   |
| Total Xylenes        | 1330-20-7         | <0.00199          | 0.00199      | mg/kg         | 01.24.18 08.26       | U           | 1   |
| Total BTEX           |                   | <0.00199          | 0.00199      | mg/kg         | 01.24.18 08.26       | U           | 1   |
| <b>Surrogate</b>     | <b>Cas Number</b> | <b>% Recovery</b> | <b>Units</b> | <b>Limits</b> | <b>Analysis Date</b> | <b>Flag</b> |     |
| 4-Bromofluorobenzene | 460-00-4          | 89                | %            | 80-120        | 01.24.18 08.26       |             |     |
| 1,4-Difluorobenzene  | 540-36-3          | 101               | %            | 80-120        | 01.24.18 08.26       |             |     |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB6 8-10**  
Lab Sample Id: 573941-036

Matrix: Soil  
Date Collected: 01.17.18 17.10

Date Received: 01.18.18 17.00  
Sample Depth: 10 ft

Analytical Method: Chloride by EPA 300  
Tech: OJS  
Analyst: OJS  
Seq Number: 3039239

Date Prep: 01.23.18 12.00

Prep Method: E300P  
% Moisture:  
Basis: Wet Weight

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | 121    | 5.00 | mg/kg | 01.23.18 19.02 |      | 1   |

Analytical Method: TPH By SW8015 Mod  
Tech: ARM  
Analyst: ARM  
Seq Number: 3039134

Date Prep: 01.23.18 14.00

Prep Method: TX1005P  
% Moisture:  
Basis: Wet Weight

| Parameter                         | Cas Number        | Result            | RL           | Units         | Analysis Date        | Flag        | Dil |
|-----------------------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Gasoline Range Hydrocarbons (GRO) | PHC610            | <15.0             | 15.0         | mg/kg         | 01.23.18 23.29       | U           | 1   |
| Diesel Range Organics (DRO)       | C10C28DRO         | <15.0             | 15.0         | mg/kg         | 01.23.18 23.29       | U           | 1   |
| Oil Range Hydrocarbons (ORO)      | PHCG2835          | <15.0             | 15.0         | mg/kg         | 01.23.18 23.29       | U           | 1   |
| Total TPH                         | PHC635            | <15.0             | 15.0         | mg/kg         | 01.23.18 23.29       | U           | 1   |
| <b>Surrogate</b>                  | <b>Cas Number</b> | <b>% Recovery</b> | <b>Units</b> | <b>Limits</b> | <b>Analysis Date</b> | <b>Flag</b> |     |
| 1-Chlorooctane                    | 111-85-3          | 109               | %            | 70-135        | 01.23.18 23.29       |             |     |
| o-Terphenyl                       | 84-15-1           | 109               | %            | 70-135        | 01.23.18 23.29       |             |     |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB6 8-10**  
Lab Sample Id: 573941-036

Matrix: Soil  
Date Collected: 01.17.18 17.10

Date Received: 01.18.18 17.00  
Sample Depth: 10 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3039242

Date Prep: 01.24.18 16.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

| Parameter            | Cas Number        | Result            | RL           | Units         | Analysis Date        | Flag        | Dil |
|----------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Benzene              | 71-43-2           | <0.00330          | 0.00330      | mg/kg         | 01.24.18 20.08       | U           | 1   |
| Toluene              | 108-88-3          | <0.00330          | 0.00330      | mg/kg         | 01.24.18 20.08       | U           | 1   |
| Ethylbenzene         | 100-41-4          | <0.00330          | 0.00330      | mg/kg         | 01.24.18 20.08       | U           | 1   |
| m,p-Xylenes          | 179601-23-1       | <0.00660          | 0.00660      | mg/kg         | 01.24.18 20.08       | U           | 1   |
| o-Xylene             | 95-47-6           | <0.00330          | 0.00330      | mg/kg         | 01.24.18 20.08       | U           | 1   |
| Total Xylenes        | 1330-20-7         | <0.00330          | 0.00330      | mg/kg         | 01.24.18 20.08       | U           | 1   |
| Total BTEX           |                   | <0.00330          | 0.00330      | mg/kg         | 01.24.18 20.08       | U           | 1   |
| <b>Surrogate</b>     | <b>Cas Number</b> | <b>% Recovery</b> | <b>Units</b> | <b>Limits</b> | <b>Analysis Date</b> | <b>Flag</b> |     |
| 1,4-Difluorobenzene  | 540-36-3          | 86                | %            | 80-120        | 01.24.18 20.08       |             |     |
| 4-Bromofluorobenzene | 460-00-4          | 90                | %            | 80-120        | 01.24.18 20.08       |             |     |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB6 10-12**

Matrix: Soil

Date Received: 01.18.18 17.00

Lab Sample Id: 573941-037

Date Collected: 01.17.18 17.20

Sample Depth: 12 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Analyst: OJS

Date Prep: 01.23.18 12.00

Basis: Wet Weight

Seq Number: 3039239

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | 540    | 5.00 | mg/kg | 01.23.18 19.09 |      | 1   |

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 01.23.18 14.00

Basis: Wet Weight

Seq Number: 3039134

| Parameter                         | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------------------------------|------------|--------|------|-------|----------------|------|-----|
| Gasoline Range Hydrocarbons (GRO) | PHC610     | <15.0  | 15.0 | mg/kg | 01.23.18 23.49 | U    | 1   |
| Diesel Range Organics (DRO)       | C10C28DRO  | <15.0  | 15.0 | mg/kg | 01.23.18 23.49 | U    | 1   |
| Oil Range Hydrocarbons (ORO)      | PHCG2835   | <15.0  | 15.0 | mg/kg | 01.23.18 23.49 | U    | 1   |
| Total TPH                         | PHC635     | <15.0  | 15.0 | mg/kg | 01.23.18 23.49 | U    | 1   |

| Surrogate      | Cas Number | % Recovery | Units | Limits | Analysis Date  | Flag |
|----------------|------------|------------|-------|--------|----------------|------|
| 1-Chlorooctane | 111-85-3   | 108        | %     | 70-135 | 01.23.18 23.49 |      |
| o-Terphenyl    | 84-15-1    | 108        | %     | 70-135 | 01.23.18 23.49 |      |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB6 10-12**

Matrix: Soil

Date Received: 01.18.18 17.00

Lab Sample Id: 573941-037

Date Collected: 01.17.18 17.20

Sample Depth: 12 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 01.23.18 17.00

Basis: Wet Weight

Seq Number: 3039105

| Parameter            | Cas Number        | Result            | RL           | Units         | Analysis Date        | Flag        | Dil |
|----------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Benzene              | 71-43-2           | <0.00198          | 0.00198      | mg/kg         | 01.24.18 09.04       | U           | 1   |
| Toluene              | 108-88-3          | <0.00198          | 0.00198      | mg/kg         | 01.24.18 09.04       | U           | 1   |
| Ethylbenzene         | 100-41-4          | <0.00198          | 0.00198      | mg/kg         | 01.24.18 09.04       | U           | 1   |
| m,p-Xylenes          | 179601-23-1       | <0.00396          | 0.00396      | mg/kg         | 01.24.18 09.04       | U           | 1   |
| o-Xylene             | 95-47-6           | <0.00198          | 0.00198      | mg/kg         | 01.24.18 09.04       | U           | 1   |
| Total Xylenes        | 1330-20-7         | <0.00198          | 0.00198      | mg/kg         | 01.24.18 09.04       | U           | 1   |
| Total BTEX           |                   | <0.00198          | 0.00198      | mg/kg         | 01.24.18 09.04       | U           | 1   |
| <b>Surrogate</b>     | <b>Cas Number</b> | <b>% Recovery</b> | <b>Units</b> | <b>Limits</b> | <b>Analysis Date</b> | <b>Flag</b> |     |
| 4-Bromofluorobenzene | 460-00-4          | 84                | %            | 80-120        | 01.24.18 09.04       |             |     |
| 1,4-Difluorobenzene  | 540-36-3          | 95                | %            | 80-120        | 01.24.18 09.04       |             |     |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB6 12-14**

Matrix: Soil

Date Received: 01.18.18 17.00

Lab Sample Id: 573941-038

Date Collected: 01.17.18 17.30

Sample Depth: 14 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Analyst: OJS

Date Prep: 01.23.18 12.00

Basis: Wet Weight

Seq Number: 3039239

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | 162    | 5.00 | mg/kg | 01.23.18 19.16 |      | 1   |

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 01.23.18 14.00

Basis: Wet Weight

Seq Number: 3039134

| Parameter                         | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------------------------------|------------|--------|------|-------|----------------|------|-----|
| Gasoline Range Hydrocarbons (GRO) | PHC610     | <15.0  | 15.0 | mg/kg | 01.24.18 00.09 | U    | 1   |
| Diesel Range Organics (DRO)       | C10C28DRO  | <15.0  | 15.0 | mg/kg | 01.24.18 00.09 | U    | 1   |
| Oil Range Hydrocarbons (ORO)      | PHCG2835   | <15.0  | 15.0 | mg/kg | 01.24.18 00.09 | U    | 1   |
| Total TPH                         | PHC635     | <15.0  | 15.0 | mg/kg | 01.24.18 00.09 | U    | 1   |

| Surrogate      | Cas Number | % Recovery | Units | Limits | Analysis Date  | Flag |
|----------------|------------|------------|-------|--------|----------------|------|
| 1-Chlorooctane | 111-85-3   | 110        | %     | 70-135 | 01.24.18 00.09 |      |
| o-Terphenyl    | 84-15-1    | 108        | %     | 70-135 | 01.24.18 00.09 |      |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB6 12-14**

Matrix: Soil

Date Received: 01.18.18 17.00

Lab Sample Id: 573941-038

Date Collected: 01.17.18 17.30

Sample Depth: 14 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 01.24.18 16.00

Basis: Wet Weight

Seq Number: 3039242

| Parameter            | Cas Number        | Result            | RL           | Units         | Analysis Date        | Flag        | Dil |
|----------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Benzene              | 71-43-2           | <0.00338          | 0.00338      | mg/kg         | 01.24.18 20.27       | U           | 1   |
| Toluene              | 108-88-3          | <0.00338          | 0.00338      | mg/kg         | 01.24.18 20.27       | U           | 1   |
| Ethylbenzene         | 100-41-4          | <0.00338          | 0.00338      | mg/kg         | 01.24.18 20.27       | U           | 1   |
| m,p-Xylenes          | 179601-23-1       | <0.00676          | 0.00676      | mg/kg         | 01.24.18 20.27       | U           | 1   |
| o-Xylene             | 95-47-6           | <0.00338          | 0.00338      | mg/kg         | 01.24.18 20.27       | U           | 1   |
| Total Xylenes        | 1330-20-7         | <0.00338          | 0.00338      | mg/kg         | 01.24.18 20.27       | U           | 1   |
| Total BTEX           |                   | <0.00338          | 0.00338      | mg/kg         | 01.24.18 20.27       | U           | 1   |
| <b>Surrogate</b>     | <b>Cas Number</b> | <b>% Recovery</b> | <b>Units</b> | <b>Limits</b> | <b>Analysis Date</b> | <b>Flag</b> |     |
| 1,4-Difluorobenzene  | 540-36-3          | 90                | %            | 80-120        | 01.24.18 20.27       |             |     |
| 4-Bromofluorobenzene | 460-00-4          | 90                | %            | 80-120        | 01.24.18 20.27       |             |     |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB6 14-16**

Matrix: Soil

Date Received: 01.18.18 17.00

Lab Sample Id: 573941-039

Date Collected: 01.17.18 17.40

Sample Depth: 16 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Analyst: OJS

Date Prep: 01.23.18 12.00

Basis: Wet Weight

Seq Number: 3039239

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | 420    | 5.00 | mg/kg | 01.23.18 19.23 |      | 1   |

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 01.23.18 14.00

Basis: Wet Weight

Seq Number: 3039134

| Parameter                         | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------------------------------|------------|--------|------|-------|----------------|------|-----|
| Gasoline Range Hydrocarbons (GRO) | PHC610     | <15.0  | 15.0 | mg/kg | 01.24.18 00.30 | U    | 1   |
| Diesel Range Organics (DRO)       | C10C28DRO  | <15.0  | 15.0 | mg/kg | 01.24.18 00.30 | U    | 1   |
| Oil Range Hydrocarbons (ORO)      | PHCG2835   | <15.0  | 15.0 | mg/kg | 01.24.18 00.30 | U    | 1   |
| Total TPH                         | PHC635     | <15.0  | 15.0 | mg/kg | 01.24.18 00.30 | U    | 1   |

| Surrogate      | Cas Number | % Recovery | Units | Limits | Analysis Date  | Flag |
|----------------|------------|------------|-------|--------|----------------|------|
| 1-Chlorooctane | 111-85-3   | 96         | %     | 70-135 | 01.24.18 00.30 |      |
| o-Terphenyl    | 84-15-1    | 97         | %     | 70-135 | 01.24.18 00.30 |      |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB6 14-16**

Matrix: Soil

Date Received: 01.18.18 17.00

Lab Sample Id: 573941-039

Date Collected: 01.17.18 17.40

Sample Depth: 16 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 01.24.18 16.00

Basis: Wet Weight

Seq Number: 3039242

| Parameter            | Cas Number        | Result            | RL           | Units         | Analysis Date        | Flag        | Dil |
|----------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Benzene              | 71-43-2           | <0.00346          | 0.00346      | mg/kg         | 01.24.18 20.46       | U           | 1   |
| Toluene              | 108-88-3          | <0.00346          | 0.00346      | mg/kg         | 01.24.18 20.46       | U           | 1   |
| Ethylbenzene         | 100-41-4          | <0.00346          | 0.00346      | mg/kg         | 01.24.18 20.46       | U           | 1   |
| m,p-Xylenes          | 179601-23-1       | <0.00692          | 0.00692      | mg/kg         | 01.24.18 20.46       | U           | 1   |
| o-Xylene             | 95-47-6           | <0.00346          | 0.00346      | mg/kg         | 01.24.18 20.46       | U           | 1   |
| Total Xylenes        | 1330-20-7         | <0.00346          | 0.00346      | mg/kg         | 01.24.18 20.46       | U           | 1   |
| Total BTEX           |                   | <0.00346          | 0.00346      | mg/kg         | 01.24.18 20.46       | U           | 1   |
| <b>Surrogate</b>     | <b>Cas Number</b> | <b>% Recovery</b> | <b>Units</b> | <b>Limits</b> | <b>Analysis Date</b> | <b>Flag</b> |     |
| 4-Bromofluorobenzene | 460-00-4          | 87                | %            | 80-120        | 01.24.18 20.46       |             |     |
| 1,4-Difluorobenzene  | 540-36-3          | 95                | %            | 80-120        | 01.24.18 20.46       |             |     |



## Certificate of Analytical Results 573941



### OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB7 0-2**  
Lab Sample Id: 573941-040

Matrix: Soil  
Date Collected: 01.18.18 08.00

Date Received: 01.18.18 17.00  
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3042055

Date Prep: 02.23.18 07.29

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: TX104704215-18-24

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <9.82  | 9.82 | mg/kg | 02.23.18 23.12 | U    | 1   |



## Certificate of Analytical Results 573941



### OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB7 2-4**  
Lab Sample Id: 573941-041

Matrix: Soil  
Date Collected: 01.18.18 08.10

Date Received: 01.18.18 17.00  
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3042055

Date Prep: 02.23.18 07.29

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: TX104704215-18-24

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <9.86  | 9.86 | mg/kg | 02.23.18 23.22 | U    | 1   |



## Certificate of Analytical Results 573941



### OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB7 4-6**  
Lab Sample Id: 573941-042

Matrix: Soil  
Date Collected: 01.18.18 08.20

Date Received: 01.18.18 17.00  
Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3042055

Date Prep: 02.23.18 07.29

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: TX104704215-18-24

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <9.96  | 9.96 | mg/kg | 02.23.18 23.33 | U    | 1   |



## Certificate of Analytical Results 573941



### OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB7 6-8**  
Lab Sample Id: 573941-043

Matrix: Soil  
Date Collected: 01.18.18 08.30

Date Received: 01.18.18 17.00  
Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3042055

Date Prep: 02.23.18 07.29

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: TX104704215-18-24

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <9.78  | 9.78 | mg/kg | 02.23.18 23.43 | U    | 1   |



## Certificate of Analytical Results 573941



### OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB7 8-10**

Matrix: Soil

Date Received: 01.18.18 17.00

Lab Sample Id: 573941-044

Date Collected: 01.18.18 08.40

Sample Depth: 10 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.23.18 07.29

Basis: Wet Weight

Seq Number: 3042055

SUB: TX104704215-18-24

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <9.82  | 9.82 | mg/kg | 02.23.18 23.54 | U    | 1   |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB8 0-2**  
Lab Sample Id: 573941-045

Matrix: Soil  
Date Collected: 01.18.18 08.50

Date Received: 01.18.18 17.00  
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300  
Tech: OJS  
Analyst: OJS  
Seq Number: 3039239

Date Prep: 01.23.18 12.00

Prep Method: E300P  
% Moisture:  
Basis: Wet Weight

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <5.01  | 5.01 | mg/kg | 01.23.18 19.44 | U    | 1   |

Analytical Method: TPH By SW8015 Mod  
Tech: ARM  
Analyst: ARM  
Seq Number: 3039134

Date Prep: 01.23.18 14.00

Prep Method: TX1005P  
% Moisture:  
Basis: Wet Weight

| Parameter                         | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------------------------------|------------|--------|------|-------|----------------|------|-----|
| Gasoline Range Hydrocarbons (GRO) | PHC610     | <15.0  | 15.0 | mg/kg | 01.24.18 00.52 | U    | 1   |
| Diesel Range Organics (DRO)       | C10C28DRO  | <15.0  | 15.0 | mg/kg | 01.24.18 00.52 | U    | 1   |
| Oil Range Hydrocarbons (ORO)      | PHCG2835   | <15.0  | 15.0 | mg/kg | 01.24.18 00.52 | U    | 1   |
| Total TPH                         | PHC635     | <15.0  | 15.0 | mg/kg | 01.24.18 00.52 | U    | 1   |

| Surrogate      | Cas Number | % Recovery | Units | Limits | Analysis Date  | Flag |
|----------------|------------|------------|-------|--------|----------------|------|
| 1-Chlorooctane | 111-85-3   | 100        | %     | 70-135 | 01.24.18 00.52 |      |
| o-Terphenyl    | 84-15-1    | 95         | %     | 70-135 | 01.24.18 00.52 |      |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB8 0-2**  
Lab Sample Id: 573941-045

Matrix: Soil  
Date Collected: 01.18.18 08.50

Date Received: 01.18.18 17.00  
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 01.23.18 17.00

Basis: Wet Weight

Seq Number: 3039105

| Parameter            | Cas Number        | Result            | RL           | Units         | Analysis Date        | Flag        | Dil |
|----------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Benzene              | 71-43-2           | <0.00202          | 0.00202      | mg/kg         | 01.24.18 10.01       | U           | 1   |
| Toluene              | 108-88-3          | <0.00202          | 0.00202      | mg/kg         | 01.24.18 10.01       | U           | 1   |
| Ethylbenzene         | 100-41-4          | <0.00202          | 0.00202      | mg/kg         | 01.24.18 10.01       | U           | 1   |
| m,p-Xylenes          | 179601-23-1       | <0.00403          | 0.00403      | mg/kg         | 01.24.18 10.01       | U           | 1   |
| o-Xylene             | 95-47-6           | <0.00202          | 0.00202      | mg/kg         | 01.24.18 10.01       | U           | 1   |
| Total Xylenes        | 1330-20-7         | <0.00202          | 0.00202      | mg/kg         | 01.24.18 10.01       | U           | 1   |
| Total BTEX           |                   | <0.00202          | 0.00202      | mg/kg         | 01.24.18 10.01       | U           | 1   |
| <b>Surrogate</b>     | <b>Cas Number</b> | <b>% Recovery</b> | <b>Units</b> | <b>Limits</b> | <b>Analysis Date</b> | <b>Flag</b> |     |
| 4-Bromofluorobenzene | 460-00-4          | 88                | %            | 80-120        | 01.24.18 10.01       |             |     |
| 1,4-Difluorobenzene  | 540-36-3          | 96                | %            | 80-120        | 01.24.18 10.01       |             |     |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB8 2-4**  
Lab Sample Id: 573941-046

Matrix: Soil  
Date Collected: 01.18.18 09.00

Date Received: 01.18.18 17.00  
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300  
Tech: OJS  
Analyst: OJS  
Seq Number: 3039235

Prep Method: E300P  
% Moisture:  
Date Prep: 01.23.18 16.45  
Basis: Wet Weight

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <5.02  | 5.02 | mg/kg | 01.23.18 20.12 | U    | 1   |

Analytical Method: TPH By SW8015 Mod  
Tech: ARM  
Analyst: ARM  
Seq Number: 3039135

Prep Method: TX1005P  
% Moisture:  
Date Prep: 01.23.18 14.00  
Basis: Wet Weight

| Parameter                         | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------------------------------|------------|--------|------|-------|----------------|------|-----|
| Gasoline Range Hydrocarbons (GRO) | PHC610     | <15.0  | 15.0 | mg/kg | 01.24.18 02.34 | U    | 1   |
| Diesel Range Organics (DRO)       | C10C28DRO  | <15.0  | 15.0 | mg/kg | 01.24.18 02.34 | U    | 1   |
| Oil Range Hydrocarbons (ORO)      | PHCG2835   | <15.0  | 15.0 | mg/kg | 01.24.18 02.34 | U    | 1   |
| Total TPH                         | PHC635     | <15.0  | 15.0 | mg/kg | 01.24.18 02.34 | U    | 1   |

| Surrogate      | Cas Number | % Recovery | Units | Limits | Analysis Date  | Flag |
|----------------|------------|------------|-------|--------|----------------|------|
| 1-Chlorooctane | 111-85-3   | 102        | %     | 70-135 | 01.24.18 02.34 |      |
| o-Terphenyl    | 84-15-1    | 103        | %     | 70-135 | 01.24.18 02.34 |      |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB8 2-4**  
Lab Sample Id: 573941-046

Matrix: Soil  
Date Collected: 01.18.18 09.00

Date Received: 01.18.18 17.00  
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 01.23.18 17.00

Basis: Wet Weight

Seq Number: 3039105

| Parameter            | Cas Number        | Result            | RL           | Units         | Analysis Date        | Flag        | Dil |
|----------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Benzene              | 71-43-2           | <0.00200          | 0.00200      | mg/kg         | 01.24.18 02.09       | U           | 1   |
| Toluene              | 108-88-3          | <0.00200          | 0.00200      | mg/kg         | 01.24.18 02.09       | U           | 1   |
| Ethylbenzene         | 100-41-4          | <0.00200          | 0.00200      | mg/kg         | 01.24.18 02.09       | U           | 1   |
| m,p-Xylenes          | 179601-23-1       | <0.00401          | 0.00401      | mg/kg         | 01.24.18 02.09       | U           | 1   |
| o-Xylene             | 95-47-6           | <0.00200          | 0.00200      | mg/kg         | 01.24.18 02.09       | U           | 1   |
| Total Xylenes        | 1330-20-7         | <0.00200          | 0.00200      | mg/kg         | 01.24.18 02.09       | U           | 1   |
| Total BTEX           |                   | <0.00200          | 0.00200      | mg/kg         | 01.24.18 02.09       | U           | 1   |
| <b>Surrogate</b>     | <b>Cas Number</b> | <b>% Recovery</b> | <b>Units</b> | <b>Limits</b> | <b>Analysis Date</b> | <b>Flag</b> |     |
| 1,4-Difluorobenzene  | 540-36-3          | 97                | %            | 80-120        | 01.24.18 02.09       |             |     |
| 4-Bromofluorobenzene | 460-00-4          | 89                | %            | 80-120        | 01.24.18 02.09       |             |     |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB8 4-6**  
Lab Sample Id: 573941-047

Matrix: Soil  
Date Collected: 01.18.18 09.10

Date Received: 01.18.18 17.00  
Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300  
Tech: OJS  
Analyst: OJS  
Seq Number: 3039235

Date Prep: 01.23.18 16.45

Prep Method: E300P  
% Moisture:  
Basis: Wet Weight

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | 7.60   | 4.98 | mg/kg | 01.23.18 20.33 |      | 1   |

Analytical Method: TPH By SW8015 Mod  
Tech: ARM  
Analyst: ARM  
Seq Number: 3039135

Date Prep: 01.23.18 14.00

Prep Method: TX1005P  
% Moisture:  
Basis: Wet Weight

| Parameter                         | Cas Number        | Result            | RL           | Units         | Analysis Date        | Flag        | Dil |
|-----------------------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Gasoline Range Hydrocarbons (GRO) | PHC610            | <15.0             | 15.0         | mg/kg         | 01.24.18 03.32       | U           | 1   |
| Diesel Range Organics (DRO)       | C10C28DRO         | <15.0             | 15.0         | mg/kg         | 01.24.18 03.32       | U           | 1   |
| Oil Range Hydrocarbons (ORO)      | PHCG2835          | <15.0             | 15.0         | mg/kg         | 01.24.18 03.32       | U           | 1   |
| Total TPH                         | PHC635            | <15.0             | 15.0         | mg/kg         | 01.24.18 03.32       | U           | 1   |
| <b>Surrogate</b>                  | <b>Cas Number</b> | <b>% Recovery</b> | <b>Units</b> | <b>Limits</b> | <b>Analysis Date</b> | <b>Flag</b> |     |
| 1-Chlorooctane                    | 111-85-3          | 117               | %            | 70-135        | 01.24.18 03.32       |             |     |
| o-Terphenyl                       | 84-15-1           | 117               | %            | 70-135        | 01.24.18 03.32       |             |     |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB8 4-6**  
Lab Sample Id: 573941-047

Matrix: Soil  
Date Collected: 01.18.18 09.10

Date Received: 01.18.18 17.00  
Sample Depth: 6 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3039105

Date Prep: 01.23.18 17.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

| Parameter            | Cas Number        | Result            | RL           | Units         | Analysis Date        | Flag        | Dil |
|----------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Benzene              | 71-43-2           | <0.00200          | 0.00200      | mg/kg         | 01.24.18 02.28       | U           | 1   |
| Toluene              | 108-88-3          | <0.00200          | 0.00200      | mg/kg         | 01.24.18 02.28       | U           | 1   |
| Ethylbenzene         | 100-41-4          | <0.00200          | 0.00200      | mg/kg         | 01.24.18 02.28       | U           | 1   |
| m,p-Xylenes          | 179601-23-1       | <0.00401          | 0.00401      | mg/kg         | 01.24.18 02.28       | U           | 1   |
| o-Xylene             | 95-47-6           | <0.00200          | 0.00200      | mg/kg         | 01.24.18 02.28       | U           | 1   |
| Total Xylenes        | 1330-20-7         | <0.00200          | 0.00200      | mg/kg         | 01.24.18 02.28       | U           | 1   |
| Total BTEX           |                   | <0.00200          | 0.00200      | mg/kg         | 01.24.18 02.28       | U           | 1   |
| <b>Surrogate</b>     | <b>Cas Number</b> | <b>% Recovery</b> | <b>Units</b> | <b>Limits</b> | <b>Analysis Date</b> | <b>Flag</b> |     |
| 4-Bromofluorobenzene | 460-00-4          | 90                | %            | 80-120        | 01.24.18 02.28       |             |     |
| 1,4-Difluorobenzene  | 540-36-3          | 98                | %            | 80-120        | 01.24.18 02.28       |             |     |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB8 6-8**  
Lab Sample Id: 573941-048

Matrix: Soil  
Date Collected: 01.18.18 09.20

Date Received: 01.18.18 17.00  
Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300  
Tech: OJS  
Analyst: OJS  
Seq Number: 3039235

Date Prep: 01.23.18 16.45

Prep Method: E300P  
% Moisture:  
Basis: Wet Weight

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <5.00  | 5.00 | mg/kg | 01.23.18 20.40 | U    | 1   |

Analytical Method: TPH By SW8015 Mod  
Tech: ARM  
Analyst: ARM  
Seq Number: 3039135

Date Prep: 01.23.18 14.00

Prep Method: TX1005P  
% Moisture:  
Basis: Wet Weight

| Parameter                         | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------------------------------|------------|--------|------|-------|----------------|------|-----|
| Gasoline Range Hydrocarbons (GRO) | PHC610     | <15.0  | 15.0 | mg/kg | 01.24.18 03.52 | U    | 1   |
| Diesel Range Organics (DRO)       | C10C28DRO  | <15.0  | 15.0 | mg/kg | 01.24.18 03.52 | U    | 1   |
| Oil Range Hydrocarbons (ORO)      | PHCG2835   | <15.0  | 15.0 | mg/kg | 01.24.18 03.52 | U    | 1   |
| Total TPH                         | PHC635     | <15.0  | 15.0 | mg/kg | 01.24.18 03.52 | U    | 1   |

| Surrogate      | Cas Number | % Recovery | Units | Limits | Analysis Date  | Flag |
|----------------|------------|------------|-------|--------|----------------|------|
| 1-Chlorooctane | 111-85-3   | 109        | %     | 70-135 | 01.24.18 03.52 |      |
| o-Terphenyl    | 84-15-1    | 107        | %     | 70-135 | 01.24.18 03.52 |      |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB8 6-8**  
Lab Sample Id: 573941-048

Matrix: Soil  
Date Collected: 01.18.18 09.20

Date Received: 01.18.18 17.00  
Sample Depth: 8 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 01.23.18 17.00

Basis: Wet Weight

Seq Number: 3039105

| Parameter            | Cas Number        | Result            | RL           | Units         | Analysis Date        | Flag        | Dil |
|----------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Benzene              | 71-43-2           | <0.00199          | 0.00199      | mg/kg         | 01.24.18 02.46       | U           | 1   |
| Toluene              | 108-88-3          | <0.00199          | 0.00199      | mg/kg         | 01.24.18 02.46       | U           | 1   |
| Ethylbenzene         | 100-41-4          | <0.00199          | 0.00199      | mg/kg         | 01.24.18 02.46       | U           | 1   |
| m,p-Xylenes          | 179601-23-1       | <0.00398          | 0.00398      | mg/kg         | 01.24.18 02.46       | U           | 1   |
| o-Xylene             | 95-47-6           | <0.00199          | 0.00199      | mg/kg         | 01.24.18 02.46       | U           | 1   |
| Total Xylenes        | 1330-20-7         | <0.00199          | 0.00199      | mg/kg         | 01.24.18 02.46       | U           | 1   |
| Total BTEX           |                   | <0.00199          | 0.00199      | mg/kg         | 01.24.18 02.46       | U           | 1   |
| <b>Surrogate</b>     | <b>Cas Number</b> | <b>% Recovery</b> | <b>Units</b> | <b>Limits</b> | <b>Analysis Date</b> | <b>Flag</b> |     |
| 4-Bromofluorobenzene | 460-00-4          | 92                | %            | 80-120        | 01.24.18 02.46       |             |     |
| 1,4-Difluorobenzene  | 540-36-3          | 94                | %            | 80-120        | 01.24.18 02.46       |             |     |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB8 8-10 (1)**

Matrix: Soil

Date Received: 01.18.18 17.00

Lab Sample Id: 573941-049

Date Collected: 01.18.18 09.30

Sample Depth: 10 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Analyst: OJS

Date Prep: 01.23.18 16.45

Basis: Wet Weight

Seq Number: 3039235

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <5.00  | 5.00 | mg/kg | 01.23.18 20.47 | U    | 1   |

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 01.23.18 14.00

Basis: Wet Weight

Seq Number: 3039135

| Parameter                         | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------------------------------|------------|--------|------|-------|----------------|------|-----|
| Gasoline Range Hydrocarbons (GRO) | PHC610     | <15.0  | 15.0 | mg/kg | 01.24.18 04.12 | U    | 1   |
| Diesel Range Organics (DRO)       | C10C28DRO  | <15.0  | 15.0 | mg/kg | 01.24.18 04.12 | U    | 1   |
| Oil Range Hydrocarbons (ORO)      | PHCG2835   | <15.0  | 15.0 | mg/kg | 01.24.18 04.12 | U    | 1   |
| Total TPH                         | PHC635     | <15.0  | 15.0 | mg/kg | 01.24.18 04.12 | U    | 1   |

| Surrogate      | Cas Number | % Recovery | Units | Limits | Analysis Date  | Flag |
|----------------|------------|------------|-------|--------|----------------|------|
| 1-Chlorooctane | 111-85-3   | 107        | %     | 70-135 | 01.24.18 04.12 |      |
| o-Terphenyl    | 84-15-1    | 107        | %     | 70-135 | 01.24.18 04.12 |      |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB8 8-10 (1)**

Matrix: Soil

Date Received: 01.18.18 17.00

Lab Sample Id: 573941-049

Date Collected: 01.18.18 09.30

Sample Depth: 10 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 01.23.18 17.00

Basis: Wet Weight

Seq Number: 3039105

| Parameter            | Cas Number        | Result            | RL           | Units         | Analysis Date        | Flag        | Dil |
|----------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Benzene              | 71-43-2           | <0.00199          | 0.00199      | mg/kg         | 01.24.18 03.05       | U           | 1   |
| Toluene              | 108-88-3          | <0.00199          | 0.00199      | mg/kg         | 01.24.18 03.05       | U           | 1   |
| Ethylbenzene         | 100-41-4          | <0.00199          | 0.00199      | mg/kg         | 01.24.18 03.05       | U           | 1   |
| m,p-Xylenes          | 179601-23-1       | <0.00398          | 0.00398      | mg/kg         | 01.24.18 03.05       | U           | 1   |
| o-Xylene             | 95-47-6           | <0.00199          | 0.00199      | mg/kg         | 01.24.18 03.05       | U           | 1   |
| Total Xylenes        | 1330-20-7         | <0.00199          | 0.00199      | mg/kg         | 01.24.18 03.05       | U           | 1   |
| Total BTEX           |                   | <0.00199          | 0.00199      | mg/kg         | 01.24.18 03.05       | U           | 1   |
| <b>Surrogate</b>     | <b>Cas Number</b> | <b>% Recovery</b> | <b>Units</b> | <b>Limits</b> | <b>Analysis Date</b> | <b>Flag</b> |     |
| 4-Bromofluorobenzene | 460-00-4          | 89                | %            | 80-120        | 01.24.18 03.05       |             |     |
| 1,4-Difluorobenzene  | 540-36-3          | 96                | %            | 80-120        | 01.24.18 03.05       |             |     |



## Certificate of Analytical Results 573941



### OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB9 0-2**  
Lab Sample Id: 573941-050

Matrix: Soil  
Date Collected: 01.18.18 10.15

Date Received: 01.18.18 17.00  
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3042055

Date Prep: 02.23.18 07.29

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: TX104704215-18-24

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | 238    | 9.90 | mg/kg | 02.24.18 00.04 |      | 1   |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB9 2-4**  
Lab Sample Id: 573941-051

Matrix: Soil  
Date Collected: 01.18.18 10.20

Date Received: 01.18.18 17.00  
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.23.18 07.29

Basis: Wet Weight

Seq Number: 3042055

SUB: TX104704215-18-24

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | 486    | 9.88 | mg/kg | 02.24.18 00.15 |      | 1   |



## Certificate of Analytical Results 573941



### OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB9 4-6**  
Lab Sample Id: 573941-052

Matrix: Soil  
Date Collected: 01.18.18 10.30

Date Received: 01.18.18 17.00  
Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3042055

Date Prep: 02.23.18 07.29

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: TX104704215-18-24

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | 24.8   | 9.84 | mg/kg | 02.24.18 00.25 |      | 1   |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB9 6-8**  
Lab Sample Id: 573941-053

Matrix: Soil  
Date Collected: 01.18.18 10.40

Date Received: 01.18.18 17.00  
Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.23.18 07.29

Basis: Wet Weight

Seq Number: 3042055

SUB: TX104704215-18-24

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | 23.5   | 9.92 | mg/kg | 02.24.18 00.57 |      | 1   |



## Certificate of Analytical Results 573941



### OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB9 8-10**

Matrix: Soil

Date Received: 01.18.18 17.00

Lab Sample Id: 573941-054

Date Collected: 01.18.18 10.50

Sample Depth: 10 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.23.18 07.29

Basis: Wet Weight

Seq Number: 3042055

SUB: TX104704215-18-24

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <9.86  | 9.86 | mg/kg | 02.26.18 15.00 | U    | 1   |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB10 0-2**  
Lab Sample Id: 573941-055

Matrix: Soil  
Date Collected: 01.18.18 11.00

Date Received: 01.18.18 17.00  
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300  
Tech: OJS  
Analyst: OJS  
Seq Number: 3039235

Date Prep: 01.23.18 16.45

Prep Method: E300P  
% Moisture:  
Basis: Wet Weight

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <5.01  | 5.01 | mg/kg | 01.23.18 21.07 | U    | 1   |

Analytical Method: TPH By SW8015 Mod  
Tech: ARM  
Analyst: ARM  
Seq Number: 3039135

Date Prep: 01.23.18 14.00

Prep Method: TX1005P  
% Moisture:  
Basis: Wet Weight

| Parameter                         | Cas Number        | Result            | RL           | Units         | Analysis Date        | Flag        | Dil |
|-----------------------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Gasoline Range Hydrocarbons (GRO) | PHC610            | <15.0             | 15.0         | mg/kg         | 01.24.18 04.32       | U           | 1   |
| Diesel Range Organics (DRO)       | C10C28DRO         | <15.0             | 15.0         | mg/kg         | 01.24.18 04.32       | U           | 1   |
| Oil Range Hydrocarbons (ORO)      | PHCG2835          | <15.0             | 15.0         | mg/kg         | 01.24.18 04.32       | U           | 1   |
| Total TPH                         | PHC635            | <15.0             | 15.0         | mg/kg         | 01.24.18 04.32       | U           | 1   |
| <b>Surrogate</b>                  | <b>Cas Number</b> | <b>% Recovery</b> | <b>Units</b> | <b>Limits</b> | <b>Analysis Date</b> | <b>Flag</b> |     |
| 1-Chlorooctane                    | 111-85-3          | 117               | %            | 70-135        | 01.24.18 04.32       |             |     |
| o-Terphenyl                       | 84-15-1           | 113               | %            | 70-135        | 01.24.18 04.32       |             |     |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB10 0-2**  
Lab Sample Id: 573941-055

Matrix: Soil  
Date Collected: 01.18.18 11.00

Date Received: 01.18.18 17.00  
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 01.23.18 17.00

Basis: Wet Weight

Seq Number: 3039105

| Parameter            | Cas Number        | Result            | RL           | Units         | Analysis Date        | Flag        | Dil |
|----------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Benzene              | 71-43-2           | <0.00200          | 0.00200      | mg/kg         | 01.24.18 03.24       | U           | 1   |
| Toluene              | 108-88-3          | <0.00200          | 0.00200      | mg/kg         | 01.24.18 03.24       | U           | 1   |
| Ethylbenzene         | 100-41-4          | <0.00200          | 0.00200      | mg/kg         | 01.24.18 03.24       | U           | 1   |
| m,p-Xylenes          | 179601-23-1       | <0.00401          | 0.00401      | mg/kg         | 01.24.18 03.24       | U           | 1   |
| o-Xylene             | 95-47-6           | <0.00200          | 0.00200      | mg/kg         | 01.24.18 03.24       | U           | 1   |
| Total Xylenes        | 1330-20-7         | <0.00200          | 0.00200      | mg/kg         | 01.24.18 03.24       | U           | 1   |
| Total BTEX           |                   | <0.00200          | 0.00200      | mg/kg         | 01.24.18 03.24       | U           | 1   |
| <b>Surrogate</b>     | <b>Cas Number</b> | <b>% Recovery</b> | <b>Units</b> | <b>Limits</b> | <b>Analysis Date</b> | <b>Flag</b> |     |
| 1,4-Difluorobenzene  | 540-36-3          | 91                | %            | 80-120        | 01.24.18 03.24       |             |     |
| 4-Bromofluorobenzene | 460-00-4          | 83                | %            | 80-120        | 01.24.18 03.24       |             |     |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB10 2-4**  
Lab Sample Id: 573941-056

Matrix: Soil  
Date Collected: 01.18.18 11.10

Date Received: 01.18.18 17.00  
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300  
Tech: OJS  
Analyst: OJS  
Seq Number: 3039235

Date Prep: 01.23.18 16.45

Prep Method: E300P  
% Moisture:  
Basis: Wet Weight

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <5.01  | 5.01 | mg/kg | 01.23.18 21.14 | U    | 1   |

Analytical Method: TPH By SW8015 Mod  
Tech: ARM  
Analyst: ARM  
Seq Number: 3039135

Date Prep: 01.23.18 14.00

Prep Method: TX1005P  
% Moisture:  
Basis: Wet Weight

| Parameter                         | Cas Number        | Result            | RL           | Units         | Analysis Date        | Flag        | Dil |
|-----------------------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Gasoline Range Hydrocarbons (GRO) | PHC610            | <15.0             | 15.0         | mg/kg         | 01.24.18 04.52       | U           | 1   |
| Diesel Range Organics (DRO)       | C10C28DRO         | <15.0             | 15.0         | mg/kg         | 01.24.18 04.52       | U           | 1   |
| Oil Range Hydrocarbons (ORO)      | PHCG2835          | <15.0             | 15.0         | mg/kg         | 01.24.18 04.52       | U           | 1   |
| Total TPH                         | PHC635            | <15.0             | 15.0         | mg/kg         | 01.24.18 04.52       | U           | 1   |
| <b>Surrogate</b>                  | <b>Cas Number</b> | <b>% Recovery</b> | <b>Units</b> | <b>Limits</b> | <b>Analysis Date</b> | <b>Flag</b> |     |
| 1-Chlorooctane                    | 111-85-3          | 106               | %            | 70-135        | 01.24.18 04.52       |             |     |
| o-Terphenyl                       | 84-15-1           | 107               | %            | 70-135        | 01.24.18 04.52       |             |     |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB10 2-4**  
Lab Sample Id: 573941-056

Matrix: Soil  
Date Collected: 01.18.18 11.10

Date Received: 01.18.18 17.00  
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3039105

Date Prep: 01.23.18 17.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

| Parameter            | Cas Number        | Result            | RL           | Units         | Analysis Date        | Flag        | Dil |
|----------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Benzene              | 71-43-2           | <0.00199          | 0.00199      | mg/kg         | 01.24.18 03.43       | U           | 1   |
| Toluene              | 108-88-3          | <0.00199          | 0.00199      | mg/kg         | 01.24.18 03.43       | U           | 1   |
| Ethylbenzene         | 100-41-4          | <0.00199          | 0.00199      | mg/kg         | 01.24.18 03.43       | U           | 1   |
| m,p-Xylenes          | 179601-23-1       | <0.00398          | 0.00398      | mg/kg         | 01.24.18 03.43       | U           | 1   |
| o-Xylene             | 95-47-6           | <0.00199          | 0.00199      | mg/kg         | 01.24.18 03.43       | U           | 1   |
| Total Xylenes        | 1330-20-7         | <0.00199          | 0.00199      | mg/kg         | 01.24.18 03.43       | U           | 1   |
| Total BTEX           |                   | <0.00199          | 0.00199      | mg/kg         | 01.24.18 03.43       | U           | 1   |
| <b>Surrogate</b>     | <b>Cas Number</b> | <b>% Recovery</b> | <b>Units</b> | <b>Limits</b> | <b>Analysis Date</b> | <b>Flag</b> |     |
| 1,4-Difluorobenzene  | 540-36-3          | 97                | %            | 80-120        | 01.24.18 03.43       |             |     |
| 4-Bromofluorobenzene | 460-00-4          | 90                | %            | 80-120        | 01.24.18 03.43       |             |     |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB10 4-6**

Matrix: Soil

Date Received: 01.18.18 17.00

Lab Sample Id: 573941-057

Date Collected: 01.18.18 11.20

Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Analyst: OJS

Date Prep: 01.23.18 16.45

Basis: Wet Weight

Seq Number: 3039235

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | 6.70   | 5.01 | mg/kg | 01.23.18 21.21 |      | 1   |

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 01.23.18 14.00

Basis: Wet Weight

Seq Number: 3039135

| Parameter                         | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------------------------------|------------|--------|------|-------|----------------|------|-----|
| Gasoline Range Hydrocarbons (GRO) | PHC610     | <15.0  | 15.0 | mg/kg | 01.24.18 05.14 | U    | 1   |
| Diesel Range Organics (DRO)       | C10C28DRO  | <15.0  | 15.0 | mg/kg | 01.24.18 05.14 | U    | 1   |
| Oil Range Hydrocarbons (ORO)      | PHCG2835   | <15.0  | 15.0 | mg/kg | 01.24.18 05.14 | U    | 1   |
| Total TPH                         | PHC635     | <15.0  | 15.0 | mg/kg | 01.24.18 05.14 | U    | 1   |

| Surrogate      | Cas Number | % Recovery | Units | Limits | Analysis Date  | Flag |
|----------------|------------|------------|-------|--------|----------------|------|
| 1-Chlorooctane | 111-85-3   | 111        | %     | 70-135 | 01.24.18 05.14 |      |
| o-Terphenyl    | 84-15-1    | 108        | %     | 70-135 | 01.24.18 05.14 |      |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB10 4-6**

Matrix: Soil

Date Received: 01.18.18 17.00

Lab Sample Id: 573941-057

Date Collected: 01.18.18 11.20

Sample Depth: 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 01.23.18 17.00

Basis: Wet Weight

Seq Number: 3039105

| Parameter            | Cas Number        | Result            | RL           | Units         | Analysis Date        | Flag        | Dil |
|----------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Benzene              | 71-43-2           | <0.00200          | 0.00200      | mg/kg         | 01.24.18 04.02       | U           | 1   |
| Toluene              | 108-88-3          | <0.00200          | 0.00200      | mg/kg         | 01.24.18 04.02       | U           | 1   |
| Ethylbenzene         | 100-41-4          | <0.00200          | 0.00200      | mg/kg         | 01.24.18 04.02       | U           | 1   |
| m,p-Xylenes          | 179601-23-1       | <0.00399          | 0.00399      | mg/kg         | 01.24.18 04.02       | U           | 1   |
| o-Xylene             | 95-47-6           | <0.00200          | 0.00200      | mg/kg         | 01.24.18 04.02       | U           | 1   |
| Total Xylenes        | 1330-20-7         | <0.00200          | 0.00200      | mg/kg         | 01.24.18 04.02       | U           | 1   |
| Total BTEX           |                   | <0.00200          | 0.00200      | mg/kg         | 01.24.18 04.02       | U           | 1   |
| <b>Surrogate</b>     | <b>Cas Number</b> | <b>% Recovery</b> | <b>Units</b> | <b>Limits</b> | <b>Analysis Date</b> | <b>Flag</b> |     |
| 4-Bromofluorobenzene | 460-00-4          | 88                | %            | 80-120        | 01.24.18 04.02       |             |     |
| 1,4-Difluorobenzene  | 540-36-3          | 93                | %            | 80-120        | 01.24.18 04.02       |             |     |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB10 6-8**  
Lab Sample Id: 573941-058

Matrix: Soil  
Date Collected: 01.18.18 11.30

Date Received: 01.18.18 17.00  
Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300  
Tech: OJS  
Analyst: OJS  
Seq Number: 3039235

Date Prep: 01.23.18 16.45

Prep Method: E300P  
% Moisture:  
Basis: Wet Weight

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <4.98  | 4.98 | mg/kg | 01.23.18 21.28 | U    | 1   |

Analytical Method: TPH By SW8015 Mod  
Tech: ARM  
Analyst: ARM  
Seq Number: 3039135

Date Prep: 01.23.18 14.00

Prep Method: TX1005P  
% Moisture:  
Basis: Wet Weight

| Parameter                         | Cas Number        | Result            | RL           | Units         | Analysis Date        | Flag        | Dil |
|-----------------------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Gasoline Range Hydrocarbons (GRO) | PHC610            | <15.0             | 15.0         | mg/kg         | 01.24.18 05.35       | U           | 1   |
| Diesel Range Organics (DRO)       | C10C28DRO         | <15.0             | 15.0         | mg/kg         | 01.24.18 05.35       | U           | 1   |
| Oil Range Hydrocarbons (ORO)      | PHCG2835          | <15.0             | 15.0         | mg/kg         | 01.24.18 05.35       | U           | 1   |
| Total TPH                         | PHC635            | <15.0             | 15.0         | mg/kg         | 01.24.18 05.35       | U           | 1   |
| <b>Surrogate</b>                  | <b>Cas Number</b> | <b>% Recovery</b> | <b>Units</b> | <b>Limits</b> | <b>Analysis Date</b> | <b>Flag</b> |     |
| 1-Chlorooctane                    | 111-85-3          | 105               | %            | 70-135        | 01.24.18 05.35       |             |     |
| o-Terphenyl                       | 84-15-1           | 104               | %            | 70-135        | 01.24.18 05.35       |             |     |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB10 6-8**

Matrix: Soil

Date Received: 01.18.18 17.00

Lab Sample Id: 573941-058

Date Collected: 01.18.18 11.30

Sample Depth: 8 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 01.23.18 17.00

Basis: Wet Weight

Seq Number: 3039105

| Parameter            | Cas Number        | Result            | RL           | Units         | Analysis Date        | Flag        | Dil |
|----------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Benzene              | 71-43-2           | <0.00201          | 0.00201      | mg/kg         | 01.24.18 04.20       | U           | 1   |
| Toluene              | 108-88-3          | <0.00201          | 0.00201      | mg/kg         | 01.24.18 04.20       | U           | 1   |
| Ethylbenzene         | 100-41-4          | <0.00201          | 0.00201      | mg/kg         | 01.24.18 04.20       | U           | 1   |
| m,p-Xylenes          | 179601-23-1       | <0.00402          | 0.00402      | mg/kg         | 01.24.18 04.20       | U           | 1   |
| o-Xylene             | 95-47-6           | <0.00201          | 0.00201      | mg/kg         | 01.24.18 04.20       | U           | 1   |
| Total Xylenes        | 1330-20-7         | <0.00201          | 0.00201      | mg/kg         | 01.24.18 04.20       | U           | 1   |
| Total BTEX           |                   | <0.00201          | 0.00201      | mg/kg         | 01.24.18 04.20       | U           | 1   |
| <b>Surrogate</b>     | <b>Cas Number</b> | <b>% Recovery</b> | <b>Units</b> | <b>Limits</b> | <b>Analysis Date</b> | <b>Flag</b> |     |
| 4-Bromofluorobenzene | 460-00-4          | 90                | %            | 80-120        | 01.24.18 04.20       |             |     |
| 1,4-Difluorobenzene  | 540-36-3          | 97                | %            | 80-120        | 01.24.18 04.20       |             |     |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB10 8-10**

Matrix: Soil

Date Received: 01.18.18 17.00

Lab Sample Id: 573941-059

Date Collected: 01.18.18 11.40

Sample Depth: 10 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Analyst: OJS

Date Prep: 01.23.18 16.45

Basis: Wet Weight

Seq Number: 3039235

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | 9.61   | 5.01 | mg/kg | 01.23.18 21.35 |      | 1   |

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 01.23.18 14.00

Basis: Wet Weight

Seq Number: 3039135

| Parameter                         | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------------------------------|------------|--------|------|-------|----------------|------|-----|
| Gasoline Range Hydrocarbons (GRO) | PHC610     | <15.0  | 15.0 | mg/kg | 01.24.18 05.55 | U    | 1   |
| Diesel Range Organics (DRO)       | C10C28DRO  | <15.0  | 15.0 | mg/kg | 01.24.18 05.55 | U    | 1   |
| Oil Range Hydrocarbons (ORO)      | PHCG2835   | <15.0  | 15.0 | mg/kg | 01.24.18 05.55 | U    | 1   |
| Total TPH                         | PHC635     | <15.0  | 15.0 | mg/kg | 01.24.18 05.55 | U    | 1   |

| Surrogate      | Cas Number | % Recovery | Units | Limits | Analysis Date  | Flag |
|----------------|------------|------------|-------|--------|----------------|------|
| 1-Chlorooctane | 111-85-3   | 109        | %     | 70-135 | 01.24.18 05.55 |      |
| o-Terphenyl    | 84-15-1    | 108        | %     | 70-135 | 01.24.18 05.55 |      |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB10 8-10**

Matrix: Soil

Date Received: 01.18.18 17.00

Lab Sample Id: 573941-059

Date Collected: 01.18.18 11.40

Sample Depth: 10 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 01.23.18 17.00

Basis: Wet Weight

Seq Number: 3039105

| Parameter            | Cas Number        | Result            | RL           | Units         | Analysis Date        | Flag        | Dil |
|----------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Benzene              | 71-43-2           | <0.00200          | 0.00200      | mg/kg         | 01.24.18 04.39       | U           | 1   |
| Toluene              | 108-88-3          | <0.00200          | 0.00200      | mg/kg         | 01.24.18 04.39       | U           | 1   |
| Ethylbenzene         | 100-41-4          | <0.00200          | 0.00200      | mg/kg         | 01.24.18 04.39       | U           | 1   |
| m,p-Xylenes          | 179601-23-1       | <0.00401          | 0.00401      | mg/kg         | 01.24.18 04.39       | U           | 1   |
| o-Xylene             | 95-47-6           | <0.00200          | 0.00200      | mg/kg         | 01.24.18 04.39       | U           | 1   |
| Total Xylenes        | 1330-20-7         | <0.00200          | 0.00200      | mg/kg         | 01.24.18 04.39       | U           | 1   |
| Total BTEX           |                   | <0.00200          | 0.00200      | mg/kg         | 01.24.18 04.39       | U           | 1   |
| <b>Surrogate</b>     | <b>Cas Number</b> | <b>% Recovery</b> | <b>Units</b> | <b>Limits</b> | <b>Analysis Date</b> | <b>Flag</b> |     |
| 4-Bromofluorobenzene | 460-00-4          | 85                | %            | 80-120        | 01.24.18 04.39       |             |     |
| 1,4-Difluorobenzene  | 540-36-3          | 95                | %            | 80-120        | 01.24.18 04.39       |             |     |



## Certificate of Analytical Results 573941



### OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB4 4-6 (2)**

Matrix: Soil

Date Received: 01.18.18 17.00

Lab Sample Id: 573941-060

Date Collected: 01.18.18 11.40

Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.23.18 07.29

Basis: Wet Weight

Seq Number: 3042055

SUB: TX104704215-18-24

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <9.92  | 9.92 | mg/kg | 02.24.18 01.07 | U    | 1   |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **BG 6-8**  
Lab Sample Id: 573941-061

Matrix: Soil  
Date Collected: 01.18.18 11.40

Date Received: 01.18.18 17.00  
Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.23.18 07.29

Basis: Wet Weight

Seq Number: 3042055

SUB: TX104704215-18-24

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <9.96  | 9.96 | mg/kg | 02.24.18 01.18 | U    | 1   |



# Certificate of Analytical Results 573941



## OWL SWD Operating LLC, Dallas, TX

IRP-4820

Sample Id: **SB8 8-10 (2)**

Matrix: Soil

Date Received: 01.18.18 17.00

Lab Sample Id: 573941-062

Date Collected: 01.18.18 11.40

Sample Depth: 10 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.23.18 07.29

Basis: Wet Weight

Seq Number: 3042055

SUB: TX104704215-18-24

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <10.0  | 10.0 | mg/kg | 02.24.18 01.28 | U    | 1   |

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

\*\* Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit      **SDL** Sample Detection Limit      **LOD** Limit of Detection

**PQL** Practical Quantitation Limit      **MQL** Method Quantitation Limit      **LOQ** Limit of Quantitation

**DL** Method Detection Limit

**NC** Non-Calculable

+ NELAC certification not offered for this compound.

\* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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| (602) 437-0330 |                |

OWL SWD Operating LLC  
IRP-4820**Analytical Method: Chloride by EPA 300**

Seq Number: 3039239

MB Sample Id: 7637928-1-BLK

Matrix: Solid

LCS Sample Id: 7637928-1-BKS

Prep Method: E300P

Date Prep: 01.23.18

LCSD Sample Id: 7637928-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date  | Flag |
|-----------|-----------|--------------|------------|----------|-------------|-----------|--------|------|-----------|-------|----------------|------|
| Chloride  | <5.00     | 250          | 253        | 101      | 255         | 102       | 90-110 | 1    | 20        | mg/kg | 01.23.18 15:39 |      |

**Analytical Method: Chloride by EPA 300**

Seq Number: 3039235

MB Sample Id: 7637929-1-BLK

Matrix: Solid

LCS Sample Id: 7637929-1-BKS

Prep Method: E300P

Date Prep: 01.23.18

LCSD Sample Id: 7637929-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date  | Flag |
|-----------|-----------|--------------|------------|----------|-------------|-----------|--------|------|-----------|-------|----------------|------|
| Chloride  | <5.00     | 250          | 261        | 104      | 252         | 101       | 90-110 | 4    | 20        | mg/kg | 01.23.18 19:58 |      |

**Analytical Method: Chloride by EPA 300**

Seq Number: 3042055

MB Sample Id: 7639700-1-BLK

Matrix: Solid

LCS Sample Id: 7639700-1-BKS

Prep Method: E300P

Date Prep: 02.23.18

LCSD Sample Id: 7639700-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date  | Flag |
|-----------|-----------|--------------|------------|----------|-------------|-----------|--------|------|-----------|-------|----------------|------|
| Chloride  | <10.0     | 100          | 98.8       | 99       | 99.1        | 99        | 80-120 | 0    | 20        | mg/kg | 02.23.18 20:56 |      |

**Analytical Method: Chloride by EPA 300**

Seq Number: 3042053

MB Sample Id: 7639692-1-BLK

Matrix: Solid

LCS Sample Id: 7639692-1-BKS

Prep Method: E300P

Date Prep: 02.23.18

LCSD Sample Id: 7639692-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date  | Flag |
|-----------|-----------|--------------|------------|----------|-------------|-----------|--------|------|-----------|-------|----------------|------|
| Chloride  | <10.0     | 100          | 99.6       | 100      | 98.8        | 99        | 80-120 | 1    | 20        | mg/kg | 02.23.18 11:04 |      |

**Analytical Method: Chloride by EPA 300**

Seq Number: 3042112

MB Sample Id: 7639761-1-BLK

Matrix: Solid

LCS Sample Id: 7639761-1-BKS

Prep Method: E300P

Date Prep: 02.26.18

LCSD Sample Id: 7639761-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date  | Flag |
|-----------|-----------|--------------|------------|----------|-------------|-----------|--------|------|-----------|-------|----------------|------|
| Chloride  | <10.0     | 100          | 104        | 104      | 104         | 104       | 80-120 | 0    | 20        | mg/kg | 02.26.18 11:38 |      |

MS/MSD Percent Recovery  
Relative Percent Difference  
LCS/LCSD Recovery $[D] = 100 * (C-A) / B$   
 $RPD = 200 * | (C-E) / (C+E) |$   
 $[D] = 100 * (C) / [B]$ LCS = Laboratory Control Sample  
A = Parent Result  
C = MS/LCS Result  
E = MSD/LCSD ResultMS = Matrix Spike  
B = Spike Added  
D = MSD/LCSD % Rec



## QC Summary 573941

### OWL SWD Operating LLC IRP-4820

**Analytical Method: Chloride by EPA 300**

Seq Number: 3039239

Parent Sample Id: 573941-012

Matrix: Soil

MS Sample Id: 573941-012 S

Prep Method: E300P

Date Prep: 01.23.18

MSD Sample Id: 573941-012 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date  | Flag |
|-----------|---------------|--------------|-----------|---------|------------|----------|--------|------|-----------|-------|----------------|------|
| Chloride  | 1220          | 250          | 1340      | 48      | 1390       | 68       | 90-110 | 4    | 20        | mg/kg | 01.23.18 16:28 | X    |

**Analytical Method: Chloride by EPA 300**

Seq Number: 3039239

Parent Sample Id: 573941-031

Matrix: Soil

MS Sample Id: 573941-031 S

Prep Method: E300P

Date Prep: 01.23.18

MSD Sample Id: 573941-031 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date  | Flag |
|-----------|---------------|--------------|-----------|---------|------------|----------|--------|------|-----------|-------|----------------|------|
| Chloride  | 23.7          | 249          | 248       | 90      | 279        | 103      | 90-110 | 12   | 20        | mg/kg | 01.23.18 18:20 |      |

**Analytical Method: Chloride by EPA 300**

Seq Number: 3039235

Parent Sample Id: 573941-046

Matrix: Soil

MS Sample Id: 573941-046 S

Prep Method: E300P

Date Prep: 01.23.18

MSD Sample Id: 573941-046 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date  | Flag |
|-----------|---------------|--------------|-----------|---------|------------|----------|--------|------|-----------|-------|----------------|------|
| Chloride  | <5.02         | 251          | 262       | 104     | 271        | 108      | 90-110 | 3    | 20        | mg/kg | 01.23.18 20:19 |      |

**Analytical Method: Chloride by EPA 300**

Seq Number: 3039235

Parent Sample Id: 573970-001

Matrix: Soil

MS Sample Id: 573970-001 S

Prep Method: E300P

Date Prep: 01.23.18

MSD Sample Id: 573970-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date  | Flag |
|-----------|---------------|--------------|-----------|---------|------------|----------|--------|------|-----------|-------|----------------|------|
| Chloride  | 910           | 249          | 1180      | 108     | 1140       | 92       | 90-110 | 3    | 20        | mg/kg | 01.23.18 21:56 |      |

**Analytical Method: Chloride by EPA 300**

Seq Number: 3042055

Parent Sample Id: 573941-020

Matrix: Soil

MS Sample Id: 573941-020 S

Prep Method: E300P

Date Prep: 02.23.18

MSD Sample Id: 573941-020 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date  | Flag |
|-----------|---------------|--------------|-----------|---------|------------|----------|--------|------|-----------|-------|----------------|------|
| Chloride  | 20.5          | 98.8         | 116       | 97      | 117        | 97       | 80-120 | 1    | 20        | mg/kg | 02.23.18 21:27 |      |

MS/MSD Percent Recovery  
Relative Percent Difference  
LCS/LCSD Recovery

$[D] = 100 * (C - A) / B$   
 $RPD = 200 * | (C - E) / (C + E) |$   
 $[D] = 100 * (C) / [B]$

LCS = Laboratory Control Sample  
A = Parent Result  
C = MS/LCS Result  
E = MSD/LCSD Result

MS = Matrix Spike  
B = Spike Added  
D = MSD/LCSD % Rec



## QC Summary 573941

### OWL SWD Operating LLC IRP-4820

**Analytical Method: Chloride by EPA 300**

Seq Number: 3042053

Parent Sample Id: 573941-001

Matrix: Soil

MS Sample Id: 573941-001 S

Prep Method: E300P

Date Prep: 02.23.18

MSD Sample Id: 573941-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date  | Flag |
|-----------|---------------|--------------|-----------|---------|------------|----------|--------|------|-----------|-------|----------------|------|
| Chloride  | <9.92         | 99.2         | 103       | 104     | 103        | 104      | 80-120 | 0    | 20        | mg/kg | 02.23.18 18:08 |      |

**Analytical Method: Chloride by EPA 300**

Seq Number: 3042053

Parent Sample Id: 577090-001

Matrix: Sludge

MS Sample Id: 577090-001 S

Prep Method: E300P

Date Prep: 02.23.18

MSD Sample Id: 577090-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date  | Flag |
|-----------|---------------|--------------|-----------|---------|------------|----------|--------|------|-----------|-------|----------------|------|
| Chloride  | <9.98         | 99.8         | 101       | 101     | 101        | 101      | 80-120 | 0    | 20        | mg/kg | 02.23.18 14:10 |      |

**Analytical Method: Chloride by EPA 300**

Seq Number: 3042112

Parent Sample Id: 573941-016

Matrix: Soil

MS Sample Id: 573941-016 S

Prep Method: E300P

Date Prep: 02.26.18

MSD Sample Id: 573941-016 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date  | Flag |
|-----------|---------------|--------------|-----------|---------|------------|----------|--------|------|-----------|-------|----------------|------|
| Chloride  | <9.96         | 99.6         | 111       | 111     | 111        | 111      | 80-120 | 0    | 20        | mg/kg | 02.26.18 12:56 |      |

**Analytical Method: TPH By SW8015 Mod**

Seq Number: 3039134

MB Sample Id: 7637987-1-BLK

Matrix: Solid

LCS Sample Id: 7637987-1-BKS

Prep Method: TX1005P

Date Prep: 01.23.18

LCSD Sample Id: 7637987-1-BSD

| Parameter                         | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date  | Flag |
|-----------------------------------|-----------|--------------|------------|----------|-------------|-----------|--------|------|-----------|-------|----------------|------|
| Gasoline Range Hydrocarbons (GRO) | <15.0     | 1000         | 855        | 86       | 1000        | 100       | 70-135 | 16   | 35        | mg/kg | 01.23.18 16:27 |      |
| Diesel Range Organics (DRO)       | <15.0     | 1000         | 969        | 97       | 1130        | 113       | 70-135 | 15   | 35        | mg/kg | 01.23.18 16:27 |      |

| Surrogate      | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date  |
|----------------|---------|---------|----------|----------|-----------|-----------|--------|-------|----------------|
| 1-Chlorooctane | 116     |         | 110      |          | 124       |           | 70-135 | %     | 01.23.18 16:27 |
| o-Terphenyl    | 115     |         | 119      |          | 122       |           | 70-135 | %     | 01.23.18 16:27 |

MS/MSD Percent Recovery  
Relative Percent Difference  
LCS/LCSD Recovery

$[D] = 100 * (C - A) / B$   
 $RPD = 200 * |(C - E) / (C + E)|$   
 $[D] = 100 * (C) / [B]$

LCS = Laboratory Control Sample  
A = Parent Result  
C = MS/LCS Result  
E = MSD/LCSD Result

MS = Matrix Spike  
B = Spike Added  
D = MSD/LCSD % Rec



## QC Summary 573941

### OWL SWD Operating LLC IRP-4820

**Analytical Method: TPH By SW8015 Mod**

Seq Number: 3039135

MB Sample Id: 7637989-1-BLK

Matrix: Solid

LCS Sample Id: 7637989-1-BKS

Prep Method: TX1005P

Date Prep: 01.23.18

LCSD Sample Id: 7637989-1-BSD

| Parameter                         | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD  | RPD Limit      | Units | Analysis Date  | Flag |
|-----------------------------------|-----------|--------------|------------|----------|-------------|-----------|--------|-------|----------------|-------|----------------|------|
| Gasoline Range Hydrocarbons (GRO) | <15.0     | 1000         | 842        | 84       | 828         | 83        | 70-135 | 2     | 35             | mg/kg | 01.24.18 01:53 |      |
| Diesel Range Organics (DRO)       | <15.0     | 1000         | 971        | 97       | 931         | 93        | 70-135 | 4     | 35             | mg/kg | 01.24.18 01:53 |      |
| Surrogate                         | MB %Rec   | MB Flag      | LCS %Rec   | LCS Flag | LCSD %Rec   | LCSD Flag | Limits | Units | Analysis Date  |       |                |      |
| 1-Chlorooctane                    | 102       |              | 111        |          | 113         |           | 70-135 | %     | 01.24.18 01:53 |       |                |      |
| o-Terphenyl                       | 102       |              | 103        |          | 115         |           | 70-135 | %     | 01.24.18 01:53 |       |                |      |

**Analytical Method: TPH By SW8015 Mod**

Seq Number: 3039134

Parent Sample Id: 573941-010

Matrix: Soil

MS Sample Id: 573941-010 S

Prep Method: TX1005P

Date Prep: 01.23.18

MSD Sample Id: 573941-010 SD

| Parameter                         | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD  | RPD Limit      | Units | Analysis Date  | Flag |
|-----------------------------------|---------------|--------------|-----------|---------|------------|----------|--------|-------|----------------|-------|----------------|------|
| Gasoline Range Hydrocarbons (GRO) | <15.0         | 1000         | 892       | 89      | 860        | 86       | 70-135 | 4     | 35             | mg/kg | 01.23.18 17:26 |      |
| Diesel Range Organics (DRO)       | <15.0         | 1000         | 984       | 98      | 967        | 97       | 70-135 | 2     | 35             | mg/kg | 01.23.18 17:26 |      |
| Surrogate                         |               |              | MS %Rec   | MS Flag | MSD %Rec   | MSD Flag | Limits | Units | Analysis Date  |       |                |      |
| 1-Chlorooctane                    |               |              | 129       |         | 117        |          | 70-135 | %     | 01.23.18 17:26 |       |                |      |
| o-Terphenyl                       |               |              | 129       |         | 126        |          | 70-135 | %     | 01.23.18 17:26 |       |                |      |

**Analytical Method: TPH By SW8015 Mod**

Seq Number: 3039135

Parent Sample Id: 573941-046

Matrix: Soil

MS Sample Id: 573941-046 S

Prep Method: TX1005P

Date Prep: 01.23.18

MSD Sample Id: 573941-046 SD

| Parameter                         | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD  | RPD Limit      | Units | Analysis Date  | Flag |
|-----------------------------------|---------------|--------------|-----------|---------|------------|----------|--------|-------|----------------|-------|----------------|------|
| Gasoline Range Hydrocarbons (GRO) | <15.0         | 999          | 925       | 93      | 981        | 98       | 70-135 | 6     | 35             | mg/kg | 01.24.18 02:53 |      |
| Diesel Range Organics (DRO)       | <15.0         | 999          | 1040      | 104     | 1080       | 108      | 70-135 | 4     | 35             | mg/kg | 01.24.18 02:53 |      |
| Surrogate                         |               |              | MS %Rec   | MS Flag | MSD %Rec   | MSD Flag | Limits | Units | Analysis Date  |       |                |      |
| 1-Chlorooctane                    |               |              | 111       |         | 119        |          | 70-135 | %     | 01.24.18 02:53 |       |                |      |
| o-Terphenyl                       |               |              | 128       |         | 124        |          | 70-135 | %     | 01.24.18 02:53 |       |                |      |

MS/MSD Percent Recovery  
Relative Percent Difference  
LCS/LCSD Recovery

$[D] = 100 * (C-A) / B$   
 $RPD = 200 * |(C-E) / (C+E)|$   
 $[D] = 100 * (C) / [B]$

LCS = Laboratory Control Sample  
A = Parent Result  
C = MS/LCS Result  
E = MSD/LCSD Result

MS = Matrix Spike  
B = Spike Added  
D = MSD/LCSD % Rec



## QC Summary 573941

OWL SWD Operating LLC  
IRP-4820

## Analytical Method: BTEX by EPA 8021B

Seq Number: 3039101

MB Sample Id: 7637968-1-BLK

Matrix: Solid

LCS Sample Id: 7637968-1-BKS

Prep Method: SW5030B

Date Prep: 01.23.18

LCSD Sample Id: 7637968-1-BSD

| Parameter            | MB<br>Result | Spike<br>Amount | LCS<br>Result | LCS<br>%Rec | LCSD<br>Result | LCSD<br>%Rec | Limits | %RPD | RPD Limit | Units | Analysis<br>Date | Flag |
|----------------------|--------------|-----------------|---------------|-------------|----------------|--------------|--------|------|-----------|-------|------------------|------|
| Benzene              | <0.00200     | 0.0998          | 0.101         | 101         | 0.0940         | 94           | 70-130 | 7    | 35        | mg/kg | 01.23.18 14:18   |      |
| Toluene              | <0.00200     | 0.0998          | 0.0911        | 91          | 0.0896         | 90           | 70-130 | 2    | 35        | mg/kg | 01.23.18 14:18   |      |
| Ethylbenzene         | <0.00200     | 0.0998          | 0.0890        | 89          | 0.0863         | 86           | 71-129 | 3    | 35        | mg/kg | 01.23.18 14:18   |      |
| m,p-Xylenes          | <0.00399     | 0.200           | 0.176         | 88          | 0.173          | 87           | 70-135 | 2    | 35        | mg/kg | 01.23.18 14:18   |      |
| o-Xylene             | <0.00200     | 0.0998          | 0.0892        | 89          | 0.0868         | 87           | 71-133 | 3    | 35        | mg/kg | 01.23.18 14:18   |      |
| Surrogate            | MB<br>%Rec   | MB<br>Flag      | LCS<br>%Rec   | LCS<br>Flag | LCSD<br>%Rec   | LCSD<br>Flag | Limits |      |           | Units | Analysis<br>Date |      |
| 1,4-Difluorobenzene  | 103          |                 | 106           |             | 103            |              | 80-120 |      |           | %     | 01.23.18 14:18   |      |
| 4-Bromofluorobenzene | 84           |                 | 93            |             | 94             |              | 80-120 |      |           | %     | 01.23.18 14:18   |      |

## Analytical Method: BTEX by EPA 8021B

Seq Number: 3039105

MB Sample Id: 7637970-1-BLK

Matrix: Solid

LCS Sample Id: 7637970-1-BKS

Prep Method: SW5030B

Date Prep: 01.23.18

LCSD Sample Id: 7637970-1-BSD

| Parameter            | MB<br>Result | Spike<br>Amount | LCS<br>Result | LCS<br>%Rec | LCSD<br>Result | LCSD<br>%Rec | Limits | %RPD | RPD Limit | Units | Analysis<br>Date | Flag |
|----------------------|--------------|-----------------|---------------|-------------|----------------|--------------|--------|------|-----------|-------|------------------|------|
| Benzene              | <0.00200     | 0.100           | 0.0891        | 89          | 0.0941         | 93           | 70-130 | 5    | 35        | mg/kg | 01.23.18 23:58   |      |
| Toluene              | <0.00200     | 0.100           | 0.0867        | 87          | 0.0915         | 91           | 70-130 | 5    | 35        | mg/kg | 01.23.18 23:58   |      |
| Ethylbenzene         | <0.00200     | 0.100           | 0.0825        | 83          | 0.0884         | 88           | 71-129 | 7    | 35        | mg/kg | 01.23.18 23:58   |      |
| m,p-Xylenes          | <0.00401     | 0.200           | 0.165         | 83          | 0.177          | 88           | 70-135 | 7    | 35        | mg/kg | 01.23.18 23:58   |      |
| o-Xylene             | <0.00200     | 0.100           | 0.0841        | 84          | 0.0906         | 90           | 71-133 | 7    | 35        | mg/kg | 01.23.18 23:58   |      |
| Surrogate            | MB<br>%Rec   | MB<br>Flag      | LCS<br>%Rec   | LCS<br>Flag | LCSD<br>%Rec   | LCSD<br>Flag | Limits |      |           | Units | Analysis<br>Date |      |
| 1,4-Difluorobenzene  | 105          |                 | 102           |             | 112            |              | 80-120 |      |           | %     | 01.23.18 23:58   |      |
| 4-Bromofluorobenzene | 90           |                 | 88            |             | 107            |              | 80-120 |      |           | %     | 01.23.18 23:58   |      |

## Analytical Method: BTEX by EPA 8021B

Seq Number: 3039242

MB Sample Id: 7638039-1-BLK

Matrix: Solid

LCS Sample Id: 7638039-1-BKS

Prep Method: SW5030B

Date Prep: 01.24.18

LCSD Sample Id: 7638039-1-BSD

| Parameter            | MB<br>Result | Spike<br>Amount | LCS<br>Result | LCS<br>%Rec | LCSD<br>Result | LCSD<br>%Rec | Limits | %RPD  | RPD Limit        | Units | Analysis<br>Date | Flag |
|----------------------|--------------|-----------------|---------------|-------------|----------------|--------------|--------|-------|------------------|-------|------------------|------|
| Benzene              | <0.00200     | 0.100           | 0.0952        | 95          | 0.0956         | 96           | 70-130 | 0     | 35               | mg/kg | 01.24.18 16:35   |      |
| Toluene              | <0.00200     | 0.100           | 0.0980        | 98          | 0.0980         | 98           | 70-130 | 0     | 35               | mg/kg | 01.24.18 16:35   |      |
| Ethylbenzene         | <0.00200     | 0.100           | 0.104         | 104         | 0.104          | 104          | 71-129 | 0     | 35               | mg/kg | 01.24.18 16:35   |      |
| m,p-Xylenes          | <0.00401     | 0.200           | 0.205         | 103         | 0.206          | 104          | 70-135 | 0     | 35               | mg/kg | 01.24.18 16:35   |      |
| o-Xylene             | <0.00200     | 0.100           | 0.101         | 101         | 0.102          | 102          | 71-133 | 1     | 35               | mg/kg | 01.24.18 16:35   |      |
| Surrogate            | MB<br>%Rec   | MB<br>Flag      | LCS<br>%Rec   | LCS<br>Flag | LCSD<br>%Rec   | LCSD<br>Flag | Limits | Units | Analysis<br>Date |       |                  |      |
| 1,4-Difluorobenzene  | 87           |                 | 94            |             | 93             |              | 80-120 | %     | 01.24.18 16:35   |       |                  |      |
| 4-Bromofluorobenzene | 88           |                 | 99            |             | 98             |              | 80-120 | %     | 01.24.18 16:35   |       |                  |      |

MS/MSD Percent Recovery  
Relative Percent Difference  
LCS/LCSD Recovery $[D] = 100 * (C-A) / B$   
 $RPD = 200 * |(C-E) / (C+E)|$   
 $[D] = 100 * (C) / [B]$ LCS = Laboratory Control Sample  
A = Parent Result  
C = MS/LCS Result  
E = MSD/LCSD ResultMS = Matrix Spike  
B = Spike Added  
D = MSD/LCSD % Rec



## QC Summary 573941

OWL SWD Operating LLC  
IRP-4820

Analytical Method: BTEX by EPA 8021B

Seq Number: 3039101

Parent Sample Id: 573941-028

Matrix: Soil

MS Sample Id: 573941-028 S

Prep Method: SW5030B

Date Prep: 01.23.18

MSD Sample Id: 573941-028 SD

| Parameter    | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date  | Flag |
|--------------|---------------|--------------|-----------|---------|------------|----------|--------|------|-----------|-------|----------------|------|
| Benzene      | <0.00202      | 0.101        | 0.0908    | 90      | 0.0854     | 85       | 70-130 | 6    | 35        | mg/kg | 01.23.18 15:04 |      |
| Toluene      | <0.00202      | 0.101        | 0.0888    | 88      | 0.0824     | 82       | 70-130 | 7    | 35        | mg/kg | 01.23.18 15:04 |      |
| Ethylbenzene | <0.00202      | 0.101        | 0.0871    | 86      | 0.0772     | 77       | 71-129 | 12   | 35        | mg/kg | 01.23.18 15:04 |      |
| m,p-Xylenes  | <0.00404      | 0.202        | 0.174     | 86      | 0.155      | 77       | 70-135 | 12   | 35        | mg/kg | 01.23.18 15:04 |      |
| o-Xylene     | <0.00202      | 0.101        | 0.0861    | 85      | 0.0774     | 77       | 71-133 | 11   | 35        | mg/kg | 01.23.18 15:04 |      |

| Surrogate            | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date  |
|----------------------|---------|---------|----------|----------|--------|-------|----------------|
| 1,4-Difluorobenzene  | 119     |         | 112      |          | 80-120 | %     | 01.23.18 15:04 |
| 4-Bromofluorobenzene | 110     |         | 113      |          | 80-120 | %     | 01.23.18 15:04 |

Analytical Method: BTEX by EPA 8021B

Seq Number: 3039105

Parent Sample Id: 573941-046

Matrix: Soil

MS Sample Id: 573941-046 S

Prep Method: SW5030B

Date Prep: 01.23.18

MSD Sample Id: 573941-046 SD

| Parameter    | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date  | Flag |
|--------------|---------------|--------------|-----------|---------|------------|----------|--------|------|-----------|-------|----------------|------|
| Benzene      | <0.00200      | 0.100        | 0.0649    | 65      | 0.0649     | 64       | 70-130 | 0    | 35        | mg/kg | 01.24.18 11:41 | X    |
| Toluene      | <0.00200      | 0.100        | 0.0618    | 62      | 0.0710     | 70       | 70-130 | 14   | 35        | mg/kg | 01.24.18 11:41 | X    |
| Ethylbenzene | <0.00200      | 0.100        | 0.0594    | 59      | 0.0575     | 57       | 71-129 | 3    | 35        | mg/kg | 01.24.18 11:41 | X    |
| m,p-Xylenes  | <0.00401      | 0.200        | 0.119     | 60      | 0.102      | 50       | 70-135 | 15   | 35        | mg/kg | 01.24.18 11:41 | X    |
| o-Xylene     | <0.00200      | 0.100        | 0.0593    | 59      | 0.0695     | 69       | 71-133 | 16   | 35        | mg/kg | 01.24.18 11:41 | X    |

| Surrogate            | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date  |
|----------------------|---------|---------|----------|----------|--------|-------|----------------|
| 1,4-Difluorobenzene  | 98      |         | 112      |          | 80-120 | %     | 01.24.18 11:41 |
| 4-Bromofluorobenzene | 91      |         | 115      |          | 80-120 | %     | 01.24.18 11:41 |

Analytical Method: BTEX by EPA 8021B

Seq Number: 3039242

Parent Sample Id: 574310-001

Matrix: Soil

MS Sample Id: 574310-001 S

Prep Method: SW5030B

Date Prep: 01.24.18

MSD Sample Id: 574310-001 SD

| Parameter    | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date  | Flag |
|--------------|---------------|--------------|-----------|---------|------------|----------|--------|------|-----------|-------|----------------|------|
| Benzene      | <0.00201      | 0.101        | 0.0792    | 78      | 0.0797     | 79       | 70-130 | 1    | 35        | mg/kg | 01.24.18 17:13 |      |
| Toluene      | <0.00201      | 0.101        | 0.0807    | 80      | 0.0807     | 80       | 70-130 | 0    | 35        | mg/kg | 01.24.18 17:13 |      |
| Ethylbenzene | <0.00201      | 0.101        | 0.0812    | 80      | 0.0807     | 80       | 71-129 | 1    | 35        | mg/kg | 01.24.18 17:13 |      |
| m,p-Xylenes  | <0.00402      | 0.201        | 0.160     | 80      | 0.159      | 79       | 70-135 | 1    | 35        | mg/kg | 01.24.18 17:13 |      |
| o-Xylene     | <0.00201      | 0.101        | 0.0799    | 79      | 0.0789     | 78       | 71-133 | 1    | 35        | mg/kg | 01.24.18 17:13 |      |

| Surrogate            | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date  |
|----------------------|---------|---------|----------|----------|--------|-------|----------------|
| 1,4-Difluorobenzene  | 87      |         | 87       |          | 80-120 | %     | 01.24.18 17:13 |
| 4-Bromofluorobenzene | 104     |         | 100      |          | 80-120 | %     | 01.24.18 17:13 |

MS/MSD Percent Recovery  
Relative Percent Difference  
LCS/LCSD Recovery $[D] = 100 * (C-A) / B$   
 $RPD = 200 * | (C-E) / (C+E) |$   
 $[D] = 100 * (C) / [B]$ LCS = Laboratory Control Sample  
A = Parent Result  
C = MS/LCS Result  
E = MSD/LCSD ResultMS = Matrix Spike  
B = Spike Added  
D = MSD/LCSD % Rec



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San Antonio, TX (210) 509-3334

Phoenix, AZ (480) 355-0900  
Service Center - Baton Rouge, LA (832) 712-8143

Service Center - Amarillo, TX (806) 678-4514  
Service Center - Hobbs, NM (575) 392-7550

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Xenco Quote #

Xenco Job #

578941

| Client / Reporting Information                                                                                                                                                                                 |                                |              |         | Project Information                           |        |              |     | Analytical Information |      |       |      | Matrix Codes |      |      |       |                                                          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|--------------|---------|-----------------------------------------------|--------|--------------|-----|------------------------|------|-------|------|--------------|------|------|-------|----------------------------------------------------------|
| Company Name / Branch:<br>Owl SWD Operating, LLC                                                                                                                                                               |                                |              |         | Project Name/Number:<br>IRP-4820 / owl091317D |        |              |     |                        |      |       |      |              |      |      |       |                                                          |
| Company Address:<br>8214 Westchester Dr #850 Dallas, TX 75225                                                                                                                                                  |                                |              |         | Project Location:<br>Jal, NM                  |        |              |     |                        |      |       |      |              |      |      |       |                                                          |
| Email:<br>psanders@oilfieldwaterlogistics.com                                                                                                                                                                  |                                |              |         | Invoice To:<br>Owl                            |        |              |     |                        |      |       |      |              |      |      |       |                                                          |
| Phone No:<br>210-906-3551                                                                                                                                                                                      |                                |              |         | PO Number:                                    |        |              |     |                        |      |       |      |              |      |      |       |                                                          |
| Project Contact:<br>Phillip Sanders                                                                                                                                                                            |                                |              |         |                                               |        |              |     |                        |      |       |      |              |      |      |       |                                                          |
| Samplers Name:<br>James Fox                                                                                                                                                                                    |                                |              |         |                                               |        |              |     |                        |      |       |      |              |      |      |       |                                                          |
| No.                                                                                                                                                                                                            | Field ID / Point of Collection | Sample Depth | Date    | Time                                          | Matrix | # of bottles | HCI | NaOH/Zn Acetate        | HNO3 | H2SO4 | NaOH | NaHSO4       | MEOH | NONE | Notes | Field Comments                                           |
| 1                                                                                                                                                                                                              | Bln 0-2                        | 2'           | 1/12/18 | 1030                                          | S      | 2            |     |                        |      |       |      |              |      |      |       | * Please hold all samples until approved to run analysis |
| 2                                                                                                                                                                                                              | Bln 2-4                        | 4'           |         | 1040                                          |        |              |     |                        |      |       |      |              |      |      |       |                                                          |
| 3                                                                                                                                                                                                              | Bln 4-6                        | 6'           |         | 1050                                          |        |              |     |                        |      |       |      |              |      |      |       |                                                          |
| 4                                                                                                                                                                                                              | SB1 0-2                        | 2'           |         | 1130                                          |        |              |     |                        |      |       |      |              |      |      |       |                                                          |
| 5                                                                                                                                                                                                              | SB1 2-4                        | 4'           |         | 1140                                          |        |              |     |                        |      |       |      |              |      |      |       |                                                          |
| 6                                                                                                                                                                                                              | SB1 4-6                        | 6'           |         | 1150                                          |        |              |     |                        |      |       |      |              |      |      |       |                                                          |
| 7                                                                                                                                                                                                              | SB1 6-8                        | 8'           |         | 1200                                          |        |              |     |                        |      |       |      |              |      |      |       |                                                          |
| 8                                                                                                                                                                                                              | SB1 8-10                       | 10'          |         | 1210                                          |        |              |     |                        |      |       |      |              |      |      |       |                                                          |
| 9                                                                                                                                                                                                              | SB1 10-11.5                    | 11.5'        |         | 1220                                          |        |              |     |                        |      |       |      |              |      |      |       |                                                          |
| 10                                                                                                                                                                                                             | SB2 0-2                        | 2'           |         | 1230                                          |        |              |     |                        |      |       |      |              |      |      |       |                                                          |
| Turnaround Time (Business days)                                                                                                                                                                                |                                |              |         |                                               |        |              |     |                        |      |       |      |              |      |      |       |                                                          |
| Data Deliverable Information                                                                                                                                                                                   |                                |              |         |                                               |        |              |     |                        |      |       |      |              |      |      |       |                                                          |
| Notes:                                                                                                                                                                                                         |                                |              |         |                                               |        |              |     |                        |      |       |      |              |      |      |       |                                                          |
| Matrix Codes                                                                                                                                                                                                   |                                |              |         |                                               |        |              |     |                        |      |       |      |              |      |      |       |                                                          |
| W = Water<br>S = Soil/Sed/Solid<br>GW = Ground Water<br>DW = Drinking Water<br>P = Product<br>SW = Surface Water<br>SL = Sludge<br>OW = Ocean/Sea Water<br>WI = Wipe<br>O = Oil<br>WW = Waste Water<br>A = Air |                                |              |         |                                               |        |              |     |                        |      |       |      |              |      |      |       |                                                          |

|                                             |                                               |                                                              |                                                            |
|---------------------------------------------|-----------------------------------------------|--------------------------------------------------------------|------------------------------------------------------------|
| <input type="checkbox"/> Same Day TAT       | <input checked="" type="checkbox"/> 5 Day TAT | <input type="checkbox"/> Level II Std QC                     | <input type="checkbox"/> Level IV (Full Data Pkg raw data) |
| <input type="checkbox"/> Next Day EMERGENCY | <input type="checkbox"/> 7 Day TAT            | <input type="checkbox"/> Level III Std QC+ Forms             | <input type="checkbox"/> TRRP Level IV                     |
| <input type="checkbox"/> 2 Day EMERGENCY    | <input type="checkbox"/> Contract TAT         | <input type="checkbox"/> Level 3 (CLP Forms)                 | <input type="checkbox"/> UST / RG 411                      |
| <input type="checkbox"/> 3 Day EMERGENCY    |                                               | <input type="checkbox"/> Level II Report with TRRP checklist |                                                            |

|                                                                                                        |                              |                  |            |
|--------------------------------------------------------------------------------------------------------|------------------------------|------------------|------------|
| TAT Starts Day received by Lab, if received by 5:00 pm                                                 |                              |                  |            |
| SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLE CHANGE POSSESSION, INCLUDING COURIER DELIVERY |                              |                  |            |
| Relinquished by Sampler:<br>1/18/18 1700                                                               | Received By:<br>1/18/18 1700 | Relinquished By: | Date Time: |
| Relinquished by:                                                                                       | Date Time:                   | Received By:     | Date Time: |
| Relinquished by:                                                                                       | Date Time:                   | Received By:     | Date Time: |
| Relinquished by:                                                                                       | Date Time:                   | Received By:     | Date Time: |
| Relinquished by:                                                                                       | Date Time:                   | Received By:     | Date Time: |

|                       |            |
|-----------------------|------------|
| Temp: 2.2°C           | IR ID: R-8 |
| CF: (0.6: -0.2°C)     |            |
| Corrected Temp: 2.0°C |            |

James @ jkenvironmental.com  
dena @ jkenvironmental.com

Temp: 2.2°C IR ID: R-8  
CF: (0.6: -0.2°C)  
Corrected Temp: 2.0°C

On Ice Cooler Temp. Thermo. Corr. Factor



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# CHAIN OF CUSTODY

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|                                                                                                         |                                |                                               |         |                                                              |              |                                                              |                  |
|---------------------------------------------------------------------------------------------------------|--------------------------------|-----------------------------------------------|---------|--------------------------------------------------------------|--------------|--------------------------------------------------------------|------------------|
| Client / Reporting Information                                                                          |                                | Project Information                           |         | Analytical Information                                       |              | Matrix Codes                                                 |                  |
| Company Name / Branch:                                                                                  |                                | Project Name/Number:                          |         | Xenoco Quote #                                               |              | Xenoco Job #                                                 |                  |
| Company Address:                                                                                        |                                | Project Location:                             |         |                                                              |              |                                                              |                  |
| Email:                                                                                                  |                                | Invoice To:                                   |         |                                                              |              |                                                              |                  |
| Phone No:                                                                                               |                                |                                               |         |                                                              |              |                                                              |                  |
| Project Contact:                                                                                        |                                | PO Number:                                    |         |                                                              |              |                                                              |                  |
| Samplers Name:                                                                                          |                                |                                               |         |                                                              |              |                                                              |                  |
| No.                                                                                                     | Field ID / Point of Collection | Sample Depth                                  | Date    | Time                                                         | Matrix       | # of bottles                                                 | HCl              |
| 1                                                                                                       | SB2 2-4                        | 4'                                            | 1/17/18 | 12:40                                                        | 5            | 2                                                            |                  |
| 2                                                                                                       | SB2 4-6                        | 6'                                            |         | 12:50                                                        |              |                                                              |                  |
| 3                                                                                                       | SB2 6-8                        | 8'                                            |         | 13:00                                                        |              |                                                              |                  |
| 4                                                                                                       | SB2 8-10                       | 10'                                           |         | 13:10                                                        |              |                                                              |                  |
| 5                                                                                                       | SB2 10-11                      | 11'                                           |         | 13:20                                                        |              |                                                              |                  |
| 6                                                                                                       | SB3 0-2                        | 2'                                            |         | 14:00                                                        |              |                                                              |                  |
| 7                                                                                                       | SB3 2-4                        | 4'                                            |         | 14:10                                                        |              |                                                              |                  |
| 8                                                                                                       | SB3 4-6                        | 6'                                            |         | 14:20                                                        |              |                                                              |                  |
| 9                                                                                                       | SB3 6-8                        | 8'                                            |         | 14:30                                                        |              |                                                              |                  |
| 10                                                                                                      | SB3 8-10                       | 10'                                           |         | 14:40                                                        |              |                                                              |                  |
| Turnaround Time (Business days)                                                                         |                                |                                               |         |                                                              |              |                                                              |                  |
| Data Deliverable Information                                                                            |                                |                                               |         |                                                              |              |                                                              |                  |
| <input type="checkbox"/> Same Day TAT                                                                   |                                | <input checked="" type="checkbox"/> 5 Day TAT |         | <input type="checkbox"/> Level II Std QC                     |              | <input type="checkbox"/> Level IV (Full Data Pkg (raw data)) |                  |
| <input type="checkbox"/> Next Day EMERGENCY                                                             |                                | <input type="checkbox"/> 7 Day TAT            |         | <input type="checkbox"/> Level III Std QC+ Forms             |              | <input type="checkbox"/> TRRP Level IV                       |                  |
| <input type="checkbox"/> 2 Day EMERGENCY                                                                |                                | <input type="checkbox"/> Contract TAT         |         | <input type="checkbox"/> Level 3 (CLP Forms)                 |              | <input type="checkbox"/> UST / RG-411                        |                  |
| <input type="checkbox"/> 3 Day EMERGENCY                                                                |                                |                                               |         | <input type="checkbox"/> Level II Report with TRRP checklist |              |                                                              |                  |
| TAT Starts Day received by Lab, if received by 5:00 pm                                                  |                                |                                               |         |                                                              |              |                                                              |                  |
| SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY |                                |                                               |         |                                                              |              |                                                              |                  |
| Relinquished by Sampler:                                                                                |                                | Date Time:                                    | 1/18/18 | 1700                                                         | Received By: | 1                                                            | Relinquished By: |
| Relinquished by:                                                                                        |                                | Date Time:                                    |         |                                                              | Received By: | 2                                                            | Relinquished By: |
| Relinquished by:                                                                                        |                                | Date Time:                                    |         |                                                              | Received By: | 3                                                            | Relinquished By: |
| Relinquished by:                                                                                        |                                | Date Time:                                    |         |                                                              | Received By: | 4                                                            | Relinquished By: |
| Relinquished by:                                                                                        |                                | Date Time:                                    |         |                                                              | Received By: | 5                                                            | Relinquished By: |
| Temp: 2.20°C                                                                                            |                                | IR ID: R-8                                    |         | CF: (0-6: -0.2°C)                                            |              | Corrected Temp: 2.00°C                                       |                  |
| On Ice                                                                                                  |                                | Cooler Temp.                                  |         | Thermo. Corr. Factor                                         |              |                                                              |                  |

## CHAIN OF CUSTODY

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| Client / Reporting Information                         |                                |      |           |        |              | Project Information                                                                                     |                 |                             |                                |      |                    |                                                  | Analytical Information |   |   |   |  |                                                             |  |  | Matrix Codes |  |  |                            |            |  |  |  |  |                                         |  |  |  |  |  |
|--------------------------------------------------------|--------------------------------|------|-----------|--------|--------------|---------------------------------------------------------------------------------------------------------|-----------------|-----------------------------|--------------------------------|------|--------------------|--------------------------------------------------|------------------------|---|---|---|--|-------------------------------------------------------------|--|--|--------------|--|--|----------------------------|------------|--|--|--|--|-----------------------------------------|--|--|--|--|--|
| Company Name / Branch:                                 |                                |      |           |        |              | Project Name/Number:<br>IRP-9820 / OWL 091317D                                                          |                 |                             |                                |      |                    |                                                  |                        |   |   |   |  |                                                             |  |  |              |  |  |                            |            |  |  |  |  |                                         |  |  |  |  |  |
| Company Address:                                       |                                |      |           |        |              | Project Location:<br>Sol, Nuv                                                                           |                 |                             |                                |      |                    |                                                  |                        |   |   |   |  |                                                             |  |  |              |  |  |                            |            |  |  |  |  |                                         |  |  |  |  |  |
| Email:                                                 |                                |      |           |        |              | Invoice To:<br>owl                                                                                      |                 |                             |                                |      |                    |                                                  |                        |   |   |   |  |                                                             |  |  |              |  |  |                            |            |  |  |  |  |                                         |  |  |  |  |  |
| Phone No:                                              |                                |      |           |        |              | PO Number:                                                                                              |                 |                             |                                |      |                    |                                                  |                        |   |   |   |  |                                                             |  |  |              |  |  |                            |            |  |  |  |  |                                         |  |  |  |  |  |
| Sampler's Name:                                        |                                |      |           |        |              |                                                                                                         |                 |                             |                                |      |                    |                                                  |                        |   |   |   |  |                                                             |  |  |              |  |  |                            |            |  |  |  |  |                                         |  |  |  |  |  |
| No.                                                    | Field ID / Point of Collection |      |           |        |              | Collection                                                                                              |                 | Number of preserved bottles |                                |      |                    |                                                  |                        |   |   |   |  |                                                             |  |  |              |  |  |                            |            |  |  |  |  |                                         |  |  |  |  |  |
|                                                        | Sample Depth                   | Date | Time      | Matrix | # of bottles | HCl                                                                                                     | NaOH/Zn Acetate | HNO <sub>3</sub>            | H <sub>2</sub> SO <sub>4</sub> | NaOH | NaHSO <sub>4</sub> | MeOH                                             | NONE                   |   |   |   |  |                                                             |  |  |              |  |  |                            |            |  |  |  |  |                                         |  |  |  |  |  |
| 1                                                      | SBS 10-11                      | 11/  | 117/8/450 | 5      | 2            |                                                                                                         |                 |                             |                                |      |                    |                                                  |                        | X | X | X |  |                                                             |  |  |              |  |  |                            | See pg. #1 |  |  |  |  |                                         |  |  |  |  |  |
| 2                                                      | SBS 4 0-2                      | 2'   | 1455      |        |              |                                                                                                         |                 |                             |                                |      |                    |                                                  |                        | X | X | X |  |                                                             |  |  |              |  |  |                            |            |  |  |  |  |                                         |  |  |  |  |  |
| 3                                                      | SBS 4 2-4                      | 4'   | 1500      |        |              |                                                                                                         |                 |                             |                                |      |                    |                                                  |                        | X | X | X |  |                                                             |  |  |              |  |  |                            |            |  |  |  |  |                                         |  |  |  |  |  |
| 4                                                      | SBS 4 4-6                      | 6'   | 1510      |        |              |                                                                                                         |                 |                             |                                |      |                    |                                                  |                        | X | X | X |  |                                                             |  |  |              |  |  |                            |            |  |  |  |  |                                         |  |  |  |  |  |
| 5                                                      | SBS 4 6-8                      | 8'   | 1520      |        |              |                                                                                                         |                 |                             |                                |      |                    |                                                  |                        | X | X | X |  |                                                             |  |  |              |  |  |                            |            |  |  |  |  |                                         |  |  |  |  |  |
| 6                                                      | SBS 4 8-10                     | 10'  | 1530      |        |              |                                                                                                         |                 |                             |                                |      |                    |                                                  |                        | X | X | X |  |                                                             |  |  |              |  |  |                            |            |  |  |  |  |                                         |  |  |  |  |  |
| 7                                                      | SBS 0-2                        | 2'   | 1545      |        |              |                                                                                                         |                 |                             |                                |      |                    |                                                  |                        | X | X | X |  |                                                             |  |  |              |  |  |                            |            |  |  |  |  |                                         |  |  |  |  |  |
| 8                                                      | SBS 2-4                        | 4'   | 1555      |        |              |                                                                                                         |                 |                             |                                |      |                    |                                                  |                        | X | X | X |  |                                                             |  |  |              |  |  |                            |            |  |  |  |  |                                         |  |  |  |  |  |
| 9                                                      | SBS 4-6                        | 6'   | 1600      |        |              |                                                                                                         |                 |                             |                                |      |                    |                                                  |                        | X | X | X |  |                                                             |  |  |              |  |  |                            |            |  |  |  |  |                                         |  |  |  |  |  |
| 10                                                     | SBS 6-8                        | 8'   | 1610      |        |              |                                                                                                         |                 |                             |                                |      |                    |                                                  |                        | X | X | X |  |                                                             |  |  |              |  |  |                            |            |  |  |  |  |                                         |  |  |  |  |  |
| Turnaround Time (Business days)                        |                                |      |           |        |              | Data Deliverable Information                                                                            |                 |                             |                                |      |                    | Notes:                                           |                        |   |   |   |  |                                                             |  |  |              |  |  |                            |            |  |  |  |  |                                         |  |  |  |  |  |
| Same Day TAT                                           |                                |      |           |        |              | <input checked="" type="checkbox"/> 5 Day TAT                                                           |                 |                             |                                |      |                    | <input type="checkbox"/> Level II Std QC         |                        |   |   |   |  | <input type="checkbox"/> Level IV (Full Data Pkg /raw data) |  |  |              |  |  | + See page #1              |            |  |  |  |  |                                         |  |  |  |  |  |
| Next Day EMERGENCY                                     |                                |      |           |        |              | <input type="checkbox"/> 7 Day TAT                                                                      |                 |                             |                                |      |                    | <input type="checkbox"/> Level III Std QC+ Forms |                        |   |   |   |  | <input type="checkbox"/> TRRP Level IV                      |  |  |              |  |  |                            |            |  |  |  |  |                                         |  |  |  |  |  |
| 2 Day EMERGENCY                                        |                                |      |           |        |              | <input type="checkbox"/> Contract TAT                                                                   |                 |                             |                                |      |                    | <input type="checkbox"/> Level 3 (CLP Forms)     |                        |   |   |   |  | <input type="checkbox"/> UST / RG -411                      |  |  |              |  |  |                            |            |  |  |  |  |                                         |  |  |  |  |  |
| 3 Day EMERGENCY                                        |                                |      |           |        |              | <input type="checkbox"/> Level II Report with TRRP checklist                                            |                 |                             |                                |      |                    |                                                  |                        |   |   |   |  |                                                             |  |  |              |  |  |                            |            |  |  |  |  |                                         |  |  |  |  |  |
| TAT Starts Day received by Lab, if received by 5:00 pm |                                |      |           |        |              |                                                                                                         |                 |                             |                                |      |                    |                                                  |                        |   |   |   |  |                                                             |  |  |              |  |  |                            |            |  |  |  |  |                                         |  |  |  |  |  |
| Relinquished By: [Signature]                           |                                |      |           |        |              | SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY |                 |                             |                                |      |                    |                                                  |                        |   |   |   |  |                                                             |  |  |              |  |  |                            |            |  |  |  |  |                                         |  |  |  |  |  |
| Date Time: 1/8/18 1700                                 |                                |      |           |        |              | Received By: [Signature]                                                                                |                 |                             |                                |      |                    | Relinquished By: [Signature]                     |                        |   |   |   |  | Date Time: 2                                                |  |  |              |  |  | Received By: 2             |            |  |  |  |  |                                         |  |  |  |  |  |
| Refiniquished by: [Signature]                          |                                |      |           |        |              | Date Time: 3                                                                                            |                 |                             |                                |      |                    | Received By: [Signature]                         |                        |   |   |   |  | Relinquished By: [Signature]                                |  |  |              |  |  | Date Time: 4               |            |  |  |  |  | Received By: 4                          |  |  |  |  |  |
| Retinquired by: [Signature]                            |                                |      |           |        |              | Date Time: 5                                                                                            |                 |                             |                                |      |                    | Received By: [Signature]                         |                        |   |   |   |  | Custody Seal #                                              |  |  |              |  |  | Preserved where applicable |            |  |  |  |  | On Ice Cooler Temp. Thermo Corr. Factor |  |  |  |  |  |



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# CHAIN OF CUSTODY

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Xenco Quote #

Xenco Job #

578941

| Client / Reporting Information                                                                                                                                                          |                                |              |         | Project Information  |        |              |     | Analytical Information |      |       |      | Matrix Codes |      |      |     |      |           |                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|--------------|---------|----------------------|--------|--------------|-----|------------------------|------|-------|------|--------------|------|------|-----|------|-----------|----------------|
| Company Name / Branch:                                                                                                                                                                  |                                |              |         | Project Name/Number: |        |              |     |                        |      |       |      |              |      |      |     |      |           |                |
| Company Address:                                                                                                                                                                        |                                |              |         | Project Location:    |        |              |     |                        |      |       |      |              |      |      |     |      |           |                |
| Email:                                                                                                                                                                                  |                                |              |         | Invoice To:          |        |              |     |                        |      |       |      |              |      |      |     |      |           |                |
| Project Contact:                                                                                                                                                                        |                                |              |         | PO Number:           |        |              |     |                        |      |       |      |              |      |      |     |      |           |                |
| Samplers Name:                                                                                                                                                                          |                                |              |         |                      |        |              |     |                        |      |       |      |              |      |      |     |      |           |                |
| No.                                                                                                                                                                                     | Field ID / Point of Collection | Sample Depth | Date    | Time                 | Matrix | # of bottles | HCl | NaOH/Zn Acetate        | HNO3 | H2SO4 | NaOH | NaHSO4       | MEOH | NONE | TPH | BTEX | Chlorides | Field Comments |
| 1                                                                                                                                                                                       | SB5 8-10                       | 10'          | 1/17/18 | 16:20                | S      | 2            |     |                        |      |       |      |              |      |      | X   | X    | X         | See pg #1      |
| 2                                                                                                                                                                                       | SB6 0-2                        | 2'           |         |                      |        |              |     |                        |      |       |      |              |      |      | X   | X    | X         |                |
| 3                                                                                                                                                                                       | SB6 2-4                        | 4'           |         |                      |        |              |     |                        |      |       |      |              |      |      | X   | X    | X         |                |
| 4                                                                                                                                                                                       | SB6 4-6                        | 6'           |         |                      |        |              |     |                        |      |       |      |              |      |      | X   | X    | X         |                |
| 5                                                                                                                                                                                       | SB6 6-8                        | 8'           |         |                      |        |              |     |                        |      |       |      |              |      |      | X   | X    | X         |                |
| 6                                                                                                                                                                                       | SB6 8-10                       | 10'          |         |                      |        |              |     |                        |      |       |      |              |      |      | X   | X    | X         |                |
| 7                                                                                                                                                                                       | SB6 10-12                      | 12'          |         |                      |        |              |     |                        |      |       |      |              |      |      | X   | X    | X         |                |
| 8                                                                                                                                                                                       | SB6 12-14                      | 14'          |         |                      |        |              |     |                        |      |       |      |              |      |      | X   | X    | X         |                |
| 9                                                                                                                                                                                       | SB6 14-16                      | 16'          |         |                      |        |              |     |                        |      |       |      |              |      |      | X   | X    | X         |                |
| 10                                                                                                                                                                                      | SB7 0-2                        | 2'           | 1/18/18 | 08:00                |        |              |     |                        |      |       |      |              |      |      | X   | X    | X         |                |
| Turnaround Time (Business days)                                                                                                                                                         |                                |              |         |                      |        |              |     |                        |      |       |      |              |      |      |     |      |           |                |
| Data Deliverable Information                                                                                                                                                            |                                |              |         |                      |        |              |     |                        |      |       |      |              |      |      |     |      |           |                |
| Notes:                                                                                                                                                                                  |                                |              |         |                      |        |              |     |                        |      |       |      |              |      |      |     |      |           |                |
| Same Day TAT <input checked="" type="checkbox"/> 5 Day TAT <input type="checkbox"/> Level II Std QC <input type="checkbox"/> Level IV (Full Data Pkg raw data) <input type="checkbox"/> |                                |              |         |                      |        |              |     |                        |      |       |      |              |      |      |     |      |           |                |
| Next Day EMERGENCY <input type="checkbox"/> 7 Day TAT <input type="checkbox"/> Level III Std QC+ Forms <input type="checkbox"/> TRRP Level IV <input type="checkbox"/>                  |                                |              |         |                      |        |              |     |                        |      |       |      |              |      |      |     |      |           |                |
| 2 Day EMERGENCY <input type="checkbox"/> Contract TAT <input type="checkbox"/> Level 3 (CLP Forms) <input type="checkbox"/> UST / RG 411 <input type="checkbox"/>                       |                                |              |         |                      |        |              |     |                        |      |       |      |              |      |      |     |      |           |                |
| 3 Day EMERGENCY <input type="checkbox"/> Level II Report with TRRP checklist <input type="checkbox"/>                                                                                   |                                |              |         |                      |        |              |     |                        |      |       |      |              |      |      |     |      |           |                |
| TAT Starts Day received by Lab, if received by 5:00 pm                                                                                                                                  |                                |              |         |                      |        |              |     |                        |      |       |      |              |      |      |     |      |           |                |
| SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY                                                                                 |                                |              |         |                      |        |              |     |                        |      |       |      |              |      |      |     |      |           |                |
| Relinquished By Sampler: <input type="checkbox"/> Date Time: 1/18/18 1:00 PM Received By: <input type="checkbox"/> Date Time: 1/18/18 1:00 PM                                           |                                |              |         |                      |        |              |     |                        |      |       |      |              |      |      |     |      |           |                |
| Relinquished By: <input type="checkbox"/> Date Time: 1/18/18 1:00 PM Received By: <input type="checkbox"/> Date Time: 1/18/18 1:00 PM                                                   |                                |              |         |                      |        |              |     |                        |      |       |      |              |      |      |     |      |           |                |
| Relinquished By: <input type="checkbox"/> Date Time: 1/18/18 1:00 PM Received By: <input type="checkbox"/> Date Time: 1/18/18 1:00 PM                                                   |                                |              |         |                      |        |              |     |                        |      |       |      |              |      |      |     |      |           |                |
| Relinquished By: <input type="checkbox"/> Date Time: 1/18/18 1:00 PM Received By: <input type="checkbox"/> Date Time: 1/18/18 1:00 PM                                                   |                                |              |         |                      |        |              |     |                        |      |       |      |              |      |      |     |      |           |                |
| Relinquished By: <input type="checkbox"/> Date Time: 1/18/18 1:00 PM Received By: <input type="checkbox"/> Date Time: 1/18/18 1:00 PM                                                   |                                |              |         |                      |        |              |     |                        |      |       |      |              |      |      |     |      |           |                |
| Temp: 2.2°C IR ID: R-8                                                                                                                                                                  |                                |              |         |                      |        |              |     |                        |      |       |      |              |      |      |     |      |           |                |
| CF: (0-6: -0.2°C)                                                                                                                                                                       |                                |              |         |                      |        |              |     |                        |      |       |      |              |      |      |     |      |           |                |
| (6-23: +0.2°C)                                                                                                                                                                          |                                |              |         |                      |        |              |     |                        |      |       |      |              |      |      |     |      |           |                |
| Corrected Temp: 2.0°C                                                                                                                                                                   |                                |              |         |                      |        |              |     |                        |      |       |      |              |      |      |     |      |           |                |



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| Client / Reporting Information                         |      |      | Project Information                           |         |      | Analytical Information                                       |              |     | Matrix Codes                                                |      |       |                                 |        |      |      |           |
|--------------------------------------------------------|------|------|-----------------------------------------------|---------|------|--------------------------------------------------------------|--------------|-----|-------------------------------------------------------------|------|-------|---------------------------------|--------|------|------|-----------|
| Company Name / Branch:                                 |      |      | Project Name/Number:                          |         |      |                                                              |              |     |                                                             |      |       |                                 |        |      |      |           |
| Company Address:                                       |      |      | Project Location:                             |         |      |                                                              |              |     |                                                             |      |       |                                 |        |      |      |           |
| Email:                                                 |      |      | Invoice To:                                   |         |      |                                                              |              |     |                                                             |      |       |                                 |        |      |      |           |
| Project Contact:                                       |      |      | PO Number:                                    |         |      |                                                              |              |     |                                                             |      |       |                                 |        |      |      |           |
| Sampler's Name:                                        |      |      |                                               |         |      |                                                              |              |     |                                                             |      |       |                                 |        |      |      |           |
| No. Field ID / Point of Collection                     |      |      | Collection                                    |         |      | Number of preserved bottles                                  |              |     | Field Comments                                              |      |       |                                 |        |      |      |           |
|                                                        |      |      | Sample Depth                                  | Date    | Time | Matrix                                                       | # of bottles | HCI | NaOH/Zn Acetate                                             | HNO3 | H2SO4 | NaOH                            | NaHSO4 | MeOH | NONE |           |
| 1                                                      | SB9  | 2-4  | 4'                                            | 1/18/18 | 1020 | S                                                            | 2            |     |                                                             |      |       |                                 |        |      |      | See pg #1 |
| 2                                                      | SB9  | 4-6  | 6'                                            |         | 1030 |                                                              |              |     |                                                             |      |       |                                 |        |      |      |           |
| 3                                                      | SB9  | 6-8  | 8'                                            |         | 1040 |                                                              |              |     |                                                             |      |       |                                 |        |      |      |           |
| 4                                                      | SB9  | 8-10 | 10'                                           |         | 1050 |                                                              |              |     |                                                             |      |       |                                 |        |      |      |           |
| 5                                                      | SB10 | 0-2  | 2'                                            |         | 1100 |                                                              |              |     |                                                             |      |       |                                 |        |      |      |           |
| 6                                                      | SB10 | 2-4  | 4'                                            |         | 1110 |                                                              |              |     |                                                             |      |       |                                 |        |      |      |           |
| 7                                                      | SB10 | 4-6  | 6'                                            |         | 1120 |                                                              |              |     |                                                             |      |       |                                 |        |      |      |           |
| 8                                                      | SB10 | 6-8  | 8'                                            |         | 1130 |                                                              |              |     |                                                             |      |       |                                 |        |      |      |           |
| 9                                                      | SB10 | 8-10 | 10'                                           |         | 1140 |                                                              |              |     |                                                             |      |       |                                 |        |      |      |           |
| 10                                                     |      |      |                                               |         |      |                                                              |              |     |                                                             |      |       |                                 |        |      |      |           |
| Turnaround Time (Business days)                        |      |      |                                               |         |      | Data Deliverable Information                                 |              |     | Notes:                                                      |      |       |                                 |        |      |      |           |
| <input type="checkbox"/> Same Day TAT                  |      |      | <input checked="" type="checkbox"/> 5 Day TAT |         |      | <input type="checkbox"/> Level II Std QC                     |              |     | <input type="checkbox"/> Level IV (Full Data Pkg /raw data) |      |       | See page #1                     |        |      |      |           |
| <input type="checkbox"/> Next Day EMERGENCY            |      |      | <input type="checkbox"/> 7 Day TAT            |         |      | <input type="checkbox"/> Level III Std QC+ Forms             |              |     | <input type="checkbox"/> TRRP Level IV                      |      |       |                                 |        |      |      |           |
| <input type="checkbox"/> 2 Day EMERGENCY               |      |      | <input type="checkbox"/> Contract TAT         |         |      | <input type="checkbox"/> Level 3 (CLP Forms)                 |              |     | <input type="checkbox"/> UST / RG -411                      |      |       |                                 |        |      |      |           |
| <input type="checkbox"/> 3 Day EMERGENCY               |      |      |                                               |         |      | <input type="checkbox"/> Level II Report with TRRP checklist |              |     |                                                             |      |       |                                 |        |      |      |           |
| TAT Starts Day received by Lab, if received by 5:00 pm |      |      |                                               |         |      |                                                              |              |     |                                                             |      |       | FED-EX / UPS: T1                |        |      |      |           |
| Relinquished by: <i>Sammy</i>                          |      |      | Date Time: 1/18/18 1700                       |         |      | Received By: <i>[Signature]</i>                              |              |     | Date Time: 1/18/18 1700                                     |      |       | Received By: <i>[Signature]</i> |        |      |      |           |
| Relinquished by: <i>[Signature]</i>                    |      |      | Date Time: 1/18/18 1700                       |         |      | Received By: <i>[Signature]</i>                              |              |     | Date Time: 1/18/18 1700                                     |      |       | Received By: <i>[Signature]</i> |        |      |      |           |
| Relinquished by: <i>[Signature]</i>                    |      |      | Date Time: 1/18/18 1700                       |         |      | Received By: <i>[Signature]</i>                              |              |     | Date Time: 1/18/18 1700                                     |      |       | Received By: <i>[Signature]</i> |        |      |      |           |
| Relinquished by: <i>[Signature]</i>                    |      |      | Date Time: 1/18/18 1700                       |         |      | Received By: <i>[Signature]</i>                              |              |     | Date Time: 1/18/18 1700                                     |      |       | Received By: <i>[Signature]</i> |        |      |      |           |
| Relinquished by: <i>[Signature]</i>                    |      |      | Date Time: 1/18/18 1700                       |         |      | Received By: <i>[Signature]</i>                              |              |     | Date Time: 1/18/18 1700                                     |      |       | Received By: <i>[Signature]</i> |        |      |      |           |
| Relinquished by: <i>[Signature]</i>                    |      |      | Date Time: 1/18/18 1700                       |         |      | Received By: <i>[Signature]</i>                              |              |     | Date Time: 1/18/18 1700                                     |      |       | Received By: <i>[Signature]</i> |        |      |      |           |
| Relinquished by: <i>[Signature]</i>                    |      |      | Date Time: 1/18/18 1700                       |         |      | Received By: <i>[Signature]</i>                              |              |     | Date Time: 1/18/18 1700                                     |      |       | Received By: <i>[Signature]</i> |        |      |      |           |
| Relinquished by: <i>[Signature]</i>                    |      |      | Date Time: 1/18/18 1700                       |         |      | Received By: <i>[Signature]</i>                              |              |     | Date Time: 1/18/18 1700                                     |      |       | Received By: <i>[Signature]</i> |        |      |      |           |
| Relinquished by: <i>[Signature]</i>                    |      |      | Date Time: 1/18/18 1700                       |         |      | Received By: <i>[Signature]</i>                              |              |     | Date Time: 1/18/18 1700                                     |      |       | Received By: <i>[Signature]</i> |        |      |      |           |
| Relinquished by: <i>[Signature]</i>                    |      |      | Date Time: 1/18/18 1700                       |         |      | Received By: <i>[Signature]</i>                              |              |     | Date Time: 1/18/18 1700                                     |      |       | Received By: <i>[Signature]</i> |        |      |      |           |
| Relinquished by: <i>[Signature]</i>                    |      |      | Date Time: 1/18/18 1700                       |         |      | Received By: <i>[Signature]</i>                              |              |     | Date Time: 1/18/18 1700                                     |      |       | Received By: <i>[Signature]</i> |        |      |      |           |
| Relinquished by: <i>[Signature]</i>                    |      |      | Date Time: 1/18/18 1700                       |         |      | Received By: <i>[Signature]</i>                              |              |     | Date Time: 1/18/18 1700                                     |      |       | Received By: <i>[Signature]</i> |        |      |      |           |
| Relinquished by: <i>[Signature]</i>                    |      |      | Date Time: 1/18/18 1700                       |         |      | Received By: <i>[Signature]</i>                              |              |     | Date Time: 1/18/18 1700                                     |      |       | Received By: <i>[Signature]</i> |        |      |      |           |
| Relinquished by: <i>[Signature]</i>                    |      |      | Date Time: 1/18/18 1700                       |         |      | Received By: <i>[Signature]</i>                              |              |     | Date Time: 1/18/18 1700                                     |      |       | Received By: <i>[Signature]</i> |        |      |      |           |
| Relinquished by: <i>[Signature]</i>                    |      |      | Date Time: 1/18/18 1700                       |         |      | Received By: <i>[Signature]</i>                              |              |     | Date Time: 1/18/18 1700                                     |      |       | Received By: <i>[Signature]</i> |        |      |      |           |
| Relinquished by: <i>[Signature]</i>                    |      |      | Date Time: 1/18/18 1700                       |         |      | Received By: <i>[Signature]</i>                              |              |     | Date Time: 1/18/18 1700                                     |      |       | Received By: <i>[Signature]</i> |        |      |      |           |
| Relinquished by: <i>[Signature]</i>                    |      |      | Date Time: 1/18/18 1700                       |         |      | Received By: <i>[Signature]</i>                              |              |     | Date Time: 1/18/18 1700                                     |      |       | Received By: <i>[Signature]</i> |        |      |      |           |
| Relinquished by: <i>[Signature]</i>                    |      |      | Date Time: 1/18/18 1700                       |         |      | Received By: <i>[Signature]</i>                              |              |     | Date Time: 1/18/18 1700                                     |      |       | Received By: <i>[Signature]</i> |        |      |      |           |
| Relinquished by: <i>[Signature]</i>                    |      |      | Date Time: 1/18/18 1700                       |         |      | Received By: <i>[Signature]</i>                              |              |     | Date Time: 1/18/18 1700                                     |      |       | Received By: <i>[Signature]</i> |        |      |      |           |
| Relinquished by: <i>[Signature]</i>                    |      |      | Date Time: 1/18/18 1700                       |         |      | Received By: <i>[Signature]</i>                              |              |     | Date Time: 1/18/18 1700                                     |      |       | Received By: <i>[Signature]</i> |        |      |      |           |
| Relinquished by: <i>[Signature]</i>                    |      |      | Date Time: 1/18/18 1700                       |         |      | Received By: <i>[Signature]</i>                              |              |     | Date Time: 1/18/18 1700                                     |      |       | Received By: <i>[Signature]</i> |        |      |      |           |
| Relinquished by: <i>[Signature]</i>                    |      |      | Date Time: 1/18/18 1700                       |         |      | Received By: <i>[Signature]</i>                              |              |     | Date Time: 1/18/18 1700                                     |      |       | Received By: <i>[Signature]</i> |        |      |      |           |
| Relinquished by: <i>[Signature]</i>                    |      |      | Date Time: 1/18/18                            |         |      |                                                              |              |     |                                                             |      |       |                                 |        |      |      |           |



## Inter-Office Shipment

Page 1 of 2

IOS Number **1056555**

Date/Time: 02/22/18 16:10

Created by: Jessica Kramer

Please send report to: Kelsey Brooks

Lab# From: **Midland**

Delivery Priority:

Address: 1211 W. Florida Ave, Midland TX 79701

Lab# To: **Houston**

Air Bill No.: 771548848886

Phone:

E-Mail: kelsey.brooks@xenco.com

| Sample Id  | Matrix | Client Sample Id | Sample Collection | Method  | Method Name         | Lab Due  | HT Due   | PM  | Analytes | Sign |
|------------|--------|------------------|-------------------|---------|---------------------|----------|----------|-----|----------|------|
| 573941-001 | S      | BG 0-2           | 01/17/18 10:30    | E300_CL | Chloride by EPA 300 | 01/24/18 | 02/14/18 | KEB | CL       |      |
| 573941-002 | S      | BG 2-4           | 01/17/18 10:40    | E300_CL | Chloride by EPA 300 | 01/24/18 | 02/14/18 | KEB | CL       |      |
| 573941-003 | S      | BG 4-6           | 01/17/18 10:50    | E300_CL | Chloride by EPA 300 | 01/24/18 | 02/14/18 | KEB | CL       |      |
| 573941-004 | S      | SB1 0-2          | 01/17/18 11:30    | E300_CL | Chloride by EPA 300 | 01/24/18 | 02/14/18 | KEB | CL       |      |
| 573941-005 | S      | SB1 2-4          | 01/17/18 11:40    | E300_CL | Chloride by EPA 300 | 01/24/18 | 02/14/18 | KEB | CL       |      |
| 573941-006 | S      | SB1 4-6          | 01/17/18 11:50    | E300_CL | Chloride by EPA 300 | 01/24/18 | 02/14/18 | KEB | CL       |      |
| 573941-007 | S      | SB1 6-8          | 01/17/18 12:00    | E300_CL | Chloride by EPA 300 | 01/24/18 | 02/14/18 | KEB | CL       |      |
| 573941-008 | S      | SB1 8-10         | 01/17/18 12:10    | E300_CL | Chloride by EPA 300 | 01/24/18 | 02/14/18 | KEB | CL       |      |
| 573941-009 | S      | SB1 10-11.51     | 01/17/18 12:20    | E300_CL | Chloride by EPA 300 | 01/24/18 | 02/14/18 | KEB | CL       |      |
| 573941-016 | S      | SB3 0-2          | 01/17/18 14:00    | E300_CL | Chloride by EPA 300 | 01/24/18 | 02/14/18 | KEB | CL       |      |
| 573941-017 | S      | SB3 2-4          | 01/17/18 14:10    | E300_CL | Chloride by EPA 300 | 01/24/18 | 02/14/18 | KEB | CL       |      |
| 573941-018 | S      | SB3 4-6          | 01/17/18 14:20    | E300_CL | Chloride by EPA 300 | 01/24/18 | 02/14/18 | KEB | CL       |      |
| 573941-019 | S      | SB3 6-8          | 01/17/18 14:30    | E300_CL | Chloride by EPA 300 | 01/24/18 | 02/14/18 | KEB | CL       |      |
| 573941-020 | S      | SB3 8-10         | 01/17/18 14:40    | E300_CL | Chloride by EPA 300 | 01/24/18 | 02/14/18 | KEB | CL       |      |
| 573941-021 | S      | SB3 10-11        | 01/17/18 14:50    | E300_CL | Chloride by EPA 300 | 01/24/18 | 02/14/18 | KEB | CL       |      |
| 573941-022 | S      | SB4 0-2          | 01/17/18 14:55    | E300_CL | Chloride by EPA 300 | 01/24/18 | 02/14/18 | KEB | CL       |      |
| 573941-023 | S      | SB4 2-4          | 01/17/18 15:00    | E300_CL | Chloride by EPA 300 | 01/24/18 | 02/14/18 | KEB | CL       |      |
| 573941-024 | S      | SB4 4-6 (1)      | 01/17/18 15:10    | E300_CL | Chloride by EPA 300 | 01/24/18 | 02/14/18 | KEB | CL       |      |
| 573941-025 | S      | SB4 6-8          | 01/17/18 15:20    | E300_CL | Chloride by EPA 300 | 01/24/18 | 02/14/18 | KEB | CL       |      |
| 573941-026 | S      | SB4 8-10         | 01/17/18 15:30    | E300_CL | Chloride by EPA 300 | 01/24/18 | 02/14/18 | KEB | CL       |      |
| 573941-040 | S      | SB7 0-2          | 01/18/18 08:00    | E300_CL | Chloride by EPA 300 | 01/24/18 | 02/15/18 | KEB | CL       |      |
| 573941-041 | S      | SB7 2-4          | 01/18/18 08:10    | E300_CL | Chloride by EPA 300 | 01/24/18 | 02/15/18 | KEB | CL       |      |
| 573941-042 | S      | SB7 4-6          | 01/18/18 08:20    | E300_CL | Chloride by EPA 300 | 01/24/18 | 02/15/18 | KEB | CL       |      |
| 573941-043 | S      | SB7 6-8          | 01/18/18 08:30    | E300_CL | Chloride by EPA 300 | 01/24/18 | 02/15/18 | KEB | CL       |      |
| 573941-044 | S      | SB7 8-10         | 01/18/18 08:40    | E300_CL | Chloride by EPA 300 | 01/24/18 | 02/15/18 | KEB | CL       |      |



## Inter-Office Shipment

Page 2 of 2

IOS Number **1056555**

Date/Time: 02/22/18 16:10

Created by: Jessica Kramer

Please send report to: Kelsey Brooks

Lab# From: **Midland**

Delivery Priority:

Address: 1211 W. Florida Ave, Midland TX 79701

Lab# To: **Houston**

Air Bill No.: 771548848886

Phone:

E-Mail: kelsey.brooks@xenco.com

| Sample Id  | Matrix | Client Sample Id | Sample Collection | Method  | Method Name         | Lab Due  | HT Due   | PM  | Analytes | Sign |
|------------|--------|------------------|-------------------|---------|---------------------|----------|----------|-----|----------|------|
| 573941-050 | S      | SB9 0-2          | 01/18/18 10:15    | E300_CL | Chloride by EPA 300 | 01/24/18 | 02/15/18 | KEB | CL       |      |
| 573941-051 | S      | SB9 2-4          | 01/18/18 10:20    | E300_CL | Chloride by EPA 300 | 01/24/18 | 02/15/18 | KEB | CL       |      |
| 573941-052 | S      | SB9 4-6          | 01/18/18 10:30    | E300_CL | Chloride by EPA 300 | 01/24/18 | 02/15/18 | KEB | CL       |      |
| 573941-053 | S      | SB9 6-8          | 01/18/18 10:40    | E300_CL | Chloride by EPA 300 | 01/24/18 | 02/15/18 | KEB | CL       |      |
| 573941-054 | S      | SB9 8-10         | 01/18/18 10:50    | E300_CL | Chloride by EPA 300 | 01/24/18 | 02/15/18 | KEB | CL       |      |
| 573941-060 | S      | SB4 4-6 (2)      | 01/18/18 11:40    | E300_CL | Chloride by EPA 300 | 01/24/18 | 02/15/18 | KEB | CL       |      |
| 573941-061 | S      | BG 6-8           | 01/18/18 11:40    | E300_CL | Chloride by EPA 300 | 01/24/18 | 02/15/18 | KEB | CL       |      |
| 573941-062 | S      | SB8 8-10 (2)     | 01/18/18 11:40    | E300_CL | Chloride by EPA 300 | 01/24/18 | 02/15/18 | KEB | CL       |      |

Inter Office Shipment or Sample Comments:

Relinquished By

*Jessica Kramer*

Jessica Kramer

Received By:

*Maria Paula Guerra*

Maria Paula Guerra

Date Relinquished: 02/22/2018

Date Received: 02/23/2018 09:15

Cooler Temperature: 3.9



# XENCO Laboratories

## Inter Office Report- Sample Receipt Checklist



Sent To: Houston

IOS #: 1056555

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : IR:HOU068

Sent By: Jessica Kramer

Date Sent: 02/22/2018 04:10 PM

Received By: Maria Paula Guerra

Date Received: 02/23/2018 09:15 AM

### Sample Receipt Checklist

### Comments

|                                                           |     |                |
|-----------------------------------------------------------|-----|----------------|
| #1 *Temperature of cooler(s)?                             | 3.9 |                |
| #2 *Shipping container in good condition?                 | Yes |                |
| #3 *Samples received with appropriate temperature?        | Yes |                |
| #4 *Custody Seals intact on shipping container/ cooler?   | No  |                |
| #5 *Custody Seals Signed and dated for Containers/coolers | N/A |                |
| #6 *IOS present?                                          | Yes |                |
| #7 Any missing/extra samples?                             | No  |                |
| #8 IOS agrees with sample label(s)/matrix?                | Yes |                |
| #9 Sample matrix/ properties agree with IOS?              | Yes |                |
| #10 Samples in proper container/ bottle?                  | Yes |                |
| #11 Samples properly preserved?                           | Yes |                |
| #12 Sample container(s) intact?                           | Yes |                |
| #13 Sufficient sample amount for indicated test(s)?       | Yes |                |
| #14 All samples received within hold time?                | No  | pH out of hold |

\* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

NonConformance:

Corrective Action Taken:

### Nonconformance Documentation

Contact: \_\_\_\_\_ Contacted by : \_\_\_\_\_ Date: \_\_\_\_\_

Checklist reviewed by:

Maria Paula Guerra

Date: 02/23/2018



**XENCO Laboratories**  
**Prelogin/Nonconformance Report- Sample Log-In**



**Client:** OWL SWD Operating LLC

**Date/ Time Received:** 01/18/2018 05:00:00 PM

**Work Order #:** 573941

**Acceptable Temperature Range:** 0 - 6 degC

**Air and Metal samples Acceptable Range:** Ambient

**Temperature Measuring device used :** R8

**Sample Receipt Checklist**

**Comments**

|                                                         |     |                                                                          |
|---------------------------------------------------------|-----|--------------------------------------------------------------------------|
| #1 *Temperature of cooler(s)?                           | 2   |                                                                          |
| #2 *Shipping container in good condition?               | Yes |                                                                          |
| #3 *Samples received on ice?                            | Yes |                                                                          |
| #4 *Custody Seals intact on shipping container/ cooler? | N/A |                                                                          |
| #5 Custody Seals intact on sample bottles?              | N/A |                                                                          |
| #6 *Custody Seals Signed and dated?                     | N/A |                                                                          |
| #7 *Chain of Custody present?                           | Yes |                                                                          |
| #8 Any missing/extra samples?                           | Yes | Sample 60- SB4 4-6 (2) , 61- BG 6-8 and 62- SB8 8-10 (2) were not on COC |
|                                                         |     |                                                                          |
| #9 Chain of Custody signed when relinquished/ received? | Yes |                                                                          |
| #10 Chain of Custody agrees with sample labels/matrix?  | Yes |                                                                          |
| #11 Container label(s) legible and intact?              | Yes |                                                                          |
| #12 Samples in proper container/ bottle?                | Yes |                                                                          |
| #13 Samples properly preserved?                         | Yes |                                                                          |
| #14 Sample container(s) intact?                         | Yes |                                                                          |
| #15 Sufficient sample amount for indicated test(s)?     | Yes |                                                                          |
| #16 All samples received within hold time?              | Yes |                                                                          |
| #17 Subcontract of sample(s)?                           | N/A |                                                                          |
| #18 Water VOC samples have zero headspace?              | N/A |                                                                          |

**\* Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

**Analyst:**

**PH Device/Lot#:**

**Checklist completed by:**

Connie Hernandez

**Date:** 01/19/2018

**Checklist reviewed by:**

Kelsey Brooks

**Date:** 01/23/2018



# Certificate of Analysis Summary 574342

OWL SWD Operating LLC, Dallas, TX

Project Name: OWL091317D



Project Id: IRP-4820  
Contact: Phillip Sanders  
Project Location: JAL,NM

Date Received in Lab: Wed Jan-24-18 08:20 am  
Report Date: 19-FEB-18  
Project Manager: Kelsey Brooks

|                            |                   |                 |                 |                 |                 |                 |                 |
|----------------------------|-------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| <b>Analysis Requested</b>  | <b>Lab Id:</b>    | 574342-001      | 574342-002      | 574342-003      | 574342-004      | 574342-005      | 574342-006      |
|                            | <b>Field Id:</b>  | SB11 0-2 (1)    | SB11 0-2 (2)    | SB11 2-4        | SB11 4-6        | SB11 6-8        | SB11 8-10       |
|                            | <b>Depth:</b>     | 2- ft           | 2- ft           | 4- ft           | 6- ft           | 8- ft           | 10- ft          |
|                            | <b>Matrix:</b>    | SOIL            | SOIL            | SOIL            | SOIL            | SOIL            | SOIL            |
|                            | <b>Sampled:</b>   | Jan-23-18 09:30 | Jan-23-18 09:35 | Jan-23-18 09:40 | Jan-23-18 09:45 | Jan-23-18 09:50 | Jan-23-18 09:55 |
| <b>Chloride by EPA 300</b> | <b>Extracted:</b> | Feb-15-18 18:00 | Feb-15-18 18:00 | Feb-15-18 18:00 | Feb-15-18 18:00 | Feb-15-18 18:00 | Feb-15-18 18:00 |
|                            | <b>Analyzed:</b>  | Feb-15-18 23:27 | Feb-15-18 23:32 | Feb-15-18 23:37 | Feb-15-18 23:43 | Feb-16-18 00:00 | Feb-16-18 00:05 |
|                            | <b>Units/RL:</b>  | mg/kg RL        | mg/kg RL        | mg/kg RL        | mg/kg RL        | mg/kg RL        | mg/kg RL        |
| Chloride                   |                   | <5.00 5.00      | <5.00 5.00      | <5.00 5.00      | <5.00 5.00      | <5.00 5.00      | <5.00 5.00      |

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks  
Project Manager



# Certificate of Analysis Summary 574342

OWL SWD Operating LLC, Dallas, TX

Project Name: OWL091317D



Project Id: IRP-4820  
Contact: Phillip Sanders  
Project Location: JAL,NM

Date Received in Lab: Wed Jan-24-18 08:20 am  
Report Date: 19-FEB-18  
Project Manager: Kelsey Brooks

|                            |                   |                 |                 |                 |                 |                 |                 |
|----------------------------|-------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| <b>Analysis Requested</b>  | <b>Lab Id:</b>    | 574342-007      | 574342-008      | 574342-009      | 574342-010      | 574342-011      | 574342-012      |
|                            | <b>Field Id:</b>  | SB11 10-11      | SB12 0-2        | SB12 2-4        | SB12 4-6        | SB12 6-8        | SB12 8-10       |
|                            | <b>Depth:</b>     | 11- ft          | 2- ft           | 4- ft           | 6- ft           | 8- ft           | 10- ft          |
|                            | <b>Matrix:</b>    | SOIL            | SOIL            | SOIL            | SOIL            | SOIL            | SOIL            |
|                            | <b>Sampled:</b>   | Jan-23-18 09:59 | Jan-23-18 10:15 | Jan-23-18 10:20 | Jan-23-18 10:30 | Jan-23-18 10:35 | Jan-23-18 10:40 |
| <b>Chloride by EPA 300</b> | <b>Extracted:</b> | Feb-15-18 18:00 | Feb-15-18 18:00 | Feb-15-18 18:00 | Feb-15-18 18:00 | Feb-15-18 18:00 | Feb-15-18 18:00 |
|                            | <b>Analyzed:</b>  | Feb-16-18 00:10 | Feb-16-18 00:16 | Feb-16-18 00:21 | Feb-16-18 00:26 | Feb-16-18 00:42 | Feb-16-18 00:47 |
|                            | <b>Units/RL:</b>  | mg/kg RL        | mg/kg RL        | mg/kg RL        | mg/kg RL        | mg/kg RL        | mg/kg RL        |
| Chloride                   |                   | <5.00 5.00      | <5.00 5.00      | <5.00 5.00      | <5.00 5.00      | 8.43 5.00       | 22.6 5.00       |

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Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks  
Project Manager



# Certificate of Analysis Summary 574342

OWL SWD Operating LLC, Dallas, TX

Project Name: OWL091317D



Project Id: IRP-4820  
Contact: Phillip Sanders  
Project Location: JAL,NM

Date Received in Lab: Wed Jan-24-18 08:20 am  
Report Date: 19-FEB-18  
Project Manager: Kelsey Brooks

| <i>Analysis Requested</i>  | <i>Lab Id:</i>    | 574342-013      | 574342-014      | 574342-015      | 574342-016      | 574342-017      | 574342-018      |
|----------------------------|-------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                            | <i>Field Id:</i>  | SB12 10-11      | SB13 0-2        | SB13 2-4        | SB13 4-6        | SB13 6-8        | SB13 8-10       |
|                            | <i>Depth:</i>     | 11- ft          | 2- ft           | 4- ft           | 6- ft           | 8- ft           | 10- ft          |
|                            | <i>Matrix:</i>    | SOIL            | SOIL            | SOIL            | SOIL            | SOIL            | SOIL            |
|                            | <i>Sampled:</i>   | Jan-23-18 10:50 | Jan-23-18 11:15 | Jan-23-18 11:20 | Jan-23-18 11:30 | Jan-23-18 11:40 | Jan-23-18 11:50 |
| <b>Chloride by EPA 300</b> | <i>Extracted:</i> | Feb-15-18 18:00 | Feb-15-18 18:00 | Feb-15-18 18:00 | Feb-15-18 18:00 | Feb-15-18 18:00 | Feb-15-18 18:00 |
|                            | <i>Analyzed:</i>  | Feb-16-18 01:05 | Feb-16-18 01:10 | Feb-16-18 01:15 | Feb-16-18 01:21 | Feb-16-18 01:26 | Feb-16-18 01:31 |
|                            | <i>Units/RL:</i>  | mg/kg RL        | mg/kg RL        | mg/kg RL        | mg/kg RL        | mg/kg RL        | mg/kg RL        |
| Chloride                   |                   | 40.2 5.00       | <5.00 5.00      | <5.00 5.00      | <5.00 5.00      | <5.00 5.00      | <5.00 5.00      |

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use.  
The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories.  
XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented.  
Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks  
Project Manager



# Certificate of Analysis Summary 574342

OWL SWD Operating LLC, Dallas, TX

Project Name: OWL091317D



Project Id: IRP-4820  
Contact: Phillip Sanders  
Project Location: JAL,NM

Date Received in Lab: Wed Jan-24-18 08:20 am  
Report Date: 19-FEB-18  
Project Manager: Kelsey Brooks

| <i>Analysis Requested</i>  | <i>Lab Id:</i>    | 574342-019      | 574342-020      | 574342-021      | 574342-022      | 574342-023      | 574342-024      |
|----------------------------|-------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                            | <i>Field Id:</i>  | SB13 10-11      | SB14 0-2        | SB14 2-4        | SB14 4-6        | SB14 6-8        | SB14 8-10 (1)   |
|                            | <i>Depth:</i>     | 11- ft          | 2- ft           | 4- ft           | 6- ft           | 8- ft           | 10- ft          |
|                            | <i>Matrix:</i>    | SOIL            | SOIL            | SOIL            | SOIL            | SOIL            | SOIL            |
|                            | <i>Sampled:</i>   | Jan-23-18 12:00 | Jan-23-18 12:30 | Jan-23-18 12:40 | Jan-23-18 12:50 | Jan-23-18 13:00 | Jan-23-18 13:05 |
| <b>Chloride by EPA 300</b> | <i>Extracted:</i> | Feb-15-18 18:00 | Feb-16-18 11:00 | Feb-16-18 11:00 | Feb-16-18 11:00 | Feb-16-18 11:00 | Feb-16-18 11:00 |
|                            | <i>Analyzed:</i>  | Feb-16-18 01:36 | Feb-16-18 13:51 | Feb-16-18 14:07 | Feb-16-18 14:12 | Feb-16-18 14:17 | Feb-16-18 14:23 |
|                            | <i>Units/RL:</i>  | mg/kg RL        | mg/kg RL        | mg/kg RL        | mg/kg RL        | mg/kg RL        | mg/kg RL        |
| Chloride                   |                   | <5.00 5.00      | <4.99 4.99      | 15.3 5.00       | 28.2 4.97       | 42.0 4.97       | 106 4.92        |

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Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks  
Project Manager



# Certificate of Analysis Summary 574342

OWL SWD Operating LLC, Dallas, TX

Project Name: OWL091317D



Project Id: IRP-4820  
Contact: Phillip Sanders  
Project Location: JAL,NM

Date Received in Lab: Wed Jan-24-18 08:20 am  
Report Date: 19-FEB-18  
Project Manager: Kelsey Brooks

|                            |                   |                 |  |  |  |  |  |
|----------------------------|-------------------|-----------------|--|--|--|--|--|
| <b>Analysis Requested</b>  | <b>Lab Id:</b>    | 574342-025      |  |  |  |  |  |
|                            | <b>Field Id:</b>  | SB14 8-10 (2)   |  |  |  |  |  |
|                            | <b>Depth:</b>     | 10- ft          |  |  |  |  |  |
|                            | <b>Matrix:</b>    | SOIL            |  |  |  |  |  |
|                            | <b>Sampled:</b>   | Jan-23-18 13:05 |  |  |  |  |  |
| <b>Chloride by EPA 300</b> | <b>Extracted:</b> | Feb-16-18 11:00 |  |  |  |  |  |
|                            | <b>Analyzed:</b>  | Feb-16-18 14:39 |  |  |  |  |  |
|                            | <b>Units/RL:</b>  | mg/kg RL        |  |  |  |  |  |
| Chloride                   |                   | 119 4.99        |  |  |  |  |  |

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks  
Project Manager

# Analytical Report 574342

## for OWL SWD Operating LLC

**Project Manager: Phillip Sanders**

**OWL091317D**

**IRP-4820**

**19-FEB-18**

Collected By: Client



**1211 W. Florida Ave, Midland TX 79701**

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-17-23), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)  
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab code: TX01468):

Texas (T104704295-17-15), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab code: TX00127): Texas (T104704221-17-12)

Xenco-Lubbock (EPA Lab code: TX00139): Texas (T104704219-17-16)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-17-13)

Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)



19-FEB-18

Project Manager: **Phillip Sanders**  
**OWL SWD Operating LLC**  
8214 Westchester Dr. Suite 850  
Dallas, TX 75225

Reference: XENCO Report No(s): **574342**  
**OWL091317D**  
Project Address: JAL,NM

**Phillip Sanders:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 574342. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 574342 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

**Kelsey Brooks**

Project Manager

***Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.***

*Certified and approved by numerous States and Agencies.*

*A Small Business and Minority Status Company that delivers SERVICE and QUALITY*

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## Sample Cross Reference 574342



OWL SWD Operating LLC, Dallas, TX

OWL091317D

| Sample Id     | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---------------|--------|----------------|--------------|---------------|
| SB11 0-2 (1)  | S      | 01-23-18 09:30 | 2 ft         | 574342-001    |
| SB11 0-2 (2)  | S      | 01-23-18 09:35 | 2 ft         | 574342-002    |
| SB11 2-4      | S      | 01-23-18 09:40 | 4 ft         | 574342-003    |
| SB11 4-6      | S      | 01-23-18 09:45 | 6 ft         | 574342-004    |
| SB11 6-8      | S      | 01-23-18 09:50 | 8 ft         | 574342-005    |
| SB11 8-10     | S      | 01-23-18 09:55 | 10 ft        | 574342-006    |
| SB11 10-11    | S      | 01-23-18 09:59 | 11 ft        | 574342-007    |
| SB12 0-2      | S      | 01-23-18 10:15 | 2 ft         | 574342-008    |
| SB12 2-4      | S      | 01-23-18 10:20 | 4 ft         | 574342-009    |
| SB12 4-6      | S      | 01-23-18 10:30 | 6 ft         | 574342-010    |
| SB12 6-8      | S      | 01-23-18 10:35 | 8 ft         | 574342-011    |
| SB12 8-10     | S      | 01-23-18 10:40 | 10 ft        | 574342-012    |
| SB12 10-11    | S      | 01-23-18 10:50 | 11 ft        | 574342-013    |
| SB13 0-2      | S      | 01-23-18 11:15 | 2 ft         | 574342-014    |
| SB13 2-4      | S      | 01-23-18 11:20 | 4 ft         | 574342-015    |
| SB13 4-6      | S      | 01-23-18 11:30 | 6 ft         | 574342-016    |
| SB13 6-8      | S      | 01-23-18 11:40 | 8 ft         | 574342-017    |
| SB13 8-10     | S      | 01-23-18 11:50 | 10 ft        | 574342-018    |
| SB13 10-11    | S      | 01-23-18 12:00 | 11 ft        | 574342-019    |
| SB14 0-2      | S      | 01-23-18 12:30 | 2 ft         | 574342-020    |
| SB14 2-4      | S      | 01-23-18 12:40 | 4 ft         | 574342-021    |
| SB14 4-6      | S      | 01-23-18 12:50 | 6 ft         | 574342-022    |
| SB14 6-8      | S      | 01-23-18 13:00 | 8 ft         | 574342-023    |
| SB14 8-10 (1) | S      | 01-23-18 13:05 | 10 ft        | 574342-024    |
| SB14 8-10 (2) | S      | 01-23-18 13:05 | 10 ft        | 574342-025    |



## CASE NARRATIVE

**Client Name:** OWL SWD Operating LLC

**Project Name:** OWL091317D

Project ID: *IRP-4820*

Work Order Number(s): *574342*

Report Date: *19-FEB-18*

Date Received: *01/24/2018*

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**Sample receipt non conformances and comments:**

None

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**Sample receipt non conformances and comments per sample:**

None



# Certificate of Analytical Results 574342



## OWL SWD Operating LLC, Dallas, TX

OWL091317D

Sample Id: **SB11 0-2 (1)**

Matrix: Soil

Date Received: 01.24.18 08.20

Lab Sample Id: 574342-001

Date Collected: 01.23.18 09.30

Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Analyst: OJS

Date Prep: 02.15.18 18.00

Basis: Wet Weight

Seq Number: 3041201

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <5.00  | 5.00 | mg/kg | 02.15.18 23.27 | U    | 1   |



## Certificate of Analytical Results 574342



### OWL SWD Operating LLC, Dallas, TX

OWL091317D

Sample Id: **SB11 0-2 (2)**

Matrix: Soil

Date Received: 01.24.18 08.20

Lab Sample Id: 574342-002

Date Collected: 01.23.18 09.35

Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Analyst: OJS

Date Prep: 02.15.18 18.00

Basis: Wet Weight

Seq Number: 3041201

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <5.00  | 5.00 | mg/kg | 02.15.18 23.32 | U    | 1   |



# Certificate of Analytical Results 574342



## OWL SWD Operating LLC, Dallas, TX

OWL091317D

Sample Id: **SB11 2-4**  
Lab Sample Id: 574342-003

Matrix: Soil  
Date Collected: 01.23.18 09.40

Date Received: 01.24.18 08.20  
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Analyst: OJS

Date Prep: 02.15.18 18.00

Basis: Wet Weight

Seq Number: 3041201

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <5.00  | 5.00 | mg/kg | 02.15.18 23.37 | U    | 1   |



## Certificate of Analytical Results 574342



### OWL SWD Operating LLC, Dallas, TX

OWL091317D

Sample Id: **SB11 4-6**

Matrix: Soil

Date Received: 01.24.18 08.20

Lab Sample Id: 574342-004

Date Collected: 01.23.18 09.45

Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Analyst: OJS

Date Prep: 02.15.18 18.00

Basis: Wet Weight

Seq Number: 3041201

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <5.00  | 5.00 | mg/kg | 02.15.18 23.43 | U    | 1   |



# Certificate of Analytical Results 574342



## OWL SWD Operating LLC, Dallas, TX

OWL091317D

Sample Id: **SB11 6-8**

Matrix: Soil

Date Received: 01.24.18 08.20

Lab Sample Id: 574342-005

Date Collected: 01.23.18 09.50

Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Analyst: OJS

Date Prep: 02.15.18 18.00

Basis: Wet Weight

Seq Number: 3041201

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <5.00  | 5.00 | mg/kg | 02.16.18 00.00 | U    | 1   |



## Certificate of Analytical Results 574342



### OWL SWD Operating LLC, Dallas, TX

OWL091317D

Sample Id: **SB11 8-10**

Matrix: Soil

Date Received: 01.24.18 08.20

Lab Sample Id: 574342-006

Date Collected: 01.23.18 09.55

Sample Depth: 10 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Analyst: OJS

Date Prep: 02.15.18 18.00

Basis: Wet Weight

Seq Number: 3041201

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <5.00  | 5.00 | mg/kg | 02.16.18 00.05 | U    | 1   |



# Certificate of Analytical Results 574342



## OWL SWD Operating LLC, Dallas, TX

OWL091317D

Sample Id: **SB11 10-11**

Matrix: Soil

Date Received: 01.24.18 08.20

Lab Sample Id: 574342-007

Date Collected: 01.23.18 09.59

Sample Depth: 11 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Analyst: OJS

Date Prep: 02.15.18 18.00

Basis: Wet Weight

Seq Number: 3041201

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <5.00  | 5.00 | mg/kg | 02.16.18 00.10 | U    | 1   |



# Certificate of Analytical Results 574342



## OWL SWD Operating LLC, Dallas, TX

OWL091317D

Sample Id: **SB12 0-2**  
Lab Sample Id: 574342-008

Matrix: Soil  
Date Collected: 01.23.18 10.15

Date Received: 01.24.18 08.20  
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Analyst: OJS

Date Prep: 02.15.18 18.00

Basis: Wet Weight

Seq Number: 3041201

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <5.00  | 5.00 | mg/kg | 02.16.18 00.16 | U    | 1   |



## Certificate of Analytical Results 574342



### OWL SWD Operating LLC, Dallas, TX

OWL091317D

Sample Id: **SB12 2-4**

Matrix: Soil

Date Received: 01.24.18 08.20

Lab Sample Id: 574342-009

Date Collected: 01.23.18 10.20

Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Analyst: OJS

Date Prep: 02.15.18 18.00

Basis: Wet Weight

Seq Number: 3041201

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <5.00  | 5.00 | mg/kg | 02.16.18 00.21 | U    | 1   |



## Certificate of Analytical Results 574342



### OWL SWD Operating LLC, Dallas, TX

OWL091317D

Sample Id: **SB12 4-6**

Matrix: Soil

Date Received: 01.24.18 08.20

Lab Sample Id: 574342-010

Date Collected: 01.23.18 10.30

Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Analyst: OJS

Date Prep: 02.15.18 18.00

Basis: Wet Weight

Seq Number: 3041201

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <5.00  | 5.00 | mg/kg | 02.16.18 00.26 | U    | 1   |



## Certificate of Analytical Results 574342



### OWL SWD Operating LLC, Dallas, TX

OWL091317D

Sample Id: **SB12 6-8**

Matrix: Soil

Date Received: 01.24.18 08.20

Lab Sample Id: 574342-011

Date Collected: 01.23.18 10.35

Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Analyst: OJS

Date Prep: 02.15.18 18.00

Basis: Wet Weight

Seq Number: 3041201

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | 8.43   | 5.00 | mg/kg | 02.16.18 00.42 |      | 1   |



## Certificate of Analytical Results 574342



### OWL SWD Operating LLC, Dallas, TX

OWL091317D

Sample Id: **SB12 8-10**

Matrix: Soil

Date Received: 01.24.18 08.20

Lab Sample Id: 574342-012

Date Collected: 01.23.18 10.40

Sample Depth: 10 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Analyst: OJS

Date Prep: 02.15.18 18.00

Basis: Wet Weight

Seq Number: 3041201

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | 22.6   | 5.00 | mg/kg | 02.16.18 00.47 |      | 1   |



# Certificate of Analytical Results 574342



## OWL SWD Operating LLC, Dallas, TX

OWL091317D

Sample Id: **SB12 10-11**

Matrix: Soil

Date Received: 01.24.18 08.20

Lab Sample Id: 574342-013

Date Collected: 01.23.18 10.50

Sample Depth: 11 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Analyst: OJS

Date Prep: 02.15.18 18.00

Basis: Wet Weight

Seq Number: 3041201

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | 40.2   | 5.00 | mg/kg | 02.16.18 01.05 |      | 1   |



## Certificate of Analytical Results 574342



### OWL SWD Operating LLC, Dallas, TX

OWL091317D

Sample Id: **SB13 0-2**

Matrix: Soil

Date Received: 01.24.18 08.20

Lab Sample Id: 574342-014

Date Collected: 01.23.18 11.15

Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Analyst: OJS

Date Prep: 02.15.18 18.00

Basis: Wet Weight

Seq Number: 3041201

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <5.00  | 5.00 | mg/kg | 02.16.18 01.10 | U    | 1   |



# Certificate of Analytical Results 574342



## OWL SWD Operating LLC, Dallas, TX

OWL091317D

Sample Id: **SB13 2-4**  
Lab Sample Id: 574342-015

Matrix: Soil  
Date Collected: 01.23.18 11.20

Date Received: 01.24.18 08.20  
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Analyst: OJS

Date Prep: 02.15.18 18.00

Basis: Wet Weight

Seq Number: 3041201

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <5.00  | 5.00 | mg/kg | 02.16.18 01.15 | U    | 1   |



## Certificate of Analytical Results 574342



### OWL SWD Operating LLC, Dallas, TX

OWL091317D

Sample Id: **SB13 4-6**

Matrix: Soil

Date Received: 01.24.18 08.20

Lab Sample Id: 574342-016

Date Collected: 01.23.18 11.30

Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Analyst: OJS

Date Prep: 02.15.18 18.00

Basis: Wet Weight

Seq Number: 3041201

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <5.00  | 5.00 | mg/kg | 02.16.18 01.21 | U    | 1   |



## Certificate of Analytical Results 574342



### OWL SWD Operating LLC, Dallas, TX

OWL091317D

Sample Id: **SB13 6-8**

Matrix: Soil

Date Received: 01.24.18 08.20

Lab Sample Id: 574342-017

Date Collected: 01.23.18 11.40

Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Analyst: OJS

Date Prep: 02.15.18 18.00

Basis: Wet Weight

Seq Number: 3041201

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <5.00  | 5.00 | mg/kg | 02.16.18 01.26 | U    | 1   |



## Certificate of Analytical Results 574342



### OWL SWD Operating LLC, Dallas, TX

OWL091317D

Sample Id: **SB13 8-10**

Matrix: Soil

Date Received: 01.24.18 08.20

Lab Sample Id: 574342-018

Date Collected: 01.23.18 11.50

Sample Depth: 10 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Analyst: OJS

Date Prep: 02.15.18 18.00

Basis: Wet Weight

Seq Number: 3041201

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <5.00  | 5.00 | mg/kg | 02.16.18 01.31 | U    | 1   |



## Certificate of Analytical Results 574342



### OWL SWD Operating LLC, Dallas, TX

OWL091317D

Sample Id: **SB13 10-11**

Matrix: Soil

Date Received: 01.24.18 08.20

Lab Sample Id: 574342-019

Date Collected: 01.23.18 12.00

Sample Depth: 11 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Analyst: OJS

Date Prep: 02.15.18 18.00

Basis: Wet Weight

Seq Number: 3041201

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <5.00  | 5.00 | mg/kg | 02.16.18 01.36 | U    | 1   |



## Certificate of Analytical Results 574342



### OWL SWD Operating LLC, Dallas, TX

OWL091317D

Sample Id: **SB14 0-2**  
Lab Sample Id: 574342-020

Matrix: Soil  
Date Collected: 01.23.18 12.30

Date Received: 01.24.18 08.20  
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3041414

Date Prep: 02.16.18 11.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | <4.99  | 4.99 | mg/kg | 02.16.18 13.51 | U    | 1   |



## Certificate of Analytical Results 574342



### OWL SWD Operating LLC, Dallas, TX

OWL091317D

Sample Id: **SB14 2-4**  
Lab Sample Id: 574342-021

Matrix: Soil  
Date Collected: 01.23.18 12.40

Date Received: 01.24.18 08.20  
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Analyst: OJS

Date Prep: 02.16.18 11.00

Basis: Wet Weight

Seq Number: 3041414

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | 15.3   | 5.00 | mg/kg | 02.16.18 14.07 |      | 1   |



## Certificate of Analytical Results 574342



### OWL SWD Operating LLC, Dallas, TX

OWL091317D

Sample Id: **SB14 4-6**

Matrix: Soil

Date Received: 01.24.18 08.20

Lab Sample Id: 574342-022

Date Collected: 01.23.18 12.50

Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Analyst: OJS

Date Prep: 02.16.18 11.00

Basis: Wet Weight

Seq Number: 3041414

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | 28.2   | 4.97 | mg/kg | 02.16.18 14.12 |      | 1   |



# Certificate of Analytical Results 574342



## OWL SWD Operating LLC, Dallas, TX

OWL091317D

Sample Id: **SB14 6-8**  
Lab Sample Id: 574342-023

Matrix: Soil  
Date Collected: 01.23.18 13.00

Date Received: 01.24.18 08.20  
Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Analyst: OJS

Date Prep: 02.16.18 11.00

Basis: Wet Weight

Seq Number: 3041414

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | 42.0   | 4.97 | mg/kg | 02.16.18 14.17 |      | 1   |



## Certificate of Analytical Results 574342



### OWL SWD Operating LLC, Dallas, TX

OWL091317D

Sample Id: **SB14 8-10 (1)**

Matrix: Soil

Date Received: 01.24.18 08.20

Lab Sample Id: 574342-024

Date Collected: 01.23.18 13.05

Sample Depth: 10 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Analyst: OJS

Date Prep: 02.16.18 11.00

Basis: Wet Weight

Seq Number: 3041414

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | 106    | 4.92 | mg/kg | 02.16.18 14.23 |      | 1   |



## Certificate of Analytical Results 574342



### OWL SWD Operating LLC, Dallas, TX

OWL091317D

Sample Id: **SB14 8-10 (2)**

Matrix: Soil

Date Received: 01.24.18 08.20

Lab Sample Id: 574342-025

Date Collected: 01.23.18 13.05

Sample Depth: 10 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: OJS

% Moisture:

Analyst: OJS

Date Prep: 02.16.18 11.00

Basis: Wet Weight

Seq Number: 3041414

| Parameter | Cas Number | Result | RL   | Units | Analysis Date  | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride  | 16887-00-6 | 119    | 4.99 | mg/kg | 02.16.18 14.39 |      | 1   |

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

\*\* Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit      **SDL** Sample Detection Limit      **LOD** Limit of Detection

**PQL** Practical Quantitation Limit      **MQL** Method Quantitation Limit      **LOQ** Limit of Quantitation

**DL** Method Detection Limit

**NC** Non-Calculable

+ NELAC certification not offered for this compound.

\* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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 1211 W Florida Ave, Midland, TX 79701  
 2525 W. Huntington Dr. - Suite 102, Tempe AZ 85282

| Phone          | Fax            |
|----------------|----------------|
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| (214) 902 0300 | (214) 351-9139 |
| (210) 509-3334 | (210) 509-3335 |
| (432) 563-1800 | (432) 563-1713 |
| (602) 437-0330 |                |



## QC Summary 574342

### OWL SWD Operating LLC OWL091317D

**Analytical Method: Chloride by EPA 300**

Seq Number: 3041201

MB Sample Id: 7639216-1-BLK

Matrix: Solid

LCS Sample Id: 7639216-1-BKS

Prep Method: E300P

Date Prep: 02.15.18

LCSD Sample Id: 7639216-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date  | Flag |
|-----------|-----------|--------------|------------|----------|-------------|-----------|--------|------|-----------|-------|----------------|------|
| Chloride  | <5.00     | 250          | 255        | 102      | 267         | 107       | 90-110 | 5    | 20        | mg/kg | 02.15.18 23:00 |      |

**Analytical Method: Chloride by EPA 300**

Seq Number: 3041414

MB Sample Id: 7639320-1-BLK

Matrix: Solid

LCS Sample Id: 7639320-1-BKS

Prep Method: E300P

Date Prep: 02.16.18

LCSD Sample Id: 7639320-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date  | Flag |
|-----------|-----------|--------------|------------|----------|-------------|-----------|--------|------|-----------|-------|----------------|------|
| Chloride  | <5.00     | 250          | 272        | 109      | 273         | 109       | 90-110 | 0    | 20        | mg/kg | 02.16.18 13:40 |      |

**Analytical Method: Chloride by EPA 300**

Seq Number: 3041201

Parent Sample Id: 574342-010

Matrix: Soil

MS Sample Id: 574342-010 S

Prep Method: E300P

Date Prep: 02.15.18

MSD Sample Id: 574342-010 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date  | Flag |
|-----------|---------------|--------------|-----------|---------|------------|----------|--------|------|-----------|-------|----------------|------|
| Chloride  | <5.00         | 250          | 265       | 106     | 275        | 110      | 90-110 | 4    | 20        | mg/kg | 02.16.18 00:32 |      |

**Analytical Method: Chloride by EPA 300**

Seq Number: 3041201

Parent Sample Id: 576499-001

Matrix: Soil

MS Sample Id: 576499-001 S

Prep Method: E300P

Date Prep: 02.15.18

MSD Sample Id: 576499-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date  | Flag |
|-----------|---------------|--------------|-----------|---------|------------|----------|--------|------|-----------|-------|----------------|------|
| Chloride  | 167           | 250          | 429       | 105     | 436        | 108      | 90-110 | 2    | 20        | mg/kg | 02.15.18 23:16 |      |

**Analytical Method: Chloride by EPA 300**

Seq Number: 3041414

Parent Sample Id: 574342-020

Matrix: Soil

MS Sample Id: 574342-020 S

Prep Method: E300P

Date Prep: 02.16.18

MSD Sample Id: 574342-020 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date  | Flag |
|-----------|---------------|--------------|-----------|---------|------------|----------|--------|------|-----------|-------|----------------|------|
| Chloride  | <4.99         | 250          | 270       | 108     | 270        | 108      | 90-110 | 0    | 20        | mg/kg | 02.16.18 13:56 |      |

MS/MSD Percent Recovery  
Relative Percent Difference  
LCS/LCSD Recovery

$[D] = 100 * (C - A) / B$   
 $RPD = 200 * | (C - E) / (C + E) |$   
 $[D] = 100 * (C) / [B]$

LCS = Laboratory Control Sample  
A = Parent Result  
C = MS/LCS Result  
E = MSD/LCSD Result

MS = Matrix Spike  
B = Spike Added  
D = MSD/LCSD % Rec



## QC Summary 574342

### OWL SWD Operating LLC

OWL091317D

**Analytical Method:** Chloride by EPA 300

Seq Number: 3041414

Parent Sample Id: 575953-009

Matrix: Soil

MS Sample Id: 575953-009 S

Prep Method: E300P

Date Prep: 02.16.18

MSD Sample Id: 575953-009 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date  | Flag |
|-----------|---------------|--------------|-----------|---------|------------|----------|--------|------|-----------|-------|----------------|------|
| Chloride  | 363           | 249          | 615       | 101     | 613        | 100      | 90-110 | 0    | 20        | mg/kg | 02.16.18 15:10 |      |

MS/MSD Percent Recovery  
Relative Percent Difference  
LCS/LCSD Recovery

$[D] = 100 * (C - A) / B$   
 $RPD = 200 * |(C - E) / (C + E)|$   
 $[D] = 100 * (C) / [B]$

LCS = Laboratory Control Sample  
A = Parent Result  
C = MS/LCS Result  
E = MSD/LCSD Result

MS = Matrix Spike  
B = Spike Added  
D = MSD/LCSD % Rec



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Page 1 of 3

# CHAIN OF CUSTODY

Revision 2016.1

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Xenco Quote #

Xenco Job #

574342

## Client / Reporting Information

Company Name / Branch:

Owl SWD operating LLC

Company Address:

824 Westchester Dr, #850 Dallas, TX

Email: Phillip Sanders

Phone No:

219-906-3553

Project Contact: Phillip Sanders

Samplers Name:

James Fox / KJE

## Project Information

Project Name/Number:

KP-4820 / OWL091317D

Project Location:

Jal, NM

Invoice To:

OWL - Phillip Sanders

PO Number:

## Analytical Information

## Matrix Codes

W = Water  
S = Soil/Sediment  
GW = Ground Water  
DW = Drinking Water  
P = Product  
SW = Surface Water  
SL = Sludge  
OW = Ocean/Sea Water  
WI = Waste  
O = Oil  
WW = Waste Water  
A = Air

## No. Field ID / Point of Collection

## Collection

## Number of preserved bottles

## Field Comments

1 SB11 0-2 (1)

2 SB11 0-2 (2)

3 SB11 2-4

4 SB11 4-6

5 SB11 6-8

6 SB11 8-10

7 SB11 10-11

8 SB12 0-2

9 SB12 2-4

10 SB12 4-6

2

2

4

6

8

10

11

2

4

6

0930

0935

0940

0945

0950

0955

0959

1015

1020

1030

S

S

S

S

S

S

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S

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TPH

BTEX

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## TAT Starts Day received by Lab, if received by 5:00 pm

## SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

## FED-EX / UPS: Tracking #

Relinquished by Sampler:

Paul Jay

Date Time:

1-23-18 2045

Received By:

Phillip Sanders

Date Time:

1-24-18 12:20

Relinquished By:

Phillip Sanders

Date Time:

1-24-18 12:20

Received By:

Phillip Sanders

Date Time:

1-24-18 12:20

Relinquished By:

Phillip Sanders

Date Time:

1-24-18 12:20

Received By:

Phillip Sanders

Date Time:

1-24-18 12:20

Relinquished By:

Phillip Sanders

Date Time:

1-24-18 12:20

Received By:

Phillip Sanders

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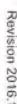
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# CHAIN OF CUSTODY

Page 2 of 3

Revision 2016.1

|                                                                                                         |                                |                                                |      |                                     |        |                          |     |                 |      |       |      |        |      |      |     |      |           |                |  |
|---------------------------------------------------------------------------------------------------------|--------------------------------|------------------------------------------------|------|-------------------------------------|--------|--------------------------|-----|-----------------|------|-------|------|--------|------|------|-----|------|-----------|----------------|--|
| Client / Reporting Information                                                                          |                                | Project Information                            |      | Analytical Information              |        | Matrix Codes             |     |                 |      |       |      |        |      |      |     |      |           |                |  |
| Company Name / Branch:                                                                                  |                                | Project Name/Number:<br>127-1820 / OWL 091317D |      |                                     |        |                          |     |                 |      |       |      |        |      |      |     |      |           |                |  |
| Company Address:                                                                                        |                                | Project Location:<br>Jal NM                    |      |                                     |        |                          |     |                 |      |       |      |        |      |      |     |      |           |                |  |
| Email:<br>See page #                                                                                    |                                | Invoice To:<br>Owl - Phillip Sanders           |      |                                     |        |                          |     |                 |      |       |      |        |      |      |     |      |           |                |  |
| Project Contact:                                                                                        |                                | PO Number:                                     |      |                                     |        |                          |     |                 |      |       |      |        |      |      |     |      |           |                |  |
| Sampler's Name:                                                                                         |                                |                                                |      |                                     |        |                          |     |                 |      |       |      |        |      |      |     |      |           |                |  |
| No.                                                                                                     | Field ID / Point of Collection | Sample Depth                                   | Date | Time                                | Matrix | # of bottles             | HCl | NaOH/Zn Acetate | HNO3 | H2SO4 | NaOH | NaHSO4 | MeOH | NONE | TPH | BTEX | Chlorides | Field Comments |  |
| 1                                                                                                       | SB12 6-8                       | 8'                                             | 1/23 | 1035                                | S      | 1                        |     |                 |      |       |      |        |      |      | X   | X    | X         |                |  |
| 2                                                                                                       | SB12 8-10                      | 10'                                            |      | 1040                                |        |                          |     |                 |      |       |      |        |      |      |     |      |           |                |  |
| 3                                                                                                       | SB12 10-11                     | 11'                                            |      | 1050                                |        |                          |     |                 |      |       |      |        |      |      |     |      |           |                |  |
| 4                                                                                                       | SB13 0-2                       | 2'                                             |      | 1115                                |        |                          |     |                 |      |       |      |        |      |      |     |      |           |                |  |
| 5                                                                                                       | SB13 2-4                       | 4'                                             |      | 1120                                |        |                          |     |                 |      |       |      |        |      |      |     |      |           |                |  |
| 6                                                                                                       | SB13 4-6                       | 6'                                             |      | 1130                                |        |                          |     |                 |      |       |      |        |      |      |     |      |           |                |  |
| 7                                                                                                       | SB13 6-8                       | 8'                                             |      | 1140                                |        |                          |     |                 |      |       |      |        |      |      |     |      |           |                |  |
| 8                                                                                                       | SB13 8-10                      | 10'                                            |      | 1150                                |        |                          |     |                 |      |       |      |        |      |      |     |      |           |                |  |
| 9                                                                                                       | SB13 10-11                     | 11'                                            |      | 1200                                |        |                          |     |                 |      |       |      |        |      |      |     |      |           |                |  |
| 10                                                                                                      | SB14 0-2                       | 2'                                             |      | 1230                                |        |                          |     |                 |      |       |      |        |      |      |     |      |           |                |  |
| Turnaround Time (Business days)                                                                         |                                |                                                |      |                                     |        |                          |     |                 |      |       |      |        |      |      |     |      |           |                |  |
| <input type="checkbox"/> Same Day TAT                                                                   |                                | <input checked="" type="checkbox"/> 5 Day TAT  |      |                                     |        |                          |     |                 |      |       |      |        |      |      |     |      |           |                |  |
| <input type="checkbox"/> Next Day EMERGENCY                                                             |                                | <input type="checkbox"/> 7 Day TAT             |      |                                     |        |                          |     |                 |      |       |      |        |      |      |     |      |           |                |  |
| <input type="checkbox"/> 2 Day EMERGENCY                                                                |                                | <input type="checkbox"/> Contract TAT          |      |                                     |        |                          |     |                 |      |       |      |        |      |      |     |      |           |                |  |
| <input type="checkbox"/> 3 Day EMERGENCY                                                                |                                |                                                |      |                                     |        |                          |     |                 |      |       |      |        |      |      |     |      |           |                |  |
| TAT Starts Day received by Lab, if received by 5:00 pm                                                  |                                |                                                |      |                                     |        |                          |     |                 |      |       |      |        |      |      |     |      |           |                |  |
| Relinquished by Sampler:                                                                                |                                | Date Time: 1-25-18                             |      | Relinquished By: 1                  |        | Date Time: 1-25-18       |     |                 |      |       |      |        |      |      |     |      |           |                |  |
| Relinquished by:                                                                                        |                                | Date Time: 1-24-18 8:20                        |      | Relinquished By: 2                  |        | Date Time: 1-24-18       |     |                 |      |       |      |        |      |      |     |      |           |                |  |
| Relinquished by:                                                                                        |                                | Date Time:                                     |      | Received By: 3                      |        | Date Time:               |     |                 |      |       |      |        |      |      |     |      |           |                |  |
| Relinquished by:                                                                                        |                                | Date Time:                                     |      | Received By: 4                      |        | Date Time:               |     |                 |      |       |      |        |      |      |     |      |           |                |  |
| Relinquished by:                                                                                        |                                | Date Time:                                     |      | Received By: 5                      |        | Date Time:               |     |                 |      |       |      |        |      |      |     |      |           |                |  |
| SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY |                                |                                                |      |                                     |        |                          |     |                 |      |       |      |        |      |      |     |      |           |                |  |
| Level II Std QC                                                                                         |                                | <input type="checkbox"/>                       |      | Level IV (Full Data Pkg / raw data) |        | <input type="checkbox"/> |     |                 |      |       |      |        |      |      |     |      |           |                |  |
| Level III Std QC + Forms                                                                                |                                | <input type="checkbox"/>                       |      | TRRP Level IV                       |        | <input type="checkbox"/> |     |                 |      |       |      |        |      |      |     |      |           |                |  |
| Level 3 (CLP Forms)                                                                                     |                                | <input type="checkbox"/>                       |      | UST / RG 411                        |        | <input type="checkbox"/> |     |                 |      |       |      |        |      |      |     |      |           |                |  |
| Level II Report with TRRP checklist                                                                     |                                | <input type="checkbox"/>                       |      |                                     |        |                          |     |                 |      |       |      |        |      |      |     |      |           |                |  |
| Temp: 3.3                                                                                               |                                |                                                |      |                                     |        |                          |     |                 |      |       |      |        |      |      |     |      |           |                |  |
| CF: (0-6: -0.2°C)                                                                                       |                                |                                                |      |                                     |        |                          |     |                 |      |       |      |        |      |      |     |      |           |                |  |
| (6-23: +0.2°C)                                                                                          |                                |                                                |      |                                     |        |                          |     |                 |      |       |      |        |      |      |     |      |           |                |  |
| Corrected Temp: 3.1                                                                                     |                                |                                                |      |                                     |        |                          |     |                 |      |       |      |        |      |      |     |      |           |                |  |
| * See page #1                                                                                           |                                |                                                |      |                                     |        |                          |     |                 |      |       |      |        |      |      |     |      |           |                |  |
| Oh Ice                                                                                                  |                                | <input checked="" type="checkbox"/>            |      |                                     |        |                          |     |                 |      |       |      |        |      |      |     |      |           |                |  |
| Cooler Temp.                                                                                            |                                |                                                |      |                                     |        |                          |     |                 |      |       |      |        |      |      |     |      |           |                |  |
| Thermo. Corr. Factor                                                                                    |                                |                                                |      |                                     |        |                          |     |                 |      |       |      |        |      |      |     |      |           |                |  |



Service Center- Amarillo, TX (806)678-4514  
Service Center- Hobbs, NM (575) 392-7550

279765

| Client / Reporting Information                         |                                |              |      | Project Information                                                                                     |        |              |     |                                                              |      |       |      |                                                            |      | Analytical Information |     | Matrix Codes  |           |                |
|--------------------------------------------------------|--------------------------------|--------------|------|---------------------------------------------------------------------------------------------------------|--------|--------------|-----|--------------------------------------------------------------|------|-------|------|------------------------------------------------------------|------|------------------------|-----|---------------|-----------|----------------|
| Company Name / Branch:                                 |                                |              |      | Project Name/Number                                                                                     |        |              |     |                                                              |      |       |      |                                                            |      |                        |     |               |           |                |
| Company Address:                                       |                                |              |      | Project Location:                                                                                       |        |              |     |                                                              |      |       |      |                                                            |      |                        |     |               |           |                |
| Email:                                                 |                                |              |      | Invoice To:                                                                                             |        |              |     |                                                              |      |       |      |                                                            |      |                        |     |               |           |                |
| Phone No:                                              |                                |              |      | PO Number:                                                                                              |        |              |     |                                                              |      |       |      |                                                            |      |                        |     |               |           |                |
| Project Contact:                                       |                                |              |      |                                                                                                         |        |              |     |                                                              |      |       |      |                                                            |      |                        |     |               |           |                |
| Samplers Name:                                         |                                |              |      |                                                                                                         |        |              |     |                                                              |      |       |      |                                                            |      |                        |     |               |           |                |
| No.                                                    | Field ID / Point of Collection | Sample Depth | Date | Time                                                                                                    | Matrix | # of bottles | HCl | NaOH/Zn Acetate                                              | HNO3 | H2SO4 | NaOH | NaHSO4                                                     | MeOH | NONE                   | TPH | BTEX          | Chlorides | Field Comments |
| 1                                                      | SB14 2-4                       | 4'           | 1.23 | 1240                                                                                                    | S      | 1            |     |                                                              |      |       |      |                                                            |      |                        | X   | X             | X         |                |
| 2                                                      | SB14 4-6                       | 6'           |      | 1250                                                                                                    |        |              |     |                                                              |      |       |      |                                                            |      |                        | X   | X             | X         |                |
| 3                                                      | SB14 6-8                       | 8'           |      | 1300                                                                                                    |        |              |     |                                                              |      |       |      |                                                            |      |                        | X   | X             | X         |                |
| 4                                                      | SB14 8-10 (1)                  | 10'          |      | 1305                                                                                                    |        |              |     |                                                              |      |       |      |                                                            |      |                        | X   | X             | X         |                |
| 5                                                      | SB14 8-10 (2)                  | 10'          |      | 1305                                                                                                    |        |              |     |                                                              |      |       |      |                                                            |      |                        | X   | X             | X         |                |
| 6                                                      |                                |              |      |                                                                                                         |        |              |     |                                                              |      |       |      |                                                            |      |                        |     |               |           |                |
| 7                                                      |                                |              |      |                                                                                                         |        |              |     |                                                              |      |       |      |                                                            |      |                        |     |               |           |                |
| 8                                                      |                                |              |      |                                                                                                         |        |              |     |                                                              |      |       |      |                                                            |      |                        |     |               |           |                |
| 9                                                      |                                |              |      |                                                                                                         |        |              |     |                                                              |      |       |      |                                                            |      |                        |     |               |           |                |
| 10                                                     |                                |              |      |                                                                                                         |        |              |     |                                                              |      |       |      |                                                            |      |                        |     |               |           |                |
| Turnaround Time (Business days)                        |                                |              |      | Data Deliverable Information                                                                            |        |              |     |                                                              |      |       |      |                                                            |      | Notes:                 |     |               |           |                |
| <input type="checkbox"/> Same Day TAT                  |                                |              |      | <input checked="" type="checkbox"/> 5 Day TAT                                                           |        |              |     | <input type="checkbox"/> Level II Std QC                     |      |       |      | <input type="checkbox"/> Level IV (Full Data Pkg raw data) |      |                        |     | * See page #1 |           |                |
| <input type="checkbox"/> Next Day EMERGENCY            |                                |              |      | <input type="checkbox"/> 7 Day TAT                                                                      |        |              |     | <input type="checkbox"/> Level III Std QC+ Forms             |      |       |      | <input type="checkbox"/> TRRP Level IV                     |      |                        |     |               |           |                |
| <input type="checkbox"/> 2 Day EMERGENCY               |                                |              |      | <input type="checkbox"/> Contract TAT                                                                   |        |              |     | <input type="checkbox"/> Level 3 (CLP Forms)                 |      |       |      | <input type="checkbox"/> UST / RG -411                     |      |                        |     |               |           |                |
| <input type="checkbox"/> 3 Day EMERGENCY               |                                |              |      |                                                                                                         |        |              |     | <input type="checkbox"/> Level II Report with TRRP checklist |      |       |      |                                                            |      |                        |     |               |           |                |
| TAT Starts Day received by Lab, if received by 5:00 pm |                                |              |      |                                                                                                         |        |              |     |                                                              |      |       |      |                                                            |      |                        |     |               |           |                |
| Relinquished by Sampler                                |                                |              |      | SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY |        |              |     |                                                              |      |       |      |                                                            |      | FED-E                  |     |               |           |                |
| Date Time: 1.23.18                                     |                                |              |      | Received By: [Signature]                                                                                |        |              |     | Date Time: 1.23.18                                           |      |       |      | Relinquished By: [Signature]                               |      |                        |     |               |           |                |
| Relinquished by:                                       |                                |              |      | Received By: [Signature]                                                                                |        |              |     |                                                              |      |       |      |                                                            |      |                        |     |               |           |                |
| Date Time: 1.24.18                                     |                                |              |      | Received By: [Signature]                                                                                |        |              |     | Date Time: 1.24.18                                           |      |       |      | Relinquished By: [Signature]                               |      |                        |     |               |           |                |
| Custody Seal #                                         |                                |              |      |                                                                                                         |        |              |     |                                                              |      |       |      |                                                            |      |                        |     |               |           |                |
| On Ice                                                 |                                |              |      |                                                                                                         |        |              |     |                                                              |      |       |      |                                                            |      |                        |     |               |           |                |
| Cooler Temp.                                           |                                |              |      |                                                                                                         |        |              |     |                                                              |      |       |      |                                                            |      |                        |     |               |           |                |
| Thermo. Corr. Factor                                   |                                |              |      |                                                                                                         |        |              |     |                                                              |      |       |      |                                                            |      |                        |     |               |           |                |



**XENCO Laboratories**  
**Prelogin/Nonconformance Report- Sample Log-In**



**Client:** OWL SWD Operating LLC

**Date/ Time Received:** 01/24/2018 08:20:00 AM

**Work Order #:** 574342

**Acceptable Temperature Range:** 0 - 6 degC

**Air and Metal samples Acceptable Range:** Ambient

**Temperature Measuring device used :** R8

| Sample Receipt Checklist                                | Comments |
|---------------------------------------------------------|----------|
| #1 *Temperature of cooler(s)?                           | 3.1      |
| #2 *Shipping container in good condition?               | Yes      |
| #3 *Samples received on ice?                            | Yes      |
| #4 *Custody Seals intact on shipping container/ cooler? | N/A      |
| #5 Custody Seals intact on sample bottles?              | N/A      |
| #6 *Custody Seals Signed and dated?                     | N/A      |
| #7 *Chain of Custody present?                           | Yes      |
| #8 Any missing/extra samples?                           | No       |
| #9 Chain of Custody signed when relinquished/ received? | Yes      |
| #10 Chain of Custody agrees with sample labels/matrix?  | Yes      |
| #11 Container label(s) legible and intact?              | Yes      |
| #12 Samples in proper container/ bottle?                | Yes      |
| #13 Samples properly preserved?                         | Yes      |
| #14 Sample container(s) intact?                         | Yes      |
| #15 Sufficient sample amount for indicated test(s)?     | Yes      |
| #16 All samples received within hold time?              | Yes      |
| #17 Subcontract of sample(s)?                           | No       |
| #18 Water VOC samples have zero headspace?              | N/A      |

**\* Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:

PH Device/Lot#:

**Checklist completed by:**

Shawnee Smith

Date: 01/24/2018

**Checklist reviewed by:**

Kelsey Brooks

Date: 02/15/2018

## **APPENDIX F**

### **Environmental Professional's Credentials**

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**Kevin J. Ware**  
**109 South Oakland Street**  
**Denton, Texas 76201**  
**Phone: 940-387-0805**  
**Fax: 940-387-0830**  
**Cell: 469-487-6083**  
**kevin@kjenvironmental.com**

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## EDUCATION

### **M.S., Environmental Engineering**

Oklahoma State University, Stillwater, Oklahoma

### **B.S., Environmental Science**

University of Oklahoma, Norman, Oklahoma

## WORK EXPERIENCE

### **KJ Environmental Mgt., Inc.**

Denton, Texas

#### ***President – (December 2005 to Present)***

- Environmental compliance audits of large scale industrial and manufacturing plants
  - o Air, water, waste, EPA reporting, etc....
- Hazardous Waste Management
  - o Hazardous waste audits & management plans for thirty different industries
  - o Designing process modifications for industrial clients to reduce waste (P2)
- Hazardous waste remediation
  - o Soil & groundwater cleanup  
(Chlorinated solvents -lumber treating operation, Broken Bow, OK)
  - o Soil & surface water cleanup  
(Lead contamination - natural gas pipeline, Madill, OK)
- Air permitting
  - o Major source air permit applications for several large industries
- Phase I and Phase II Environmental Site Assessments
- Wetland delineation studies
- Storm water pollution prevention management (construction and industrial facilities)
- Expert witness

### **GaiaTech, Inc.**

Irving, Texas

#### ***Senior Environmental Consultant – (August 2005 to December 2005)***

- Performed Environmental Compliance, safety and engineering audits for various large-scale industrial/commercial clients
  - o air, water, hazardous waste, safety, etc.
- Designed waste minimization system to lower operating costs for businesses
  - o i.e., wastewater recycling project

**Isbell Engineering Group, Inc.**  
Sanger, Texas

***Senior Environmental Engineer*** – (July 2003 to August 2005)

- Completed environmental compliance and safety audits for industrial clients
- Performed Phase I Environmental Site Assessments – Due Diligence
- Reviewed engineering designs for a fire suppression system at a FEMA facility
- Directed environmental investigations for waste dump sites
- Designed utility (water/sanitary sewer) lines for subdivisions and other developments
- Assisted in the development of civil engineering construction plans for small medical offices/facilities
- Assisted in the review of City Engineering plans for small municipalities
- Assisted in the design and construction management of a 200,000 gal/day municipal-related wastewater treatment plant

**Science Applications International (SAIC)**  
Midwest City, Oklahoma

***Environmental Engineer*** – (May 2003 to July 2003)

- **Created Site Health & Safety Plan for Air Force Remediation Project (Tinker AFB)**
- **Field Safety Manager for groundwater monitoring project (Tinker AFB)**

**Marshall Environmental Management, Inc.**  
Oklahoma City, Oklahoma

***Environmental Specialist*** – (November 1999 to May 2003)

- **Facility-wide noise survey (FAA Facility- Will Rogers Airport, Oklahoma)**
- **Industrial Hygiene Studies – Tinker, AFB**
- **Lead-based paint analysis & remediation design of base housing (Vance AFB, OK)**
- Project Supervisor for cleanup and disposal of hazardous material spills
  - Emergency Response situations

**Department of Environmental Quality (Oklahoma)**  
Oklahoma City, Oklahoma

***Environmental Specialist*** – (July 1999 to November 1999)

- Trained and informed businesses of pollution prevention techniques
- Explained the applicability of environmental regulations to specific industrial sectors and regulated entities

**CERTIFICATIONS AND LICENSES**

- Engineer-In-Training (EIT)
- Qualified Environmental Professional – (Institute of Professional Practice)
- Registered Professional Environmental Specialist (Oklahoma)

**OTHER**

- **Routine Guest Lecturer for Southwest Oklahoma State Aviation Safety Classes at Tinker AFB, Midwest City, OK**

# James Lawrence Fox

## PROJECT MANAGER

### WORK HISTORY

#### **Project Manager**

##### **KJ Environmental Management, Inc.**

2014 – Present

I am currently working as a Project Manager at KJ Environmental in Cross Roads, Texas. I have over three years of experience in the environmental field. I provide regulatory compliance services for various industries including oil and gas storage and trucking facilities, sand and gravel mining facilities, and manufacturing facilities. My areas of expertise include project management, wetland determination and delineation, construction and industrial storm water pollution prevention plans (SWPPP), management of PST tank pulls, oil pollution prevention compliance (SPCC), asbestos sampling and assessments, Phase I Environmental Site Assessments, Limited Phase II Environmental Site Assessments, and Naturally Occurring Radioactive Material (NORM) surveys. I have also served as the Project Manager for oil & gas production and commercial saltwater disposal clients in handling multiple produced water spill investigations and remediation activities completed under the jurisdiction of the Railroad Commission of Texas. I currently work as a Project Manager to complete projects for a variety of industries, while ensuring the delivery of the highest quality work product, customer service, and professionalism.

#### **Environmental Scientist**

##### **Trinity River Authority of Texas (TRA)**

2013 - 2014

At TRA, I conducted surface water sampling throughout the Trinity River Basin. Under the Planning and Environmental Services Special Studies and Assessments Manager, I handled a variety of tasks related to field data collection, field gear and sampling equipment preparation/maintenance, and data quality assurance/analysis. I worked within an interdisciplinary scientific team in both field and office settings. The job was physically demanding in harsh, outdoor environments. Main field studies included biological surveys, water quality sampling, geomorphological and hydrological surveys.

#### **Field Technician**

##### **Texas Forest Service (TFS)**

2009-2013

At TFS, I conducted various types of tree surveys for exotic invasive trees and insects throughout east Texas. I became very experienced in identifying woody plants and herbaceous species of Texas. I was certified for Wildland firefighting and assisted the U.S. Forest Service in prescribed burnings. I specifically aided in research and control of the southern pine beetle (*Dendroctonus frontalis*), Ips bark beetle (*Ips grandicollis*, *calligraphus* and *avulsus*), Nantucket pine tip moth (*Rhyacionia frustrana*) for the Texas Forest Service.

**Military Service**  
**United States Marine Corps**

2004-2010

I served in Fallujah, Iraq with the 14th Marines in 2006 - 2007. During that time, I was awarded medals of combat action, Marine Corps Reserve select, Global war on terrorism, Iraq campaign medal, Sea service deployment, national defense service, Navy unit commendation, and armed forces reserve. My occupational specialty was an Automotive Maintenance Technician for the High Mobility Multipurpose Wheeled Vehicle (HMMWV), and the Medium Tactical Vehicle Replacement (MTVR). During my time in Fallujah, I assisted in planning and security of hundreds of convoys for multiple platoons of infantry Marines. I also routinely drove the lead patrol vehicle with an Improvised Explosive Device (IED) / Mine sweeper attachment on a 7-ton vehicle.

**EDUCATION**

**University of Stephen F. Austin**  
**Bachelor of Science in Forestry with a focus in Wildlife Management**  
2009 – 2013

*Activities and Societies:*

Ducks Unlimited  
Wildlife Society

**ADDITIONAL INFORMATION**

**Professional Education & Certifications:**

HAZWOPER 40 HR Certification  
Certified Asbestos Inspector (Certificate No. 15039)  
Certified NORM Surveyor  
USACE Wetland Delineation 40 HR Training Course  
Red Card certified for Wildland firefighting  
SPCC/FRP Compliance Workshop, EPA Region 6

**Affiliations:**

Planning and Zoning Committee member for the City of Sanger, Texas  
Parks and Recreation Committee member for the City of Sanger, Texas  
Society of Texas Environmental Professionals

**CONTACT INFORMATION**

Email: [jfox3549@yahoo.com](mailto:jfox3549@yahoo.com)  
Phone: (940) 368 - 3535

## Stanley "Gregg" Bessire, P.E., P.G.

940-387-0805

[gregg@kienvironmental.com](mailto:gregg@kienvironmental.com)

### PROFESSIONAL EXPERIENCE:

#### **KJE Environmental & Civil Engineering**

2016 – Present

KJ Environmental Management, Inc. (KJE) is a dedicated, full-service environmental and civil engineering consulting firm located on the north side of the Dallas-Fort Worth metroplex. KJE is comprised of a team of professionals who strive to provide creative and cost effective solutions for today's multi-faceted environmental and civil engineering issues.

**Senior Project Manager** – Primary projects include Phase II Environmental Site Assessments, SPCC Plans, Stormwater Pollution Prevention Plans, and Oil and Gas Permitting.

#### **Sage Environmental Consulting, L.P., Richardson, TX**

2011 - 2016

Sage Environmental Consulting provides environmental project management and consulting services nationwide. Role was to manage soil and groundwater investigation projects and remediation, Due Diligence projects, Spill Prevention, Control, and Countermeasure (SPCC) Plans, and Storm Water Pollution Prevention Plans (SWPPP).

##### **Senior Project Manager**

- Developed and managed a fugitive gas emissions program for all New Source Performance Standard (NSPS) OOOO and Subpart W regulated equipment. The client was a Major Global Oil Company and project sites consisted of their Onshore USA Assets.
- Implemented best practices using Optical Gas Imaging (OGI) and FLIR GF320 Infrared Cameras to inspect all onshore equipment to identify any fugitive gas emission leak sources.
- Developed a Master Fugitive Emissions Program Plan and provided to all the assets, which included procedures, training, and methods for maintaining the program. Managed implementation by client supervisors at various locations throughout Texas and Louisiana.

##### **Due Diligence Manager**

- Managed teams of personnel who conducted due diligence site inspections for over 1,200 oil and gas wells and 67 tank batteries in less than two weeks across four separate regions of Texas.
- Reviewed Texas Commission on Environmental Quality (TCEQ) and Railroad Commission of Texas (RRCT) records, and aerial and site photographs for details and/or evidence of site contamination.
- Calculated estimated remediation costs for 49 separate tank batteries and well locations.

##### **Senior Project Manager**

- Proposed, Conducted, and Managed surface and subsurface spill investigations and remediation, and completed over 1,000 SWPPP and SPCC Plans.

##### **Senior Project Manager**

- Scheduled, Managed, and Performed Optical Gas Imaging (OGI) inspections utilizing FLIR (Forward Looking Infrared Radiometer) GF320 infrared cameras on offshore oil platforms in The Gulf of Mexico near Texas and Louisiana coasts.

**Terracon Consultants, Inc., Enercon Services, Inc., Cirrus Associates, LLC., 2009 - 2011**  
**Fugro Consultants, Inc., Geoscience Consultants International,**  
**and Mas-Tek Engineering, Inc., Dallas/Fort Worth, TX**

**Civil Engineer / Professional Geoscientist / Project Manager: (Independent Consultant)**

Primary projects included The North Tarrant Expressway in Fort Worth; the LBJ Freeway Managed Lanes in Dallas; and The Trinity River Levee and Floodplain investigation for The US Army Corp of Engineers.

- Conducted logging of drill holes and core holes to determine site specific lithology.
- Installed piezometers, developed monitor wells, and performed slug tests to determine the aquifer transmissivity and storativity for multiple monitoring wells.
- Conducted field soil tests, performed packer tests, installed piezometers, and recorded data from downhole pressure transducers.
- Assisted with CPT (Cone Penetrometer Testing) operator performing seismic survey tests, pore pressure dissipation tests, and dilatometer tests.
- Performed various other engineering projects on a contract basis. SPCC Plans, SWPPP, and Phase I or Phase II Environmental Site Assessments (ESAs) were additional responsibilities.

**Talon/LPE, Inc., Carrollton, TX**

**2008 – 2009**

**Senior Engineer / Project Manager**

- Managed, supervised, and conducted all project activities, including well/boring logging, development and sampling of groundwater monitoring wells; soil sample collection; waste classification and disposal; hydrogeologic characterizations; and preparing groundwater monitoring and corrective action plans.
- Designing, installed, and monitored the effectiveness of remediation systems. Performed these projects, as well as Phase I and II ESAs, for major oil, communication, utility, real estate, municipal, retail, and financial clients.
- Performed site visits and prepared SWPPP/SPCC Plans to maintain clients' regulatory compliance.

**Terra-Solve, Inc., Carrollton, TX**

**1996 - 2008**

**Project Manager / Civil Engineer**

- Managed, supervised, and conducted over 550 projects in 16 states. Coordinated field investigation activities, including scheduling and procurement of subcontract labor and necessary materials.
- Conducted well and boring logging at numerous sites in Texas, New Mexico, Oklahoma, and Arkansas. For these projects the lithologic units were described using the Unified Soil Classification System (USCS), conducted field screening for various geotechnical and analytical parameters, and prepared soil samples for shipping to testing laboratories in various states.
- Conducted Dual-Phase Extraction and aquifer tests, analyzed the recorded data and completed the required analytical reports. Performed these projects, as well as Phase I and II Environmental Site Assessments (ESAs), for major oil, communication, utility, real estate, municipal, retail, and financial clients.
- Designed remediation systems, supervised system installations, and monitored the effectiveness of various types of remediation systems.
- Performed site visits and prepared SWPPP/SPCC Plans to maintain clients' regulatory compliance.
- Provided construction management and engineering/construction inspection services over a five year period for a local municipality and Habitat For Humanity which included asphalt and concrete roadway construction, railroad crossings, utility installations, bridge construction, and sanitary sewer lift station construction.

**EDUCATION, PROFESSIONAL REGISTRATIONS & TRAINING:**

**Education:** B.S. *Petroleum Engineering*, **Texas Tech University**, Lubbock, TX

**Professional Registrations:**

- Licensed Professional Engineer (P.E.), (License No. 88441), Texas
- Licensed Professional Engineering Firm, (License No. 17779), Texas
- Licensed Professional Engineer (P.E.), (License No. 21593), New Mexico
- Licensed Professional Geoscientist (P.G.), (License No. 6264), Texas
- Licensed Professional Geoscientist (P.G.), (License No. 1051), Louisiana
- UST Remediation Consultant (License No. 60), Oklahoma
- Corrective Action Project Manager (CAPM No. 799), TCEQ
- Transportation Worker Identification Credential (TWIC), Transportation Safety Administration (TSA)

**Certifications and Continuing Education:**

- Occupational Safety and Health Administration (OSHA) Training for Hazardous Waste Operations, Supervisor Level, (40 Hour Course and Annual Refreshers)
- Basic Plus Safety and Annual Refreshers
- Wastewater and Stormwater Permitting and Compliance Seminars, TCEQ
- Produced Water Production Conference, Society of Petroleum Engineers
- Air Permitting Basics and Advanced Air Permitting, Sage Environmental Consulting
- Helicopter Underwater Egress Training (HUET), Falck Safety Training
- Oil and Gas Essentials, Sage Environmental Consulting
- Environmental Chemistry, Oklahoma State University
- Management of Solid and Hazardous Waste (RCRA), Oklahoma State University
- Pollution Prevention (P2) Plan and Waste Management Workshop, TCEQ
- Project Manager Professional Training (PMP), D and L Training

# **Dena Marie Vandenberg, REM, LEED AP**

## **ENVIRONMENTAL PROFESSIONAL**

### **WORK HISTORY**

#### **Chief Operating Officer / Director of Environmental Services**

##### **KJ Environmental Management, Inc.**

June 2011 – Present (5 years, 2 months)

I am currently working as the Chief Operating Officer / Director of Environmental Services at KJ Environmental in Cross Roads, Texas. I have over eleven years of experience as an environmental professional in consulting. I lead a team of Engineers and Scientists to complete projects for a variety of industries, while ensuring the delivery of the highest quality work product, customer service, and professionalism.

#### **Project Manager**

##### **KJ Environmental Management, Inc.**

April 2010 – June 2011 (1 year 3 months)

When I began working at KJ Environmental in Denton, Texas as a Project Manager, I provided regulatory compliance services for various industries including oil and gas storage and trucking facilities, sand and cement handling facilities, manufacturing facilities, and municipal agencies. My areas of expertise included project management, construction and industrial storm water pollution prevention plans (SWPPP), NPDES/TPDES permit applications, management of PST tank pulls, oil pollution prevention compliance (SPCC), Permit-By-Rule (PBR) Applications, New Source Review (NSR) Applications, Barnett Shale Phase I & Phase II Special Emissions Inventories, Saltwater Disposal Well Permitting, Underground Injection Control Permitting, TCEQ Public Water System compliance, drinking water, storm water, ground water, and waste sampling, asbestos sampling, mold assessments, radon testing, lead-based paint sampling, lead in drinking water sampling, Phase I Environmental Site Assessments, Limited Phase II Environmental Site Assessments, noise monitoring, and brownfield redevelopment. I have also served as the Environmental Professional on record for oil & gas production and commercial saltwater disposal clients in handling multiple produced water spill investigations and remediation activities completed under the jurisdiction of the Railroad Commission of Texas.

#### **Environmental Scientist**

##### **Terracon**

Privately Held; 1001-5000 employees; Civil Engineering industry

April 2006 – February 2010 (3 years 11 months)

At Terracon, I conducted hundreds of Phase I ESAs for various types of properties from vacant land to industrial/manufacturing facilities and gas stations. I also did regulatory compliance consulting for oil & gas clients, industrial/manufacturing facilities, and municipalities. I completed SWPPPs and SPCCs, conducted storm water sampling, and operated a public water system on behalf of a municipality. I became a licensed Asbestos Inspector, Mold Assessment Technician, and LEED Accredited Professional.

#### **Environmental Geologist**

##### **Cirrus Associates**

March 2006 – March 2006 (1 month)

At Cirrus Associates, I acted as a contract employee on a VCP project for a client in Odessa, Texas. I conducted sampling of groundwater monitoring wells using low-flow sampling techniques.

#### **Environmental Scientist**

##### **Delta Environmental**

August 2004 – December 2005 (1 year 5 months)

At Delta Environmental, I worked conducted public drinking water sampling under a multimillion dollar TCEQ contract. I collected over 3,000 drinking water samples with a 99.8% laboratory acceptance rate. I was recognized as one of the top 5 samplers in the state for productivity and was trusted with the responsibility of training other samplers associated with the project. In addition, I conducted several ESAs to obtain more experience, when time would allow.

## **EDUCATION**

### **University of North Texas**

#### **Bachelor of Science in Geography with a focus in Earth Science, Geology Minor**

1999 – 2004

#### *Activities and Societies:*

Vice Chairman of the Planning & Zoning Commission for the Town of Providence Village, Texas

Delta Zeta Sorority

## **ADDITIONAL INFORMATION**

### **Professional Education & Certifications:**

National Registry of Environmental Professionals (NREP) Registered Environmental Manager (REM)

OSHA 29 CFR 1910.120 HAZWOPER 40 HR Certification

EPA Accredited Asbestos Inspector

TDSHS License Asbestos Inspector (License No. 602837)

TDSHS Licensed Mold Assessment Technician (License No. MAT1011)

TCEQ Class C Water Distribution Operator (License No. WD0007445)

Leadership in Energy and Environmental Design (LEED) Accredited Professional

Texas Commission on Environmental Quality (TCEQ) Certified Water Sampler under the Safe Drinking Water Act and State Regulations (ID No. 2005-006)

ORIS-Enviromod University- AERMOD Modeling For Permits Certification

Certified NORM Surveyor

### **Affiliations:**

The North Texas Association of Environmental Professionals

Society of Texas Environmental Professionals

Association of American Geographers

U.S. Green Building Council

## **CONTACT INFORMATION**

Email: [denavandenberg@yahoo.com](mailto:denavandenberg@yahoo.com)

Phone: (214) 364-7627

## **APPENDIX G**

NMOCD Approved Pertinent Information and Workplans

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
811 S. First St., Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-141  
Revised April 3, 2017

Submit 1 Copy to appropriate District Office in  
accordance with 19.15.29 NMAC.

### Release Notification and Corrective Action

#### OPERATOR

☒ Initial Report ☐ Final Report

|                 |                                            |               |                     |
|-----------------|--------------------------------------------|---------------|---------------------|
| Name of Company | OWL SWD OPERATING LLC                      | Contact       | Mr. Phillip Sanders |
| Address         | 8214 Westchester Dr. #850 Dallas, TX 75225 | Telephone No. | 210-906-3551        |
| Facility Name   | N/A                                        | Facility Type | N/A                 |

|               |       |               |       |         |     |
|---------------|-------|---------------|-------|---------|-----|
| Surface Owner | State | Mineral Owner | State | API No. | N/A |
|---------------|-------|---------------|-------|---------|-----|

#### LOCATION OF RELEASE

|             |         |          |       |               |                  |               |                |        |
|-------------|---------|----------|-------|---------------|------------------|---------------|----------------|--------|
| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
| H           | 32      | 24S      | 35E   |               |                  |               |                | Lea    |

Latitude 32.1759 Longitude -103.3810 NAD83

#### NATURE OF RELEASE

|                             |                                                                                                           |                                           |                                        |                            |               |
|-----------------------------|-----------------------------------------------------------------------------------------------------------|-------------------------------------------|----------------------------------------|----------------------------|---------------|
| Type of Release             | Produced Water                                                                                            | Volume of Release                         | 25bbls                                 | Volume Recovered           | 10bbls        |
| Source of Release           | Above-ground in-field line (4in poly)                                                                     | Date and Hour of Occurrence               | 9/13/17 @1600                          | Date and Hour of Discovery | 9/13/17 @1815 |
| Was Immediate Notice Given? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required | If YES, To Whom?                          | OCD Hobbs District Office 575-393-6161 |                            |               |
| By Whom?                    | KJ Environmental Management, Inc                                                                          | Date and Hour                             | 9-14-17 at 1330                        |                            |               |
| Was a Watercourse Reached?  | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                       | If YES, Volume Impacting the Watercourse. |                                        |                            |               |

**RECEIVED**

By Olivia Yu at 10:15 am, Sep 22, 2017

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\*  
The pipeline was repaired, Mr. Phillip Sanders had a contractor construct an earthen berm around the spill area, and lay 20mm poly liner on the top of the affected area until an investigation/delineation plan is approved by the state.

Describe Area Affected and Cleanup Action Taken.\*  
Mr. Phillip Sanders had a vacuum truck brought on-site and recovered 10bbls.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

|                         |                                                                                     |                                              |                                                                                       |
|-------------------------|-------------------------------------------------------------------------------------|----------------------------------------------|---------------------------------------------------------------------------------------|
| Signature:              |  |                                              |                                                                                       |
| Printed Name:           | PHILLIP SANDERS                                                                     | Approved by Environmental Specialist:        |  |
| Title:                  | SAFETY DIRECTOR                                                                     | Approval Date:                               | 9/22/2017                                                                             |
| E-mail Address:         | psanders@oilfieldwaterlogistics.com                                                 | Expiration Date:                             |                                                                                       |
| Date:                   | 9-21-17                                                                             | Phone:                                       | 432-269-3735                                                                          |
| Conditions of Approval: |                                                                                     | Attached <input checked="" type="checkbox"/> |                                                                                       |
| see attached directive  |                                                                                     |                                              |                                                                                       |

\* Attach Additional Sheets If Necessary

1RP-4820

fOY1726537222

nOY1726537402

pOY1726537681

Operator/Responsible Party,

The OCD has received the form C-141 you provided on \_9/21/2017\_ regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number \_1RP-4820\_ has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

*The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC. [emphasis added]*

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District \_1\_ office in \_\_Hobbs\_\_ on or before \_10/22/2017\_. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C<sub>6</sub> thru C<sub>36</sub>), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.
- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C<sub>6</sub> thru C<sub>36</sub>), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.
- Nominal detection limits for field and laboratory analyses must be provided.
- Composite sampling is not generally allowed.
- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

- Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

- If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

- Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

**Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.**

**Jim Griswold**

OCD Environmental Bureau Chief  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505  
505-476-3465  
jim.griswold@state.nm.us

Photo Exhibit



Photo 001.



Photo No. 002



Photo No. 003.



Photo No. 004.



Photo No. 005.



Photo No. 006.

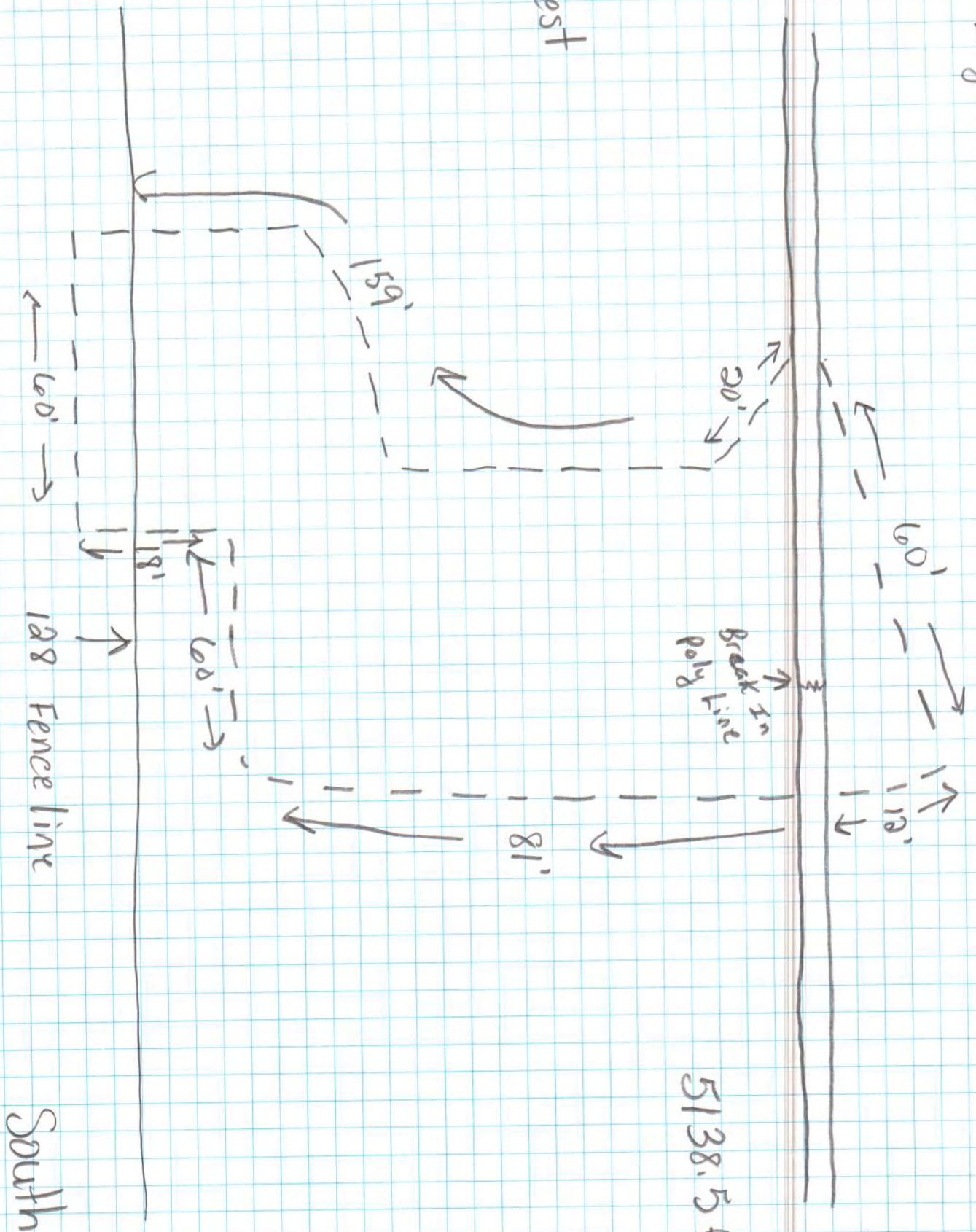
Fascinator Fee Com 2H Well  
 Lat 32.1753  
 Long 103.3812

WIP AFE 0911  
 SOE Professional Services  
 for remediation

West

North

East



South



**Aubrey Dunn**  
**COMMISSIONER**

***State of New Mexico***  
***Commissioner of Public Lands***

310 OLD SANTA FE TRAIL  
P.O. BOX 1148  
SANTA FE, NEW MEXICO 87504-1148

**COMMISSIONER'S OFFICE**

Phone (505) 827-5760  
Fax (505) 827-5766  
[www.nmstatelands.org](http://www.nmstatelands.org)

December 8, 2017

OWL SWD Operating, LLC  
8214 Westchester Dr. #850  
Dallas, Texas 75225

Attn: Phillip Sanders

**Re: Right-of-Entry Permit No.: RE-3491**

Dear Mr. Sanders:

Enclosed is the completed captioned Right-of-Entry permit. If any corrections are necessary, please let us know and we will retype or amend this permit as necessary.

If you have any questions, or if we may be of further assistance, please do not hesitate to contact Anthony Vigil at 505-827-5710.

Sincerely,

A handwritten signature in blue ink, appearing to read "Aubrey Dunn", is written over the word "Sincerely,".

Aubrey Dunn  
Commissioner of Public Lands

AD/av

Enclosures



**NEW MEXICO STATE LAND OFFICE**  
**Commissioner of Public Lands**  
**Aubrey Dunn**  
**New Mexico State Land Office Building**  
**P.O. Box 1148, Santa Fe, NM 87504-1148**

**RIGHT OF ENTRY PERMIT**  
**CONTRACT NO. RE - 3491**

**1. RIGHT OF ENTRY PERMIT**

This permit is issued under the authority of NMSA 1978, Section 19-1-2. Therefore, and in consideration of and subject to the terms, covenants, conditions, agreements, obligations and reservations contained in the permit and all other existing rights, the Commissioner of Public Lands, New Mexico State Land Office, State Of New Mexico, hereinafter called "COMMISSIONER," grants to OWL SWD OPERATING, LLC, State of Incorporation (if applicable) , whose address is 8214 WESTCHESTER DR, STE 850, DALLAS, TX, 75225 called "PERMITTEE," authorized use of a specific tract(s) of State Trust Land only for the term, and only for the permitted use, described in this permit.

**2. TERM AND LAND DESCRIPTION**

Right of entry is granted for a term of **180 days**, commencing on the execution date of this document by the Commissioner of Public Lands, to the following State Trust Lands.

| Section | Township | Range | Subdivision | County |
|---------|----------|-------|-------------|--------|
| 32      | 24S      | 35E   | SE4NE4      | Lea    |

**3. APPLICATION and PROCESSING FEE**

**\$ 50.00 Application Fee**  
**\$ 500.00 Permit Fee**  
**\$ 550.00 Total Fee**

#### **4. PERMITTED USE, PERSONNEL, EQUIPMENT AND MATERIALS**

Permitted use is for the purpose of: **to perform proper delineation and remediation of the 25 BBL release (Please note that this permit does not allow for any off road traffic)**

Personnel present on State Trust Land: **Owl employees, KJ Environmental, Inc. employees**

Equipment & Materials present on State Trust Land: **various heavy equipment, vehicles and soil stockpile**

***Prior to execution of project company must contact the Surface Lessees.***

***The granting of this permit does not allow access across private lands.***

#### **5. IMPROVEMENTS**

No improvements shall be placed on the premises without the prior written consent of the Commissioner.

#### **6. RESERVATIONS**

Commissioner reserves the right to execute leases, rights of way, easements, permits, exchange agreements, sale agreements, permits and other lawful rights on or across the land covered by this permit, including but not limited to any such rights for mining purposes and for the extraction of oil, gas, salt, geothermal resources, and other mineral deposits there from and the right to go upon, explore for, mine, remove and sell same.

#### **7. COMPLIANCE WITH LAWS**

Permittee shall at its own expense comply fully with and be subject to all applicable regulations, rules, ordinances, and requirements of law or of the Commissioner, including but not limited to the regulations of the State Land Office; Chapter 19 NMSA governing State Trust Lands; federal and state environmental laws and regulations; and the New Mexico Cultural Properties Act, NMSA 1978 Sections 18-6-1 through 18-6-23. It is illegal for any person or his agent to appropriate, excavate, injure, or destroy any historic, or prehistoric ruin or monument, or any object of historical, archaeological, architectural, or scientific value situated on lands owned or controlled by the State Land Office without a valid permit issued by the Cultural Properties Review Committee and approved by the Commissioner of Public Lands.

## **8. HOLD HARMLESS AND INDEMNIFICATION**

Permittee shall save, hold harmless, indemnify and defend Commissioner, the State Land Office, the State of New Mexico, and any of their officers, employees or agents, in their official and individual capacities, of and from any and all liability, claims, losses, damages, costs, and fees arising out of or alleged to arise out of, or directly or indirectly connected with, the operations of Permittee under this permit on or off State Trust Lands or arising out of the presence on State Trust Lands of any equipment, material, agent, invitee, contractor or subcontractor of Permittee. This Hold Harmless and Indemnification clause covers any claim, including any brought in any court or before any administrative agency, of any loss or alleged loss, and any damages or alleged damages asserted with respect to any violation or alleged violation of any state, federal or local law or regulation, including but not limited to any environmental law or regulation, any cultural properties law (including the New Mexico Cultural Properties Act, cited above) or regulation, and any alleged damage to the property, rights or interests of any State Land Office lessee, right-of-way holder, or other permittee.

## **9. AMENDMENT**

This permit shall not be altered, changed, or amended except by an instrument in writing executed by Commissioner and Permittee.

## **10. WITHDRAWAL**

Commissioner reserves the right to withdraw any or all of the land authorized for use under this permit. If applicable, Permittee shall vacate the acreage specified within 30 days after receipt of written notification of withdrawal from the Commissioner.

## **11. CANCELLATION**

The violation by Permittee of any of the terms, conditions, or covenants of this permit or the nonpayment by Permittee of the fees due under this permit shall at the option of the Commissioner be considered a default and shall cause the cancellation of this permit 30 days after Permittee has been sent written notice of such.

## **12. PRESERVE AND PROTECT**

The Permittee agrees to preserve and protect the natural environmental conditions of the land encompassed in this permit, and to take those reclamation or corrective actions that are accepted soil and water conservation practices and that are deemed necessary by the Commissioner to protect the land from pollution, erosion, or other environmental degradation. The Permittee further agrees not to injure the property of, or interfere with the operations or rights of, any State Land Office lessee, right-of-way holder, easement holder or other permittee who has rights to use the State Trust Land subject to this permit.

### **13. PIPELINE IDENTIFICATION AND SPACING REQUIREMENTS**

The Permittee shall label each aboveground pipeline crossing State Trust Lands with the Permittee's name, and contact information. Such information shall be placed at both the inlet and outlet of the pipeline, and every 2,500 feet between the two points. Pipelines must be spaced a minimum of 12" apart from existing surface pipelines to allow for livestock to cross. If the minimum line spacing cannot be met to allow livestock to cross, berms 3 feet in width must be placed in areas where established cattle trails exist, but no less than every tenth of a mile.

### **14. RECLAMATION, REMOVAL OF EQUIPMENT, MATERIALS, AND WASTE**

The Permittee agrees to reclaim those areas that may be damaged by activities conducted thereon.

The Permittee agrees to remove from the State Trust Lands, no later than the end of the term of this permit, all equipment, and materials it has placed or brought upon the land and to clean up and remove from the land any trash, waste, effluent, or other products used or brought upon the land in connection with this permit.

### **15. SPECIAL INSTRUCTIONS AND/OR RESTRICTIONS**

1. No off road traffic allowed.
2. No wood collection or tree cutting allowed.
3. Disturbing, dislodging, damaging, defacing, destroying or removing historical archaeological, paleontological or cultural sites or artifacts in a manner inconsistent with the provisions of the granted permit is prohibited.
4. Disturbing, dislodging, damaging, defacing, destroying any improvement, fixture, item, object or thing placed or located in, under or upon the land is prohibited.
5. This permit does not grant a right to enter State Trust Lands to which there is no public access.
6. Any uses or activities not within the scope of this permit are not allowed unless prior written approval from the Commissioner of Public Lands is granted.
7. Line pressure not to exceed 125 psi.

PERMITTEE: OWL SWD Operating, LLC

By: Blane Sackett

ACKNOWLEDGMENT

STATE OF Texas )  
COUNTY OF Midland ) ss.

The foregoing instrument was acknowledged before me this 6 day of December, 2017, by  
Blane Sackett, of Oilfield Water Logistics, a  
Limited Liability Company corporation, on behalf of said corporation.

My Commission Expires:

8/21/2019

Ceryl Proctor  
NOTARY PUBLIC



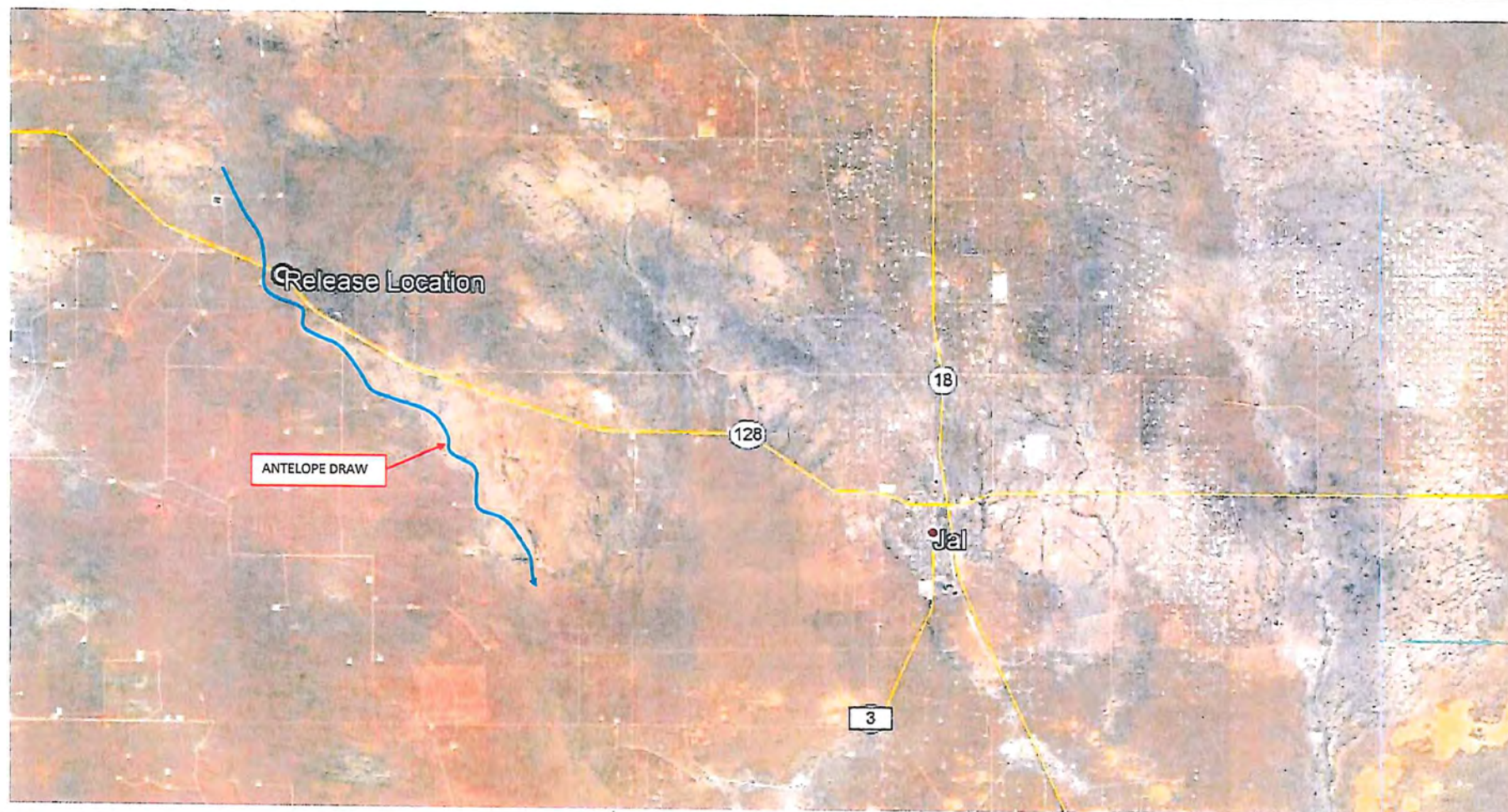
STATE OF NEW MEXICO

BY: Aubrey Dunn  
AUBREY DUNN  
COMMISSIONER OF PUBLIC LANDS

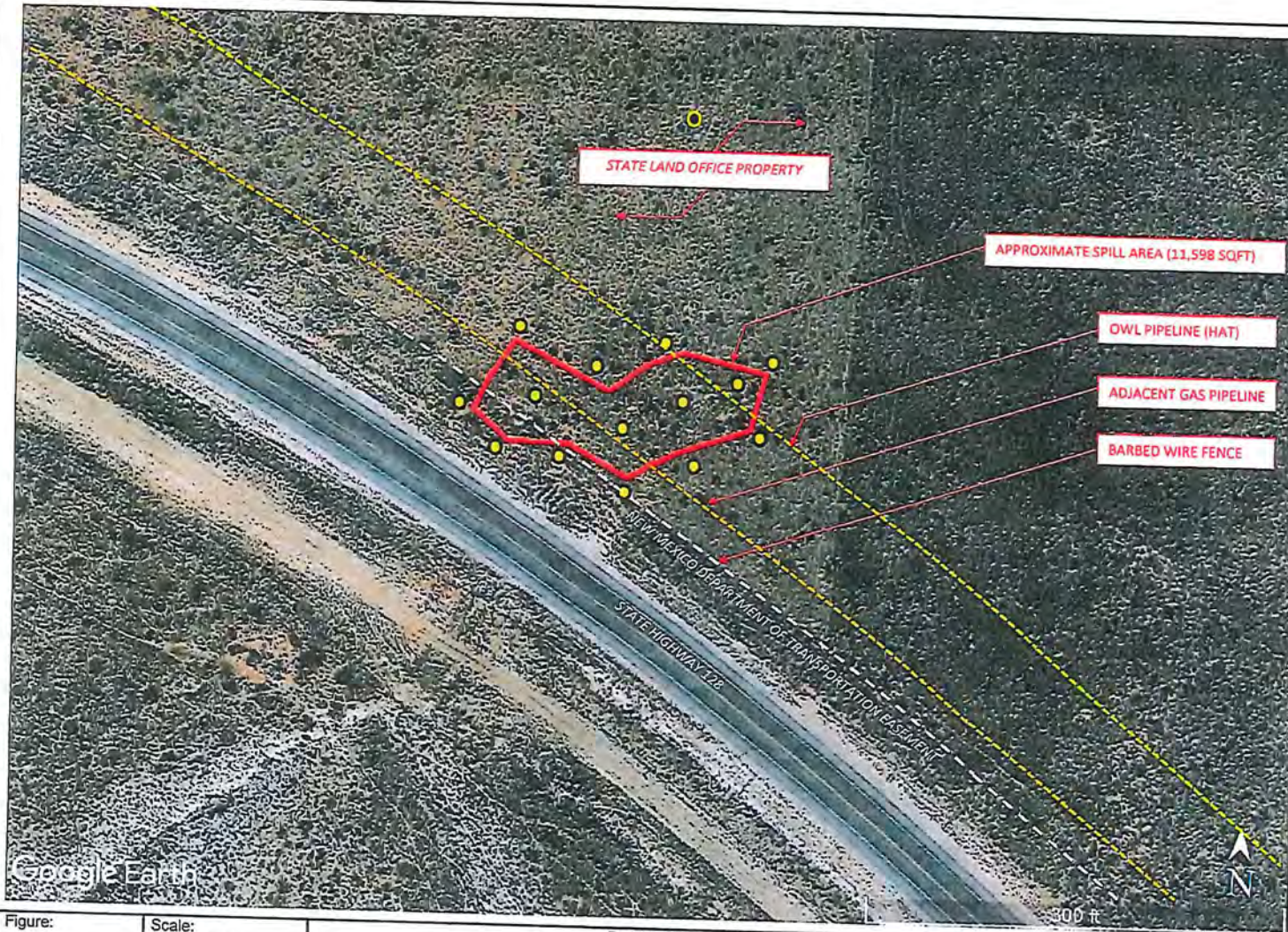
DATE: 12/13/17



RE - 3491



|                      |                       |                                                                                                                         |                                                                                                                      |                                                                                       |
|----------------------|-----------------------|-------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Figure:<br><b>A1</b> | Scale:<br>NTS         | <u>General View of Release</u><br>OWL SWD Operating, LLC<br>Jal, New Mexico<br>Unit H Section 32 Township 24S Range 35E | <br>KJE<br>Kiewit Joint Venture |  |
|                      | Date:<br>October 2017 |                                                                                                                         |                                                                                                                      |                                                                                       |



# LEGEND

- - PROPOSED BORING LOCATION
- - PROPOSED BACKGROUND SAMPLE
- ▲ - GROUNDWATER MONITORING WELL

NOTE: LOCATION OF THE GROUNDWATER MONITORING WELL WILL BE DETERMINED AFTER INITIAL LAB ANALYSIS



Figure:

A2

Scale:

NTS

Date:

October 2017

Detailed View of Release  
 OWL SWD Operating, LLC  
 Jal, New Mexico  
 Unit H Section 32 Township 24S Range 35E



## **Surface Lessee Contact Information**

*Please notify all lessee's provided below prior to the start of your project.*

- GM-3222- Bert Madera  
P.O. Box 2795, Ruidoso, New Mexico 88355

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CONFIDENTIAL

WORK PLAN  
FOR THE CHARACTERIZATION OF IMPACTS

OCTOBER 19, 2017

OWL SWD OPERATING, LLC  
UNIT LETTER H, SECTION 32, T24S, R35E  
LEA COUNTY, NEW MEXICO  
CASE No. 1RP - 4820

**PREPARED FOR:**

MS. OLIVIA YU  
ENVIRONMENTAL SPECIALIST  
STATE OF NEW MEXICO ENERGY MINERALS AND NATURAL RESOURCES  
OIL CONSERVATION DIVISION  
1625 NORTH FRENCH DRIVE  
HOBBS, NEW MEXICO 88240

**APPROVED**

*By Olivia Yu at 11:30 am, Nov 30, 2017*

**PREPARED BY:**



500 MOSELEY ROAD  
CROSS ROADS, TEXAS 76227  
(940) 387-0805 PHONE  
(940) 387-0830 FAX

NMOCD approves of the proposed delineation plan for 1RP-4820 with these modifications:

- 1) Due to the presence of a surface waterbody approx. 750 ft SW, permissible TPH levels are 1000 mg/kg.
- 2) Vertically delineate to  $\leq 600$  mg/kg chlorides and maintained for 10 ft. further in depth.



October 19, 2017

New Mexico Energy Minerals and Natural Resources Department (NM EMNRD)  
Oil Conservation Division (OCD) – District 1  
Ms. Olivia Yu  
Environmental Specialist  
1625 North French Drive  
Hobbs, New Mexico 88240

**Re: Work Plan for the Characterization of Impacts Due to a Pipeline Release  
OWL SWD Operating, LLC Produced Water Pipeline Nearby Unit Letter H, Section  
32, T26S, R36E, Lea County, New Mexico – Case No. 1RP-4820**

Dear Ms. Yu:

KJE understands that the goals of the characterization effort are: 1) Determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) Determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact 4) The characterization of any other adverse impacts that may have occurred (ex. Impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.).

KJE is pleased to provide the attached Work Plan for the characterization of Impacts due to a pipeline release associated with OWL SWD Operating, LLC (OWL's) pipeline, located in Lea County, New Mexico.

If we can be of further assistance, please do not hesitate to contact us at 940-387-0805. We look forward to receiving comments in order to proceed with the project and closure.



James L. Fox, CNRP  
Environmental Project Manager



Dena M. Vandenberg, REM, LEED AP  
Director of Environmental Services



October 19, 2017

New Mexico, Energy Minerals and Natural Resources (EMNRD)  
Oil Conservation Division (OCD) – District 1  
Ms. Olivia Yu  
Environmental Specialist  
1625 North French Drive  
Hobbs, New Mexico 88240

**Re: *Work Plan for the Characterization of Impacts Due to a Pipeline Release  
OWL SWD Operating, LLC Produced Water Pipeline Nearby Unit Letter H, Section  
32, T26S, R36E, Lea County, New Mexico – Case No. 1RP-4820***

Dear Ms. Yu:

KJ Environmental Management, Inc. (KJE) proposes to perform the following environmental consulting services for OWL SWD Operating, LLC (OWL) for the delineation portion of the project.

Environmental Investigation

The proposed scope of work will consist of performing an Environmental Investigation to evaluate the presence/absence of environmental contaminants in the soil at the above-referenced produced water release location.

KJE understands that the goals of this Work Plan and characterization effort are: 1) Determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) Determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact 4) The characterization of any other adverse impacts that may have occurred (ex. Impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.).

The Investigation will consist of the following activities:

- KJE will contact New Mexico 811 to request that they communicate with underground utility companies in the site area for location of their pipelines beneath the site and the site area.

- Multiple soil borings will be installed to the maximum depth necessary to reach chloride and other constituent delineation levels as noted below (horizontal and vertical delineation), by Geoprobe. A site map (Figure A1) is attached showing the general location and extent of the release. The proposed soil boring locations are illustrated on attached Figure A2, but the quantity of borings and boring locations may be field adjusted due to onsite conditions. The drilling contractor will be using a five (5) foot split-spoon continuous sampling device to allow for sampling of soil at two and one half (2.5) foot intervals for laboratory analysis. The actual number of borings and number of samples collected for analysis will be determined in the field based on assessment of release areas and Geoprobe access points available.
- Horizontal delineation of soil impacts will be attempted in each of the four cardinal compass directions. Adsorbed soil contamination will be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes (BTEX) by either Method 8260 or 8021, total petroleum hydrocarbons (TPH) by Method 8015 extended range (GRO+DRO+MRO; C6 thru C36), and for chloride by Method 300. KJE understands that delineation to 10 ppm Benzene, 50 ppm BTEX, 5,000 ppm TPH, and 600 ppm chlorides horizontally is required. Soil sampling will be both within the impacted area and beyond as field determined.
- Vertical delineation of soil impacts will also be attempted. Adsorbed soil contamination will be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes (BTEX) by either Method 8260 or 8021, total petroleum hydrocarbons (TPH) by Method 8015 extended range (GRO+DRO+MRO; C6 thru C36), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified if required by OCD. Vertical characterization samples should be taken at depth intervals no greater than five (5) feet apart. Lithologic description of encountered soils will also be provided. KJE understands that delineation to 10 ppm Benzene, 50 ppm BTEX, 5,000 ppm TPH, and 250 ppm chlorides vertically is required. At least ten (10) vertical feet of soils with contaminant concentrations at or below these values will be demonstrated as existing above the water table.
- In addition to the horizontal and vertical delineation borings, KJE will install one (1) soil boring upgradient of the release area to a depth of ten (10) feet and collect background samples at two and one half (2.5) foot intervals for laboratory analysis.

- Discrete, grab soil samples will be collected from each of the two and one half (2.5) foot intervals for laboratory analysis. A clean, decontaminated sampling trowel will be used to sample from each depth interval selected. For each soil boring, soil samples will be field screened using a calibrated Photo-ionization Detector (PID) (Model RAE MINIRAE 3000 Lite 0-15K ppm) for the highest reading for each boring. The sample with the highest PID reading and the sample collected at the bottom of each boring will be submitted for laboratory analysis.
- A statistically significant set of split samples will be submitted for confirmatory laboratory analysis, including the laterally farthest from the release sites and vertically deepest set of soil samples collected. In addition, we will ensure that there are at least two samples submitted for laboratory analysis from each boring (highest contamination from PID and deepest depth investigated).
- Each soil sample will be handled with nitrile-gloved hands. The samples will be placed in clean, dedicated, laboratory-supplied, 4-ounce glass containers, and labeled with pertinent sampling information. The soil samples will be then placed in a cooling chest with adequate ice, providing a 4°C environment for sufficient preservation until delivery to Xenco Laboratory (a third-party, NELAP Certified, independent, and licensed environmental laboratory in Midland, Texas). The sample collection and handling activities will be conducted in accordance with USEPA Standard Operating Procedures and strict chain-of-custody protocols. The drilling equipment, sampling equipment, and tools will be decontaminated before and between each sampling location. All personnel will use dedicated nitrile gloves that will be changed frequently during the drilling activities.
- For this investigation, groundwater is not anticipated to be encountered during environmental drilling. According to records obtained from the New Mexico Office of the State Engineer's office Hydrology Bureau records, the minimum depth to water for water wells located in the same Township and Range as where the releases occurred is 200 feet. However, the records also indicate the location may be in an area with water present in the alluvial/quaternary age formation overlaying the Triassic formation, which appears to be associated with the Antelope Draw. The presence and/or depth of this potential water bearing formation are unknown. KJE will install one (1) groundwater monitoring well to a depth of 50' past the deepest contamination to verify the presence or absence and depth, if applicable, of a shallow groundwater-bearing formation. The location of the groundwater monitoring well will be determined based on the initial laboratory analysis and will be advanced in the area of highest contamination.
- If groundwater is encountered in any of the soil borings, the boring will be left open for twenty-four (24) hours to determine if substantial water accumulates for sample collection and lab analysis. After 24 hours, KJE will attempt to collect a groundwater sample using a new disposable bailer and submit the samples for laboratory analysis of BTEX, TPH, and Chloride, if possible.

- The New Mexico State Land Office (SLO) currently owns both the surface and subsurface estates that the release occurred on. The SLO and OCD both were notified of the spill via the C-141 Form submittal and will be copied together in further correspondence throughout the timeline of site investigation, delineation, and remediation efforts. Following the approval of this work plan, a Right of Entry (ROE) Request for Remediation application will be submitted with the associated fees to the SLO for approval.

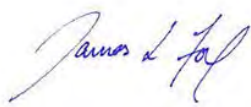
During the initial site visit to determine approximate preliminary spill area, it was discovered that the pipeline release had also migrated across the southern property boundary onto the New Mexico Department of Transportation (NMDOT) easement of State Highway 128, approximately 0.31 miles west of mile marker 40. At this time, KJE has notified NMDOT of the spill and is working with District 2 of the NMDOT to comply with their access requirements.

#### Report of Findings

KJE will prepare and provide an electronic copy of the final report describing the findings, conclusions, and recommendations from the Environmental Investigation. KJE will present the laboratory analytical results in a tabular format and compare these levels to the OCD specified delineation levels. Accurately scaled and well-drafted site maps will be provided showing the location of all borings, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Digital photographic documentation of the release locations and field work will also be included.

If we can be of further assistance, please do not hesitate to contact us at 940-387-0805. We look forward to receiving comments in order to proceed with the project and closure.

Sincerely,



James Fox, CNRP  
Environmental Project Manager

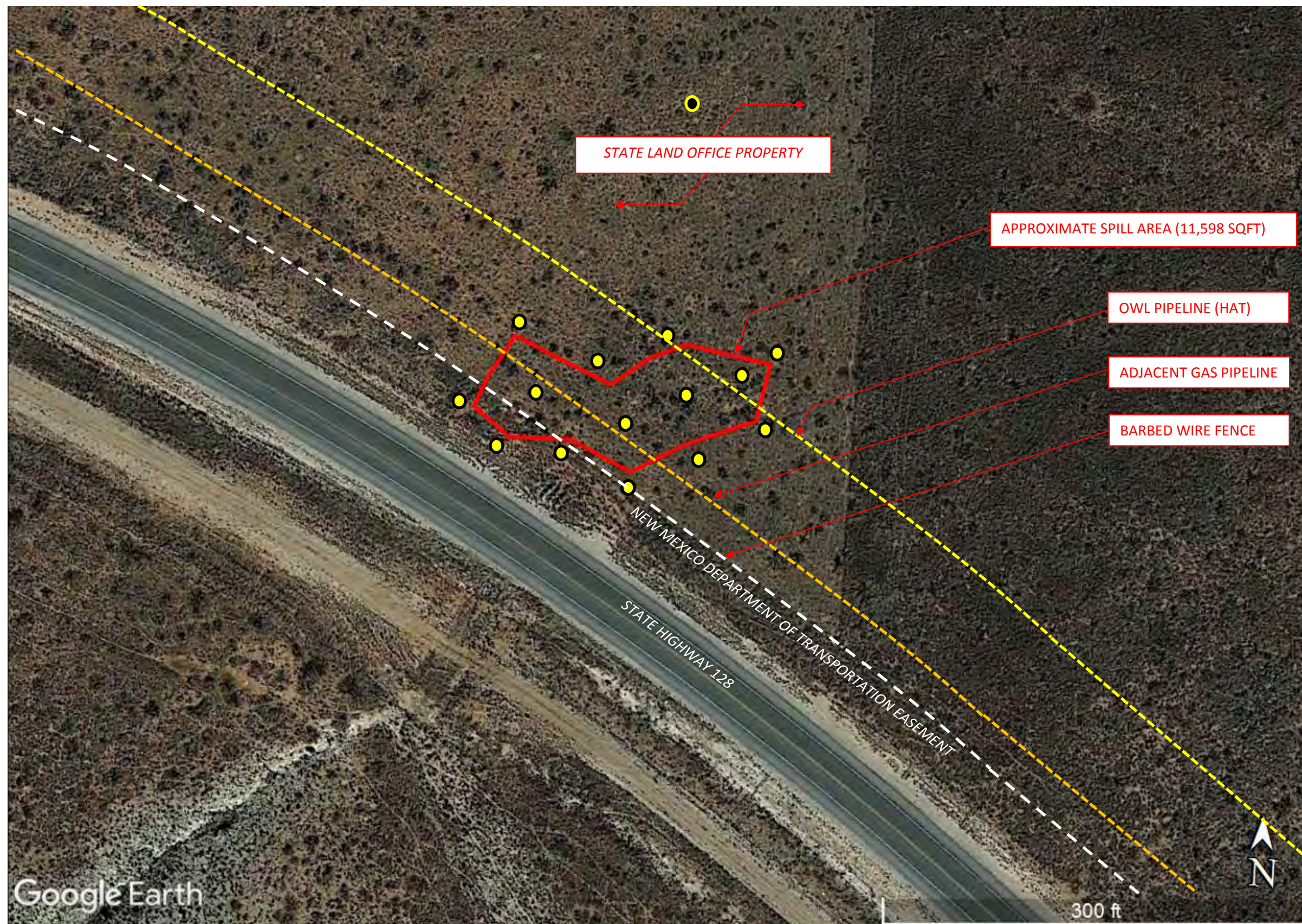


Dena M. Vandenberg, REM / LEED AP  
Director of Environmental Services

Attachments: Figure A1 – General View of Release  
Figure A2 – Detailed View of Release



|                                 |                                                           |                                                                                                                                   |                                                                                                                                            |                                                                                                |
|---------------------------------|-----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| <p>Figure:</p> <p><b>A1</b></p> | <p>Scale:</p> <p>NTS</p> <p>Date:</p> <p>October 2017</p> | <p><b>General View of Release</b><br/>OWL SWD Operating, LLC<br/>Jal, New Mexico<br/>Unit H Section 32 Township 24S Range 35E</p> |  <p>KJE<br/>ENVIRONMENTAL &amp; CIVIL ENGINEERING</p> |  <p>N</p> |
|---------------------------------|-----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|



# **LEGEND**

- - PROPOSED BORING LOCATION
- - PROPOSED BACKGROUND SAMPLE
- ▲ - GROUNDWATER MONITORING WELL

NOTE: LOCATION OF THE GROUNDWATER MONITORING WELL WILL BE DETERMINED AFTER INITIAL LAB ANALYSIS

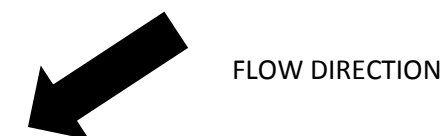


Figure:

A2

Scale:

NTS

Date:

October 2017

**Detailed View of Release**  
 OWL SWD Operating, LLC  
 Jal, New Mexico  
 Unit H Section 32 Township 24S Range 35E

