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Mr. Glenn von Gonten Environmental Bureau New Mexico Oil Conservation Division 1220 South St. Francis Drive Santa Fe, New Mexico 87505

Subject:

2015 Annual Groundwater Report Former Brickland Refinery Site Sunland Park, New Mexico Huntsman International LLC Case No. AP-01

Dear Mr. von Gonten:

On behalf of Huntsman International LLC (Huntsman), ARCADIS U.S., Inc., is submitting one copy of the above-referenced report. As agreed upon on February 11, 2003, this report is being submitted on or before April 1 for the previous year. An additional copy is being provided to the District 2 office in Artesia.

If you have any questions regarding the enclosed report, please contact the undersigned at (225) 292-1004 or Mr. Edward L. Gunderson with the Huntsman facility at (281) 719-3039.

Sincerely,

ARCADIS U.S., Inc.

Timos fly D. Fa tely hod Timothy D. Ratchford, P.G. (LA/TX)

Associate Vice President/Principal Scientist

Enclosure

Copies:

NMOCD District 2 - Artesia

Edward L. Gunderson – Huntsman

ENVIRONMENT

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March 31, 2016

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LA003185.2015.00500

Huntsman/3185.2015/C/2/cao



HUNTSMAN

Enriching lives through innovation

2015 Annual Groundwater Monitoring Report

Former Brickland Refinery Sunland Park, New Mexico

March 31, 2016

Timothy D. Ratchford, P.G. (LA/TX)
Associate Vice President/Principal Scientist

2015 Annual Groundwater Monitoring Report

Former Brickland Refinery Sunland Park, New Mexico

Prepared for:

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March 31, 2016

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Former Brickland Refinery Sunland Park, New Mexico

Executive Summary

This 2015 Annual Groundwater Monitoring Report documents the results of three groundwater monitoring events conducted at the former Brickland Refinery site in Sunland Park, New Mexico. The 2015 semiannual groundwater monitoring events were conducted in June (June 8-10), September (September 14-16), and December (December 2-4). This report contains summaries of groundwater elevation and analytical data from the 2015 groundwater monitoring events as well as historical records.

This monitoring program was conducted in accordance with the Groundwater Monitoring Plan included as Section 3.5 of the Stage 2 Abatement Plan approved by Mr. Bill Olson of the New Mexico Oil Conservation Division (NMOCD) in a letter dated December 17, 1998, and revised in 2006. A request was sent to the NMOCD in a letter dated November 7, 2014, to modify the existing sampling performed at the site. Other activities proposed as part of the request included Conducting Soil Excavation at WP-14 and Plugging and Abandonment of Other Site Monitor Wells.

The request was approved by Mr. Glenn von Gonten in correspondence dated April 24, 2015, and the Addendum to Abatement Plan AP-001 for the Former Brickland Refinery was submitted to the NMOCD on June 3, 2015. The modification to the plan requires quarterly sampling for all remaining wells, starting with the June 2015 sampling event and continuing until 2017.

In accordance with the Stage 2 Abatement Plan, quarterly sampling events include water level and product thickness measurements in all monitor wells, as well as analysis of benzene for all sampled wells. In addition, each sampling event also includes analyses for polynuclear aromatic hydrocarbons (PAHs) only at Monitor Well MW-8.

During the 2015 monitoring events, the following samples were collected:

- Five off-site well samples (MW-3S, MW-3D, MW-6S, MW-6D, and MW-9S);
- Five on-site well samples (MW-5, MW-8, MW-10, MW-11, and MW-17);

The laboratory-reported benzene concentrations for samples collected from MW-5 and MW-8 during the June, September, and December 2015 events were above the New Mexico Water Quality Control Commission (NMWQCC) standard. The benzene



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concentration for the sample collected from MW-10 during the June 2015 event was above the NMWQCC standard.

The laboratory-reported total PAHs were below the NMWQCC standard for all samples collected during the June, September, and December 2015 monitoring events.

The hydraulic gradient beneath the former Brickland Refinery varies slightly across the site in response to river stages. In June, September, and December 2015 the gradient was approximately 0.0008, 0.0006, and 0.0003 foot per foot, respectively. The groundwater flow direction is generally to the southeast, parallel to the river.

Light non-aqueous phase liquid (LNAPL) was not measured at any of the locations during September or December 2015. In June 2015, product was observed in MW-10. Three PIG® absorbent socks were installed in MW-10 in June 2015, and they remained there until the following quarter. Measurable thicknesses of LNAPL were not found in any other wells during the 2015 monitoring events.

Well plugging and abandonment were conducted on July 20, 2015, in accordance with the Addendum to Stage 2 Abatement Plan approved by Mr. von Gonten with the NMOCD on April 24, 2015, and submitted to NMOCD on June 3, 2015. Twenty-one monitor wells were plugged and abandoned. A Plugging and Abandonment Field Activities Report to document the program and provide State of New Mexico Plugging Records was submitted to the NMOCD on September 17, 2015.

Soil excavation was conducted at WP-14 on November 11, 2015. The total volume of material removed during the excavation included 50 to 60 cubic yards of soil. Soil was transported off site for disposal at an authorized facility. Following soil removal, the excavated area was backfilled using clean fill material borrowed from an on-site area. A summary report for the excavation was provided to NMOCD on February 8, 2016.

Based on the results of ongoing monitoring, the following actions are recommended:

- Continue LNAPL removal, if present, at MW-10 by bailing or pumping at quarterly intervals;
- Continue monitoring of benzene in MW-5, MW-8, and MW-10 to evaluate trends in groundwater concentrations;



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- Continue monitoring of PAH in MW-8 to evaluate trends in groundwater concentrations; and
- Continue groundwater sampling at MW-3S, MW-3D, MW-6S, MW-6D, MW-9S, MW-11, and MW-17.



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1. Introduction

1.1 Background

The former Brickland Refinery site is located in Sunland Park, New Mexico, and consists of approximately 33 acres situated along the west bank of the Rio Grande (Figure 1). Huntsman International LLC (Huntsman) currently owns the site. From 1933 to 1958, the site was operated by previous owners as a petroleum refinery, producing both gasoline and jet fuel. The site was closed and the plant dismantled by previous owners in 1958. Between 1964 and 1989, the site was leased by previous owners to various parties to service trucks, conduct automobile salvage operations, graze livestock, and store used bricks.

Petroleum hydrocarbons have been reported in soil and groundwater at the site since the sampling program was initiated in December 1993. The distribution of petroleum hydrocarbons was investigated and these investigations provided the basis for the December 1998 Stage 2 Abatement Plan. The Stage 2 Abatement Plan provides the methods for abating contamination of groundwater and soil in compliance with New Mexico Water Quality Control Commission (NMWQCC) regulations on prevention and abatement of water pollution (20 New Mexico Administrative Code 6.2, Subpart IV) and New Mexico Oil Conservation Division (NMOCD) requirements to protect public health and the environment with respect to wastes from the refinement of crude oil (Section 70-2-12.8 (22) New Mexico Statute Annotated 1978). Huntsman maintained a stand-alone light non-aqueous phase liquid (LNAPL) recovery system (at MW-10) on the site as part of the Stage 2 Abatement Plan. The system was installed in December 1998 and was shut down in June 2008 because no free-phase product was removed from MW-10 in 2006, 2007, or 2008. In accordance with the Stage 2 Abatement Plan, upon the completion of free-phase product removal, on-site Monitor Wells MW-5, MW-8, MW-10, MW-11, and MW-17 were added to the monitoring plan as of June 2010.

The site layout and monitor well and sampling locations are shown on Figure 2.

1.2 Scope of Services

ARCADIS U.S., Inc., performed semiannual groundwater monitoring at the site in June, September, and December 2015. Table 1 provides a summary of the water sampling methods, purging methods, and laboratory analyses that were performed during the quarterly sampling events. Quarterly gauging of MW-10 and WP-14 was

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performed in February 2015. The monitoring program was conducted in accordance with the Groundwater Monitoring Plan and Stage 2 Abatement Plan, approved by Mr. Bill Olsen of the NMOCD in his letter dated December 23, 1998. The sampling protocol was modified in 2006 with the modifications implemented during the June 2006 monitoring event. The revised protocol is in general accordance with applicable NMOCD, New Mexico Environment Department, and U.S. Environmental Protection Agency (USEPA) regulations, procedures, and guidelines. A request to modify the existing sampling performed at the site was sent to the NMOCD in a letter dated November 7, 2014. The request was approved by Mr. Glenn von Gonten in correspondence dated April 24, 2015, and the Addendum to Abatement Plan AP-001 for the Former Brickland Refinery was submitted to the NMOCD on June 3, 2015. The modification approval is included in Appendix A. The modification to the plan requires quarterly sampling for all remaining wells, starting with the June 2015 sampling event and continuing until 2017.

Revisions to the sampling program at the site were initiated during the June 2015 sampling event and include the following items:

- Cease sampling of and plug and abandon Monitor Wells MW-4, MW-7, MW-14, and MW-15;
- Cease analysis for PAHs for all monitor wells except MW-8;
- Cease analysis for lead;
- Cease sampling of the Rio Grande;
- Perform analyses for benzene only for Monitor Wells MW-3S, MW-3D, MW-5, MW-6S, MW-6D, MW-8, MW-9S, MW-10, MW-11, and MW-17; and
- Remove remaining well points.

The following items were included in the quarterly monitoring as required by the Groundwater Monitoring Plan and Stage 2 Abatement Plan and approved by the NMOCD:

 Depth to groundwater measurements were recorded in five on-site monitor wells and five off-site monitor wells. Historical groundwater elevations for the monitor



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wells are provided in Table 2, and groundwater elevation contour maps for the 2015 monitoring events are depicted on Figures 3, 4, and 5;

- Analytical testing for the samples included benzene and polynuclear aromatic
 hydrocarbons (PAHs) only for MW-8 (using USEPA Test Methods 8260C and
 8270D, respectively) during the June, September, and December monitoring
 events. The analytical results for benzene and PAHs are shown in Tables 3 and 4,
 respectively;
- Ten monitor wells were monitored for the presence of LNAPL, and a summary of the LNAPL thicknesses is graphed on Figure 6 and also included in Table 5;
- 2015 groundwater sampling was conducted in each of the five required off-site monitor wells (MW-3S, MW-3D, MW-6S, MW-6D, and MW-9S) in June, September, and December. In addition, sampling was conducted at five on-site wells (MW-5, MW-8, MW-10, MW-11, and MW-17) in June, September, and December 2015; and
- Extraction system operations and maintenance reports were not prepared because the extraction system was shut down in June 2008 due to an absence of LNAPL in Recovery Well MW-10.

2. Groundwater Elevation, Hydraulic Gradient, and Flow Direction

The hydraulic gradient beneath the former Brickland Refinery varies slightly across the site. This variability is in part a response to river stage fluctuations. In June, September, and December 2015 the gradient was approximately 0.0008, 0.0006, and 0.0003 foot per foot, respectively. The groundwater flow direction is generally to the southeast, parallel to the river.

Historical groundwater elevations for the monitor wells are provided in Table 2. Water levels are not listed for the well points because the well points were specifically designed to detect LNAPL at a discrete depth and the screened intervals do not correlate with the monitor well screens. Groundwater elevation contour maps for the June, September, and December 2015 monitoring events are depicted on Figures 3, 4, and 5, respectively.

Groundwater levels in the monitor wells are influenced by the stage of the Rio Grande bordering the site. Due to observed seasonal fluctuations in the river, water

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levels in the monitor wells may vary as much as 2 feet over the course of a year. Monitoring of groundwater elevation since June 2003 indicates a consistent pattern of higher water elevations in the wells and the river during summer sampling events and lower water elevations during the winter sampling events.

3. LNAPL Removal

3.1 LNAPL Product Thickness

The occurrence of LNAPL in each well point and in MW-10 was tested with an oil/water interface meter; the potential occurrence of LNAPL in other monitor wells was evaluated visually during gauging of water levels with an electronic water level meter. In June 2015, measureable product was observed in MW-10. Measureable thicknesses of LNAPL were not found in any other wells during the three 2015 monitoring events. Recent and historical measurements dating back to June 2003 are graphed on Figure 6 and listed in Table 5.

LNAPL thickness maps were not prepared for this report because no wells contained measurable amounts of LNAPL.

3.2 Removal and Disposal of LNAPL

Historically, approximately 235 gallons of LNAPL have been removed from MW-10 since December 1998, when the product recovery system was installed. LNAPL yields were no longer recovered in measurable amounts during 2006 and 2007, and the recovery system was shut down/disconnected in June 2008. Subsequently, no LNAPL was removed from MW-10 in 2008, 2009, 2010, or 2011. In 2012, manual LNAPL removal was initiated for MW-10 in response to a measurable thickness present in MW-10 as of December 2011.

During the February 2015 LNAPL gauging and removal event, an odor was observed in MW-10, but there was no sheen or product thickness present. A tar-like substance was observed in WP-14, but no measureable product was observed.

During the June 2015 sampling event, 0.42 foot of product was observed in MW-10. Three PIG® absorbent socks were installed in MW-10, and they remained there until the following quarter. During the September and December 2015 sampling events, no measureable amount of LNAPL was observed in MW-10.



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4. Sample Collection and Laboratory Analytical Testing Procedures

4.1 Fluid Level Measurements and Decontamination

The interface probe was decontaminated prior to each use and between each well to prevent the introduction of external contamination or artifacts into a well. A wash and double-rinse decontamination procedure was used. The procedure consisted of washing the probe with Liquinox, a mild, non-phosphate detergent, then twice rinsing with water.

4.2 Calibration of the Multi-Probe Water Analyzer

The multi-probe analyzer was calibrated by Geotech prior to use at the site. Each calibration was carried out in accordance with the equipment manufacturer's procedures and recommendations.

4.3 Well Purging and Field Parameter Measurements

The monitor wells were purged using low-flow/low-stress techniques prior to sampling. Low-flow purging involves removing small volumes of groundwater at very low pumping rates until certain field parameters have stabilized. Field parameter measurements were recorded while each well was purged through the multi-probe flow cell. The groundwater temperature, pH, specific conductance, dissolved oxygen, oxidation reduction (redox) potential, and turbidity were documented on the Water Sampling Logs provided in Appendix B. Purging of each well was continued until three consecutive readings for three field parameters (dissolved oxygen, redox potential, and turbidity) stabilized within 10 percent of one another. When stabilization was achieved, well purging was discontinued and the well was sampled. The total volume of water purged prior to sample collection was recorded on the Water Sampling Logs for each well. The purged water was containerized for disposal.

Approximately 3 gallons of purge water were removed from each well. Field data collected during the purging of each well are provided in Appendix B. Groundwater odor, color, and other physically apparent characteristics were documented. Monitor well integrity was also documented (see the Daily Reports provided in Appendix B).

During the June 2015 event, four of the wells sampled were equipped with dedicated pumps (Micropurge Bladder Pumps). Wells not equipped with dedicated pumps



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were purged with peristaltic pumps. The dedicated pump for Monitor Well MW-3S was not operational; therefore, purging and sampling were accomplished with a peristaltic pump. All tubing used with the peristaltic pump was dedicated and/or replaced at each well. The other wells are equipped with dedicated pumps; therefore, no decontamination was required. Approximately 30 gallons of water were purged from the sampled monitor wells during the June, September, and December 2015 monitoring events. The purged water collected during these monitoring events will be collected by Safety-Kleen for subsequent nonhazardous disposal at an approved facility.

4.4 Groundwater Sample Collection

Samples were collected for laboratory analysis in the order of volatility of the analytical parameters (benzene first and PAH second). All samples were labeled with the sampling location, date, time, and testing requirements on self-adhering labels provided by the laboratory.

4.4.1 Benzene

The groundwater samples were analyzed by USEPA Method 8260C for benzene. Sample containers for volatile organic compounds were three 40-milliliter (mL) unpreserved glass vials. Water was collected from the well via tubing directly into the glass vial until a convex meniscus formed above the lip of the bottle. Once capped, the vial was checked for air bubbles (headspace) by turning it upside down, tapping the cap of the inverted bottle, and visually inspecting the bottle contents. No bubbles were observed in the vials shipped to the laboratory.

4.4.2 Polynuclear Aromatic Hydrocarbons

Samples collected from Monitor Well MW-8 in the June, September, and December 2015 monitoring events were analyzed by USEPA Method 8270D for the presence of PAHs. Sample containers for PAHs were three 40-mL glass vials with no preservative. Water was collected from the well via tubing placed directly into the sample container until filled to the neck.

4.5 Field Quality Assurance/Quality Control (QA/QC)

The Field QA/QC program includes collection of field blanks, equipment blanks, and duplicate samples. The water samples collected during the monitoring events were



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placed in ice-filled coolers immediately after collection and shipped to ALS Environmental in Houston, Texas, for analysis. In each event, chain-of-custody forms documenting sample identification numbers, the required analysis for each sample, collection times, and delivery times to the laboratories were completed for each set of samples. Copies of chain-of-custody forms are provided in Appendix C. Descriptions of the QA/QC samples and evaluation of QA/QC results for 2015 are presented below.

4.5.1 Field Blanks

Field blanks were used to determine potential absorption of volatile organics from the ambient air into the water samples. The blanks for volatile organics were collected by filling three 40-mL glass vials with distilled water at the time of sampling. Field blanks were analyzed for benzene and PAHs during the June, September, and December 2015 sampling events. None of the constituents were detected in the field blanks collected during the three sampling events.

4.5.2 Equipment Blanks

Equipment blanks were collected on non-dedicated or new sampling equipment. During the June, September, and December sampling events, equipment blanks were collected for the Teflon® dipper and the water level indicator. Immediately following decontamination, equipment blanks were collected by pouring distilled water over the equipment, then filling three 40-mL glass vials with the water from the equipment. The equipment blanks were analyzed for benzene and PAHs during the June, September, and December sampling events.

During the September 2015 sampling event, phenanthrene was detected in EB091615. This was the only constituent detected in any of the equipment blanks collected during the three sampling events. The isolated detection in the blank may be attributed to ambient conditions unrelated to the site.

4.5.3 Duplicate Samples

Two duplicate samples were collected during each of the three 2015 monitoring events. The duplicate samples collected during the June monitoring event were collected from Monitor Wells MW-6S and MW-8. The duplicate samples collected during the September and December monitoring events were collected from Monitor Wells MW-8 and MW-17.



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The duplicate sample results from June at MW-6S had no significant variation with the original sample. The non-detect analytical result for benzene in the duplicate sample was consistent with the non-detect original result in MW-6S. The duplicate sample results for PAHs were within a 31 percent difference of the original MW-8 results. Acenaphthene was detected below the NMWQCC standard in the duplicate sample, while the original sample was reported as a non-detect. Acenaphthylene and naphthalene were reported as non-detects in the duplicate sample, but were reported as low detections in the original sample. Analytical results for all other PAHs in the duplicate sample were consistent with the original results in MW-8.

The duplicate sample results from September at MW-17 had no significant variation with the original sample. The non-detect analytical result for benzene in the duplicate sample was consistent with the non-detect original result in MW-17. The duplicate sample results for PAHs were within 14 percent difference of the original MW-8 results. Non-detect analytical results for all other PAHs in the duplicate sample were consistent with non-detect original results in MW-8.

The duplicate sample results from December at MW-17 had no significant variation with the original sample. The non-detect analytical result for benzene in the duplicate sample was consistent with the non-detect original result in MW-17. The duplicate sample results for PAHs were within 10 percent difference of the original MW-8 results. Non-detect analytical results for all other PAHs in the duplicate sample were consistent with non-detect original results in MW-8.

5. Groundwater Analytical Results

5.1 Benzene

According to the Stage 2 Abatement Plan, benzene concentrations are measured quarterly during the June, September, and December sampling events. Benzene was reported in concentrations above the NMWQCC standard of 10 micrograms per liter (µg/L) in samples collected from Wells MW-5 and MW-8 in June, September, and December 2015 and in MW-10 in June 2015. The benzene concentration detected at MW-5 in September 2015 decreased from the detection in June 2015, but it increased at that location in December 2015. The benzene concentration detected at MW-8 in December 2015 was less than concentrations reported in June and September 2015. Benzene was detected above the NMWQCC standard at MW-10 in June 2015 and was not detected in the subsequent sampling events in September and December 2015.



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Laboratory results for benzene analyses are shown in Table 3 and copies of the laboratory reports are provided in Appendix C.

5.2 Polynuclear Aromatic Hydrocarbons

Samples collected from MW-8 were analyzed for PAHs in June, September, and December 2015. Concentrations were reported below the NMWQCC standard of $30 \mu g/L$ for total PAHs. Laboratory results for PAH analyses are shown in Table 4 and copies of the laboratory reports are provided in Appendix C.

6. Remediation Performance

6.1 Bioremediation Pilot Testing

Absorbent socks were used during 2011 and the first half of 2012 as a pilot test evaluating bioremediation by enhancing natural attenuation. The absorbent socks use a patented calcium peroxide (45-70 percent composition) and calcium hydroxide (10-20 percent composition) solid granular material to react with water to release oxygen slowly, which stimulates aerobic biodegradation of groundwater contaminants.

6.2 Product Recovery

During the June 2015 sampling event, 0.42 foot of product was observed in MW-10. As stated in Section 3.2, three PIG® absorbent socks were installed in MW-10, and they remained there until the following quarter. During the September and December 2015 sampling events, no measureable amount of LNAPL was observed in MW-10.

7. Other Site Activities

As approved by the NMOCD, monitor wells that are no longer used to collect groundwater quality data were plugged and abandoned. Additionally, soil excavation was conducted at the location of WP-14. Summaries of these activities are provided below.

7.1 Monitor Well Plugging and Abandonment

On July 20, 2015, Huntsman observed and provided field oversight for the plugging and abandonment of 21 monitor wells. A New Mexico-licensed well driller was retained



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to conduct the plugging and abandonment. A summary report was provided to NMOCD on September 17, 2015 (Appendix D).

7.2 WP-14 Soil Excavation

The soil excavation program at WP-14 was initiated on November 11, 2015. The initial excavation activities were conducted at the former WP-14 location to determine if tar-like material observed during groundwater gauging events was pooling around the WP-14 location. During the excavation, a seam of tar was observed approximately 2.5 feet below land surface. As the excavation progressed, a corroded pipe was observed east of WP-14. It was assumed that the pipe may have served as a source for the tar material. The pipe was immediately removed during the excavation.

The excavation proceeded to remove all soil with tar staining. Soil was transported off site for disposal at an authorized facility. Following soil removal, the excavated area was backfilled using clean fill material borrowed from an on-site area. A summary report for the excavation was provided to NMOCD on February 8, 2016 (Appendix E).

8. Conclusions

Overall, the reported concentrations in groundwater appear to be stable or decreasing. During the 2015 reporting period, benzene concentrations from three wells (MW-5, MW-8, and MW-10) exceeded NMWQCC standards; PAHs were reported below NMWQCC standards. Review of laboratory results shows a general decrease in benzene concentrations in MW-5, MW-8, and MW-10. This decreasing trend will be verified with future sampling events.

The 2015 sampling events confirm that residual LNAPL is present at the site with the presence of product observed in June 2015.

9. Recommendations

Based upon the data collected during the 2015 sampling program, the following recommendations are proposed for the remediation system and monitoring operations at the former Brickland Refinery.

 Continue LNAPL removal, if present, at MW-10 by bailing or pumping at quarterly intervals;



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- Continue monitoring of benzene in MW-5, MW-8, and MW-10 to evaluate trends in groundwater concentrations;
- Continue monitoring of PAH in MW-8 to evaluate trends in groundwater concentrations; and
- Continue groundwater sampling at MW-3S, MW-3D, MW-6S, MW-6D, MW-9S, MW-11, and MW-17.

Table 1. Water Sampling and Purging Methods, 2015 Annual Groundwater Monitoring Report, Former Brickland Refinery, Sunland Park, New Mexico, Huntsman International LLC.

| Well No. | Sample Date | Purge Method | Sampling Method | Purge Volume | Leboratory Analytes |
|-------------------|---------------------|-----------------|--------------------|---------------|------------------------|
| ITEN NO. | 1 | Low-Flow | Peristaltic | Approximately | |
| | 8/10/2015 | Purge | Pump | 3 gallons | Benzene |
| | | Low-Flow | Peristaltic | Approximately | |
| MW-3S | 9/14/2015 | | Pump | | Benzene |
| | | Purge | | 3 gallons | |
| | 12/2/2015 | Low-Flow | Peristaltic | Approximately | Benzene |
| | | Purge | Pump | 3 gallons | |
| | 6/10/2015 | Low-Flow | Dedicated | Approximately | Benzene |
| | | Purge | Bladder Pump | 3 gallons | |
| MW-3D | 9/14/2015 | Low-Flow | Peristaltic | Approximately | Benzene |
| | | Purge | Pump | 3 gallons | |
| | 12/2/2015 | Low-Flow | Peristaltic | Approximately | Benzene |
| | 1222010 | Purge | Pump | 3 gallons | Delizerie |
| | 6/9/2015 | Low-Flow | Peristaltic | Approximately | Benzene |
| | W8/2013 | Purge | Pump | 3 gallons | Denzene |
| MW-5 | 0/45/2045 | Low-Flow | Peristaltic | Approximately | D |
| MAA-9 | 9/15/2015 | Purge | Pump | 3 gallons | Benzene |
| | | Low-Flow | Peristaltic | Approximately | |
| | 12/3/2015 | Purge | Pump | 3 gallons | Benzene |
| | | Low-Flow | Dedicated | Approximately | |
| | 6/10/2015 | Purge | Bladder Pump | 3 gallons | Benzene |
| | | Low-Flow | Peristaltic | Approximately | |
| MW-6S | 9/15/2015 | | Pump | | Benzene |
| | ···· | Purge | | 3 gallons | |
| | 12/3/2015 | Low-Flow | Peristaltic | Approximately | Benzene |
| | | Purge | Pump | 3 gallons | |
| | 6/10/2015 | Low-Flow | Dedicated | Approximately | Benzene |
| | | Purge | Bladder Pump | 3 gallons | |
| MW-6D | 9/15/2015 | Low-Flow | Peristaltic | Approximately | Benzene |
| 02 | G/10/2010 | Purge | Pump | 3 gallons | Denzono |
| | 12/3/2015 | Low-Flow | Peristaltic | Approximately | Benzene |
| | 12/3/2013 | Purge | Pump | 3 galions | DOILEGIE |
| | 6/9/2015 | Low-Flow | Peristaltic | Approximately | Daniel DAII |
| | 0/9/2015 | Purge | Pump | 3 gallons | Benzene, PAH |
| A # 44 O | 04407045 | Low-Flow | Peristaltic | Approximately | |
| MW-8 | 9/16/2015 | Purge | Pump | 3 gallons | Benzene, PAH |
| | | Low-Flow | Peristaltic | Approximately | |
| | 12/4/2015 | Purge | Pump | 3 gallons | Benzene, PAH |
| | | Low-Flow | Dedicated | Approximately | |
| | 6/10/2015 | Purge | Bladder Pump | 3 gallons | Benzene |
| | | Low-Flow | Peristaltic | Approximately | |
| MW-9S | 9/15/2015 | Purge | Pump | 3 gallons | Benzene |
| | | Low-Flow | Peristaltic | | |
| | 12/3/2015 | | | Approximately | Benzene |
| | | Purge | Pump | 3 gallons | |
| | 6/8/2015 | Low-Flow | Peristaltic | Approximately | Benzene |
| | | Purge | Pump | 3 gallons | |
| MW-10 | 9/16/2015 | Low-Flow | Peristaltic | Approximately | Benzene |
| | | Purge | Pump | 3 gallons | |
| | 12/4/2015 | Low-Flow | Peristaltic | Approximately | Benzene |
| | 12.7720.0 | Purge | Pump | 3 gallons | 2012016 |
| | 6/9/2015 | Low-Flow | Peristaltic | Approximately | Benzene |
| | 0/8/2010 | Purge | Pump | 3 gailons | Delizerie |
| MW-11 | 9/14/2015 | Low-Flow | Peristaltic | Approximately | Benzene |
| 14144-11 | 8/14/2015 | Purge | Pump | 3 gallons | Denzene |
| | 1200045 | Low-Flow | Peristaltic | Approximately | Decree |
| | 12/2/2015 | Purge | Pump | 3 gallons | Benzene |
| | 000000 | Low-Flow | Peristaltic | Approximately | 0 |
| | 6/9/2015 | Purge | Pump | 3 galions | Benzene |
| A | A14.4:22.12 | Low-Flow | Peristaltic | Approximately | |
| MW-17 | 9/14/2015 | Purge | Pump | 3 gallons | Benzene |
| | | Low-Flow | Peristaltic | Approximately | |
| | 12/2/2015 | Purge | Pump | 3 gallons | Benzene |
| tal valume aurora | during semiannual n | | | o gailons | 30 gallons |
| | | | | 15. | • |
| | during semiannual r | | | | 30 gallons |
| un volume purged | during semiannual r | nonitoring even | k in December 20. | ı 5 . | 30 gallons |
| | during semiannual n | | | | 90 gallons |

Notes:

PAH = Polynuclear aromatic hydrocarbon.

Table 2. Monitor Well Groundwater Elevations, 2015 Annual Groundwater Monitoring Report, Former Brickland Refinery, Sunland Park, New Mexico, Huntsman International LLC.

| Well ID | тос | 6/18/2003 | 12/16/2003 | 6/16/2004 | 12/16/2004 | 6/15/2005 | 12/14/2006 | 6/13/2006 | 12/14/2006 | 6/13/2007 | 12/11/2007 | 6/25/2008 | 1/7/2009 | 6/30/2009 | 12/9/2009 | 6/21/2010 | 12/7/2010 | 6/28/2011 | 12/13/2011 | 6/19/2012 | 12/11/2012 | 6/11/2013 | 12/3/2013 | 6/9/2014 | 12/9/2014 | 6/8/2015 | 9/14/2015 | 12/2/2015 |
|-----------------------------------------|---------|-----------|------------|-----------|------------|-----------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------|-----------------|-----------------|-----------------|-----------------|
| | | | | | | - | | | | | | | | 0.00.200 | | | | | | 0.1012012 | | | | | | | Plugged | Plugged |
| MW-1 | 3730.57 | 3725.55 | 3723.69 | 3725.56 | 3723.6 | 3726.5 | 3724.01 | 3725.89 | 3724.29 | 3726.74 | 3724.57 | 3726.88 | 3724.4 | 3726.94 | 3724,20 | 3726.79 | 3724.08 | 3726.27 | 3723.93 | 3725.83 | 3724.01 | 3725.80 | 3724.07 | 3726,26 | 3723.96 | 3726,46 | 7/15 | 7/15 |
| MW-2 | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged |
| 14177-2 | riugged | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 |
| MW-3\$ | 3730.00 | 3724.65 | 3722.69 | 3724.61 | 3722.71 | 3725.56 | 3723.1 | 3725.02 | 3723.34 | 3725.82 | 3723.49 | 3725.99 | 3723.53 | 3725.98 | 3723.24 | 3725.88 | 3723.15 | 3725.35 | 3723.05 | 3724.86 | 3723.03 | 3724.68 | 3723.08 | 3725.27 | 3722.84 | 3725.70 | 3725.16 | 3722.57 |
| MW-3D | 3730.00 | 3724.57 | 3722.61 | 3724.62 | 3722.64 | 3725.49 | 3723.04 | 3724.96 | 3723 29 | 3725.78 | 3723.57 | 3725.96 | 3723.5 | 3725.92 | 3723.68 | 3725.83 | 3723.07 | 3725.37 | 3722.93 | 3724.96 | 3722.91 | 3724.81 | 3723.28 | 3725.37 | 3722.74 | 3725.62 | 3725.27 | 3722.48 |
| | | | | | | | | | | | | | | | | | | | | | | | | | l | | Plugged | Plugged |
| MW-4 | 3728.86 | 3724.87 | 3722,88 | 3724.76 | 3722.96 | 3725.75 | 3723.37 | 3725.21 | 3723.62 | 3726.06 | 3723,77 | 3726,26 | 3723.82 | 3726.22 | 3723.52 | 3726.41 | 3723.41 | 3725.51 | 3723.26 | 3725.11 | 3723.20 | 3724.73 | 3723.34 | 3725.35 | 3723.05 | 3725.72 | 7/15 | 7/15 |
| MW-5 | 3729.70 | 3724.91 | 3722,85 | 3724.83 | 3722.98 | 3725.68 | 3723.38 | 3725.15 | 3723.65 | 3726.02 | 3723.84 | 3726.14 | 3723.85 | 3726.21 | 3723.51 | 3726.13 | 3723.54 | 3725.50* | 3722.13* | 3724.91* | 3723.27 | 3724.66 | 3723.37 | 3725.22 | 3723.14 | 3725.60 | 3725.40 | 3722,79 |
| MW-6S | 3730.65 | 3724.4 | 3722.38 | 3724.4 | 3722.45 | 3725.21 | 3722.9 | 3724.76 | 3722.99 | 3725.53 | 3723.13 | 3725.7 | 3723.29 | 3725.68 | 3722.99 | 3725.70 | 3722.83 | 3725.11 | 3722.69 | 3724.70 | 3722.71 | 3724.50 | 3722.61 | 3725.07 | 3722.50 | 3725.32 | 3725.03 | 3722.35 |
| MW-6D | 3730.62 | 3724.36 | 3722.33 | 3724.38 | 3722.41 | 3725.22 | 3722.86 | 3724.74 | 3722.98 | 3725.58 | 3723.28 | 3725.76 | 3723.25 | 3725.69 | 3722.95 | 3725.62 | 3722.85 | 3725.06 | 3722.76 | 3724.67 | 3722.70 | 3724.54 | 3722.59 | 3725.19 | 3722,46 | 3725.39 | 3724.99 | 3722.26 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | Plugged | Plugged |
| | 3728.96 | 3724.76 | 3722.69 | 3724.75 | 3722.82 | 3725.53 | 3723.24 | 3725.06 | 3723.45 | 3725.92 | 3723.78 | 3726.05 | 3723.64 | 3726.39 | 3723.42 | 3725.99 | 3723.26 | 3725.43 | 3723.04 | 3724.99 | 3723.08 | 3724.73 | 3723.06 | 3725.39 | 3722.93 | 3725.70 | 7/15 | 7/15 |
| MW-8 | 3729.22 | 3724.67 | 3722,63 | 3724.62 | 3722.84 | 3725.28 | 3723.25 | 3724.91 | 3723.46 | 3725.53 | 3723.67 | 3725.79 | 3723.62 | 3725.78 | 3723.39 | 3725.53 | 3723.22 | 3725.25* | 3721.89* | 3724.76* | 3723.05 | 3723.87 | 3723.04 | 3724.46 | 3722.89 | 3724.76 | 3725.24 | 3722.59 |
| MW-9S | 3730.01 | 3724.04 | 3722.02 | 3723.97 | 3722.18 | 3724.85 | 3722.65 | 3724.39 | 3722.89 | 3725.4 | 3723.17 | 3725.41 | 3723.17 | 3725.41 | 3722.88 | 3725.35 | 3723.23 | 3725.16 | 3722.32 | 3724.33 | 3722.49 | 3723.98 | 3722.38 | 3724.68 | 3722.32 | 3724.92 | 3724.74 | 3722.14 |
| MW-9D | 3730.08 | Dry | Dry | Dry | Dry | Dry | Plugged 7/05 | Plugged 7/05 | Plugged 7/05 | Plugged 7/05 | Plugged 7/05 | Plugged | Plugged 7/05 | Plugged | Plugged 7/05 | Plugged 7/05 | Plugged 7/05 | Plugged 7/05 |
| MW-10 | 3732.54 | 3725.67 | 3722.31 | 3724.41 | 3722.56 | 3725.24 | 3723.11 | 3724.53 | 3723.29 | 3725.83 | 3723.54 | 3732.54 | 3723.47 | 3725.82 | 3723.22 | 3725.73 | 3722.91 | 3724.87* | 3722.21* | 3724.34 | 3722.55 | 3724.56 | 3722.79 | 3724.88 | 3722.72 | 3725.01 | 3725.08 | 3722.36 |
| | 3731.40 | 3724.51 | 3721.17 | 3724.42 | 3722.74 | 3725.24 | 3723.21 | 3724.65 | 3723.43 | 3725.77 | 3723.62 | 3725.74 | 3723.53 | 3725.76 | 3723.30 | 3725.69 | 3723.17 | 3724.95 | 3722.94 | 3724.64 | 3722.98 | 3723.80 | 3722.95 | 3724.48 | 3722.78 | 3724.69 | 3725.08 | 3722.54 |
| 1 | 0701.40 | 0,24.01 | 5721.17 | 0724.42 | UI ZZ., I | 0720.24 | 0,20.21 | 0724.00 | 0720.40 | 0720.77 | 0720.02 | 0720.74 | 0720.00 | 0720.70 | 0720.00 | 3723.03 | 0720.17 | 0724.50 | 0722.04 | 0724.04 | 0722.00 | 0720.00 | 0122.00 | 0/21110 | 0/220 | 172.111 | Plugged | Plugged |
| MW-12 | 3730.35 | 3725.93 | 3724.09 | 3725.9 | 3723.86 | 3726.74 | 3724.4 | 3726.24 | 3724.66 | 3727.1 | 3724.8 | 3726.95 | 3724.79 | 3727.28 | 3724.49 | 3727.08 | 3724.52 | 3726.70 | 3724.79 | 3726.21 | 3724.33 | 3726.00 | 3724.30 | 3726.54 | 3724.14 | 3726.73 | 7/15 | 7/15 |
| M\A/-13 | 3732.36 | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged | Plugged |
| 10100-13 | 3732.36 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 | 6/99 |
| | | | | | | | | l i | | | | | | | | | | | | | | | | | | | Plugged | Plugged |
| MVV-14 | 3730.46 | 3725.3 | 3722.79 | 3724.81 | 3722.88 | 3725.67 | 3723.3 | 3725.17 | 3723.55 | 3726.03 | 3723.82 | 3726.13 | 3723.77 | 3726.14 | 3723.45 | 3726.06 | 3723.58 | 3725.49 | 3723.44 | 3725.09 | 3724.84 | 3724.70 | 3724.16 | 3725.31 | 3723.01 | 3725.66 | 7/15 Plugged | 7/15 |
| MW-15 | 3738.62 | 3724.35 | 3722.38 | 3724.28 | 3722.58 | 3725.16 | 3723.04 | 3724.69 | 3723.42 | 3725.75 | 3723.57 | 3725.73 | 3723.58 | 3725,74 | 3723.26 | 3725.62 | 3723.26 | 3724,99 | 3723.15 | 3724.63 | 3722.81 | 3724.19 | 3722.74 | 3724.83 | 3722.60 | 3725.06 | 7/15 | Plugged 7/15 |
| .,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | | | 01,22,00 | | | 0/20110 | 0,20,0 | 0727.00 | 0,20,12 | 0720.70 | 0,20.0, | 0720.70 | 0720.00 | 0/20,// | 0.20.20 | 0,20,02 | 0.20.20 | 0.20 | 0/20:10 | 0.20.00 | 3,22.0, | | | 17.5.12.5. | | | Plugged | Plugged |
| MW-16 | 3736.78 | 3724.17 | 3722.14 | 3724.13 | 3722.34 | 3725 | 3722.78 | 3724.48 | 3723.05 | 3725.53 | 3723.29 | 3725.51 | 3723.28 | 3725.51 | 3722.99 | 3725.43 | 3722.78 | 3724.87 | 3724.76 | 3724.64 | 3724.71 | 3724.12 | (1) | 3724.73 | 3722.70 | 3724.99 | 7/15 | 7/15 |
| MW-17 | 3731.98 | 3724.67 | 3722.61 | 3724.67 | 3722.71 | 3725.53 | 3723.15 | 3725.06 | 3723.33 | 3725.93 | 3723.63 | 3726 | 3723.63 | 3726.02 | 3723.28 | 3726.02 | 3723.17 | 3725.40 | 3723.02 | 3724.95 | 3723.05 | 3724.80 | 3722.91 | 3725.44 | 3722.77 | 3725.69 | 3725.28 | 3722.56 |

Notes:
All units are feet mean sea level.

* = Oxygen-releasing compound sleeves/socks (O-Sox) were utilized at these wells to enhance natural attenuation. Water elevations may be artificially lowered due to displacement caused by the O-Sox.

(1) = Roots on probe.

Dry = Monitoring point was dry.

Plugged = Plugged and abandoned as of specified date.

TOC = Top of casing.

Table 3. Benzene Concentrations in Monitor Wells, 2015 Annual Groundwater Monitoring Report, Former Brickland Refinery, Sunland Park, New Mexico, Huntsman International LLC.

| Well | Language Date State Co. | Benzene (ggl.) |
|----------------------|-------------------------|----------------|
| | 6/19/2003 | ND |
| | 12/17/2003 | ND |
| | 6/16/2004 | ND |
| | 12/16/2004 | ND |
| | 6/15/2005 | ND ND |
| | 12/16/2005 | ND ND |
| | 6/15/2006 | ND ND |
| | | |
| | 12/14/2006 | ND |
| | 6/14/2007 | ND |
| | 12/17/2007 | ND |
| | 6/24/2008 | <1 |
| | 1/8/2009 | <1 |
| ĺ | 7/1/2009 | <1 |
| MW-3S | 12/10/2009 | <1 |
| l | 6/23/2010 | <0.20 |
| | 12/7/2010 | <0.20 |
| | 6/29/2011 | <1 |
| | 12/14/2011 | <1 |
| | 6/19/2012 | <0.20 |
| | 12/11/2012 | <0.20 |
| | | |
| | 6/12/2013 | ۷ |
| | 12/4/2013 | <5 |
| | 6/9/2014 | <0.60 |
| | 12/10/2014 | <1 |
| | 6/10/2015 | <1 |
| | 9/14/2015 | <1 |
| | 12/2/2015 | <1 |
| | 6/19/2003 | ND |
| 1 | 12/17/2003 | ND, ND |
| | 6/16/2004 | ND |
| l | 12/16/2004 | ND ND |
| | 6/15/2005 | ND ND |
| | | |
| | 12/16/2005 | ND ND |
| | 6/15/2006 | ND |
| | 12/14/2006 | ND |
| | 6/14/2007 | ND |
| | 12/17/2007 | ND |
| | 6/24/2008 | <1 |
| | 1/8/2009 | <1 |
| | 7/1/2009 | <1 |
| MW-3D ^(a) | 12/10/2009 | <1 |
| I | 6/23/2010 | <0.20 |
| l . | 12/7/2010 | <1 |
| i | 6/29/2011 | ٠ |
| l | 12/14/2011 | <1 |
| | | <0.20 |
| I | 6/19/2012 | |
| I | 12/11/2012 | <0.20 |
| i | 6/12/2013 | <1 |
| i | 12/4/2013 | \$ |
| I | 6/9/2014 | <0.60 |
| I | 12/10/2014 | <1 |
| I | 6/10/2015 | <1 |
| | 9/14/2015 | <1 |
| l | 12/2/2015 | <1 |
| | 6/21/2010 | 2,200 |
| | 6/30/2011 | 870 |
| | 12/13/2011 | 2,000 |
| | 7/20/2012 | 400 |
| 1 | | |
| | 12/13/2012 | 1100, 910 |
| MW-5(A) | 6/13/2013 | 1,200 |
| | 12/4/2013 | 140 |
| | 6/10/2014 | 420 |
| | 12/10/2014 | 580 |
| | 6/9/2015 | 1,900 |
| | 9/15/2015 | 73 |
| | 12/3/2015 | 450 |
| • | | |

Table 3. Benzene Concentrations in Monitor Wells, 2015 Annual Groundwater Monitoring Report, Former Brickland Refinery, Sunland Park, New Mexico, Huntsman International LLC.

| Wei | Date | Benzene (µg/L) |
|-----------------------|-------------------------|---------------------|
| | 6/19/2003 | ND |
| | 12/17/2003 | ND |
| | 6/16/2004 | ND, ND |
| | 12/16/2004 | ND, ND |
| 1 | 6/15/2005 | 0.8 |
| | 12/16/2005 | ND |
| | 6/15/2006 | ND, ND |
| | 12/14/2006 | 11, 6.1 |
| | 6/14/2007 | ND, ND |
| | 12/17/2007 | ND, ND |
| | 6/25/2008 | <1 |
| | 1/8/2009 | ্ধ |
| ****** | 7/1/2009 | 1.7, 1.8 |
| MW-65 ⁽²⁶⁾ | 12/11/2009 6/24/2010 | <10000, <10000 |
| | 12/8/2010 | <1, <1 <0.20 |
| | 6/29/2011 | |
| | 12/16/2011 | 0.61J, <1 <1, <1 |
| | 6/21/2012 | 4,4 |
| | 12/12/2012 | <0.20 |
| | 6/12/2013 | <1,<1 |
| | 12/4/2013 | <10, <10 |
| | 6/10/2014 | <0.60, <0.60 |
| | 12/9/2014 | <1 |
| | 6/10/2015 | <1, <1 |
| | 9/15/2015 | <1 |
| | 12/3/2015 | <1 |
| | 6/19/2003 | ND |
| | 12/17/2003 | ND |
| | 6/16/2004 | ND |
|] | 12/16/2004 | ND |
| 1 | 6/15/2005 | ND |
| | 12/16/2005 | ND |
| | 6/15/2006 | ND |
| | 12/14/2006 | ND |
| | 6/14/2007 | ND |
| | 12/17/2007 | ND |
| | 6/25/2008 | <1 |
| | 1/8/2009 | <1 |
| MW-6D ^(a) | 7/1/2009 12/11/2009 | <1 <1 |
| MAA-9D. | | |
| 1 | 6/24/2010 12/8/2010 | <0.20 <1 |
| | 6/29/2011 | |
| ŀ | 12/16/2011 | <1 <1 |
| | 6/21/2012 | <0.20 |
| 1 | 12/12/2012 | <0.20 |
| | 6/12/2013 | <1 |
| i i | 12/4/2013 | < 5 |
| 1 | 6/10/2014 | <0.60 |
| Į t | 12/9/2014 | <1, <1 |
| | 6/10/2015 | <1 |
| 1 [| 9/15/2015 | <1 |
| | 12/3/2015 | <1 |
| ı ¬ | 6/22/2010 | 6,800 |
| i . | 6/30/2011 | 460 |
| l ; | 12/14/2011 | 9,900 |
| | 7/20/2012 | 2,700 |
|] | 12/13/2012 | 5,500 |
| MW-8 | 6/13/2013 | 4,700 |
| | 12/4/2013 6/10/2014 | 270 |
|] | 12/10/2014 | 3,300 1,600 |
|] | 6/9/2015 | 5,100 |
| I ⊦ | 9/16/2015 | 2,400 |
|] | 12/4/2015 | 970 |
| | 1242013 | 3/0 |



Table 3. Benzene Concentrations in Monitor Wells, 2015 Annual Groundwater Monitoring Report, Former Brickland Refinery, Sunland Park, New Mexico, Huntsman International LLC.

| Well | Date . | Benzene (ug/L) |
|----------------------|------------------------|--------------------------------------------------|
| | 6/19/2003 | ND, ND |
| | 12/17/2003 | ND |
| | 6/16/2004 | ND |
| | 12/16/2004 | ND |
| | 6/15/2005 | ND |
| | 12/16/2005 | ND |
| | 6/15/2006 | ND |
| | 12/14/2006 | ND |
| | 6/14/2007 | ND ND |
| | 12/17/2007 | ND |
| | 6/24/2008 | <1 |
| | 1/8/2009 | <1 |
| | 7/2/2009 | <1 |
| MW-9S | 12/10/2009 | <1 |
| | 6/23/2010 | <0.20 |
| | 12/8/2010 | <0.20 |
| | 6/29/2011 | <1 |
| | 12/15/2011 | <1 |
| Ī | 6/21/2012 | <0.20 |
| | 12/12/2012 | <0.20 |
| I | 6/12/2013 | <1 <25 |
| | 12/4/2013 6/9/2014 | <0.60 |
| I | 12/9/2014 | <0.60 |
| | 6/10/2015 | <1 |
| | 9/15/2015 | \ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ |
| | 12/3/2015 | <1 |
| | 6/24/2010 | <0.20 |
| | 6/30/2011 | <1 |
| | 12/14/2011 | 30 |
| | 7/20/2012 | 12 |
| | 12/13/2012 | 15 |
| | 6/13/2013 | 2.8 |
| MW-10 | 12/5/2013 | <25 |
| | 6/11/2014 | <0.60 |
| | 12/11/2014 | <1 |
| | 6/8/2015 | 23 |
| | 9/16/2015 | <1 |
| | 12/4/2015 | <1 |
| | 6/22/2010 | <0.20 |
| | 6/28/2011 | 4.7 |
| | 12/15/2011 | |
| | 6/19/2012 | - |
| | 12/12/2012 | - |
| MW-11 | 6/11/2013 | <1 |
| | 12/3/2013 | <25 |
| | 6/9/2014 | <0.60 |
| | 12/11/2014 | <1 |
| | 6/9/2015 | 1.3 |
| | 9/14/2015 | <1 |
| | 12/2/2015 6/22/2010 | <1 <0.20 |
| | 6/28/2010 | <1 |
| | 12/15/2011 | - " |
| | 6/19/2012 | <u> </u> |
| | 12/12/2012 | _ |
| | 6/11/2013 | 6.8 |
| MW-17 ^(a) | 12/4/2013 | <25 |
| | 6/9/2014 | <0.60 |
| | 12/10/2014 | <1 |
| | 6/9/2015 | <1 |
| | 9/14/2015 | <1,<1 |
| | 12/2/2015 | <1,<1 |
| NMWQCC Standard (| | 10 |

All units are micrograms per liter (µg/L).

- (a) = MW-3D, MW-5, MW-6S, MW-6D, and MW-17 and respective duplicate samples are reported in the same cell and separated by a comma.
- -= Sample not collected/analyzed for this constituent.

-* = Sample not collected/analyzed for this constituent in odd-numbered years.

BOLD = Concentrations in bold type indicate levels exceed NMWQCC standards.

J = The value is considered estimated by the laboratory as the analyte was detected below the laboratory's quantitation limit but above the laboratory's reporting limit. ND = Not detected.

NMWQCC = New Mexico Water Quality Control Commission.

Table 4. Total Polynuclear Aromatic Hydrocarbon Concentrations in Monitor Well MW-8, 2015 Annual Groundwater Monitoring Report, Former Brickland Refinery, Sunland Park, New Mexico, Huntsman International LLC.

| | | | | Y | | | | | | | | | | | | | | | | | | | _ | | | | 1.00 | | | |
|---------|-----------|-----------|-----------|-----------|------------|-----------|-----------|----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|-----------|----------|------------|---------------|--------------|
| Well ID | 12/8/1993 | 3/25/1994 | 7/12/1994 | 9/28/1994 | 12/13/1994 | 3/28/1995 | 6/21/1995 | 9/1/1995 | 6/21/1996 | 6/26/1997 | 6/25/1998 | 6/3/1999 | 6/14/2000 | 7/27/2001 | 6/27/2002 | 6/19/2003 | 6/16/2004 | 6/15/2005 | 6/14/2006 | 6/14/2007 | 6/25/2008 | 7/2/2009 | 7/21/2010 | 6/28/2011 | 6/19/2012 | 6/11/2013 | 6/9/2014 | 6/9/2015 | 9/16/2015 | 12/4/2015 |
| MW-8 | | 250 | 93 | 366 | 236 | 180 | | 140 | | - | _ | - | - | - | | | - | | | | _ | - | 2.21 | <0.20 | | 43.33 | 3.279 | 1.67, 0.86 | 9.723, 10.742 | 9.203, 8.707 |

| | | June 2015 Data | Detail | | |
|------|--------------|----------------|------------|-------------|--------------|
| Well | Acenaphthene | Acenaphthylene | Fluorene | Naphthalene | Phenanthrene |
| MW-8 | <0.20, 0.23 | 0.24, <0.20 | 0.45, 0.33 | 0.62, <0.20 | 0.36, 0.30 |

| | | September 2015 De | eta Detall | | |
|------|--------------|-------------------|--------------|-------------|--------------|
| Well | Acenaphthene | Acenaphthylene | Fluorene | Naphthalene | Phenanthrene |
| MW-8 | 0.463, 0.455 | 0.164, 0.189 | 0.684, 0.682 | 7.84, 8.85 | 0.572, 0.566 |

| | | December 2015 De | ta Detall | | 1 |
|------|--------------|------------------|--------------|-------------|--------------|
| Well | Acenaphthene | Acenaphthylene | Fluorene | Naphthalene | Phenanthrene |
| MW-8 | 0.328, 0.316 | 0.228, 0.252 | 0.583, 0.597 | 7.65, 7.13 | 0.414, 0.412 |

Notes:
All units are micrograms per liter (µg/L).
Total PAH concentration is the sum of the low-level PAHs listed in the data detail section.
Duplicate result reported with MW-8 line, following the comma.

— = Not sampled.

BOLD = Concentrations in bold type indicate levels exceed the New Mexico Water Quality Control Commission standard for PAH concentrations (30 µg/L).
PAH = Polynuclear aromatic hydrocarbon.

Table 5. LNAPL Thickness Measurements, 2015 Annual Groundwater Monitoring Report, Former Brickland Refinery, Sunland Park, New Mexico, Huntsman International LLC.

| Well ID | Jun-03 | Dec-03 | Jun-04 | Dec-04 | Jun-05 | Dec-05 | Jun-06 | Dec-06 | Jun-07 | Dec-07 | Jun-08 | Jan-09 | Jul-09 | Dec-09 | Jun-10 | Dec-10 | Jun-11 | Dec-11 | Jun-12 | Dec-12 | Jun-13 | Dec-13 | Jun-14 | Dec-14 | Jun-15 | Sep-15 | Dec-15 |
|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------------------|-------------------|-------------------|--------|--------|--------|
| MVV-1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 |
| MW-2 | P&A | P&A | P&A | P&A | P&A | P&A |
| MW-3S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| MW-3D | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| MW-4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| MW-5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | Sheen | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| MW-6S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| MW-6D | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| MW-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| MVV-8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| MW-9S | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| MW-10 | 0.00 | 0.13 | 0.08 | 0.05 | 0.10 | 0.00 | Trace | Trace | 0.00 | Trace | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.20 | 0.11 | 0.04 | 0.04 | Sheen | Sheen | 0.00 | 0.42 | 0.00 | 0.00 |
| MW-11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| MW-12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| MW-13 | P&A | P&A | P&A | P&A | P&A | P&A |
| MW-14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| MW-15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| MW-16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | NM ⁽¹⁾ | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| MW-17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| WP-1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | Sheen | Sheen | 0.00 | P&A | P&A | P&A |
| WP-2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | Trace | 0.00 | 0.00 | Sheen | 0.00 | P&A | P&A | P&A |
| WP-3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | Dry | 0.00 | Dry | 0.00 | Dry | Dry | Dry | P&A | P&A | P&A |
| WP-7 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | Trace | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | Sheen | Sheen | 0.00 | P&A | P&A | P&A |
| WP-14 | Tar | Trace | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | Tar | Tar | 0.33 | Tar | 0.00 | Tar/Dry | P&A | P&A | P&A |
| WP-25 | Dry | Dry | Dry | Dry | Dry | Dry | 0.70 | 0.52 | 0.54 | 0.52 | 0.45 | 0.08 | 0.07 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | Sheen | 0.00 | P&A | P&A | P&A |
| WP-26\$ | 0.35 | 0.60 | 0.63 | 0.66 | 0.66 | 0.52 | 0.58 | 0.47 | 0.48 | 0.35 | 0.73 | 0.38 | 0.25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | Sheen | Sheen | 0.00 | P&A | P&A | P&A |
| WP-26D | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | Sheen | Sheen | 0.00 | P&A | P&A | P&A |
| WP-27S | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | Trace | 0.02 | 0.00 | Trace | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | Sheen | 0.00 | 0.00 | P&A | P&A | P&A |
| WP-27D | 0.12 | 0.26 | 0.06 | 0.11 | 0.00 | 0.04 | 0.00 | 0.04 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | Sheen | Sheen | 0.00 | P&A | P&A | P&A |
| WP-30 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | P&A | P&A | P&A |
| WP-31 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | Dry | 0.00 | Dry | 0.00 | 0.00 | 0.00 | 0.00 | NM | NM | NM | NM | NM | 0.00 | NM ⁽²⁾ | NM ⁽²⁾ | NM ⁽²⁾ | P&A | P&A | P&A |
| WP-32 | Dry | Trace | Dry | Dry | NM | NM | NM | NM | NM | Dry | Dry | Dry | Dry | Dry | Dry | Dry | Dry | P&A | P&A | P&A |
| WP-33 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | Trace | 0.00 | 0.00 | Sheen | 0.00 | P&A | P&A | P&A |
| | | | | | | | | | | | | | | | | | | | 1 0.00 | | | | | - | | 1 | |

Notes:

(1) = Roots on probe.

(2) = Cap could not be removed.

BOLD = Measurable amount of LNAPL observed.

Dry = Monitoring point was dry.

LNAPL = Light Non-Aqueous Phase Liquid.

NM = Not measured.

P&A = Plugged and abandoned.

Sheen = Thin layer of LNAPL or oxidation observed; too thin to measure. See field notes for details.

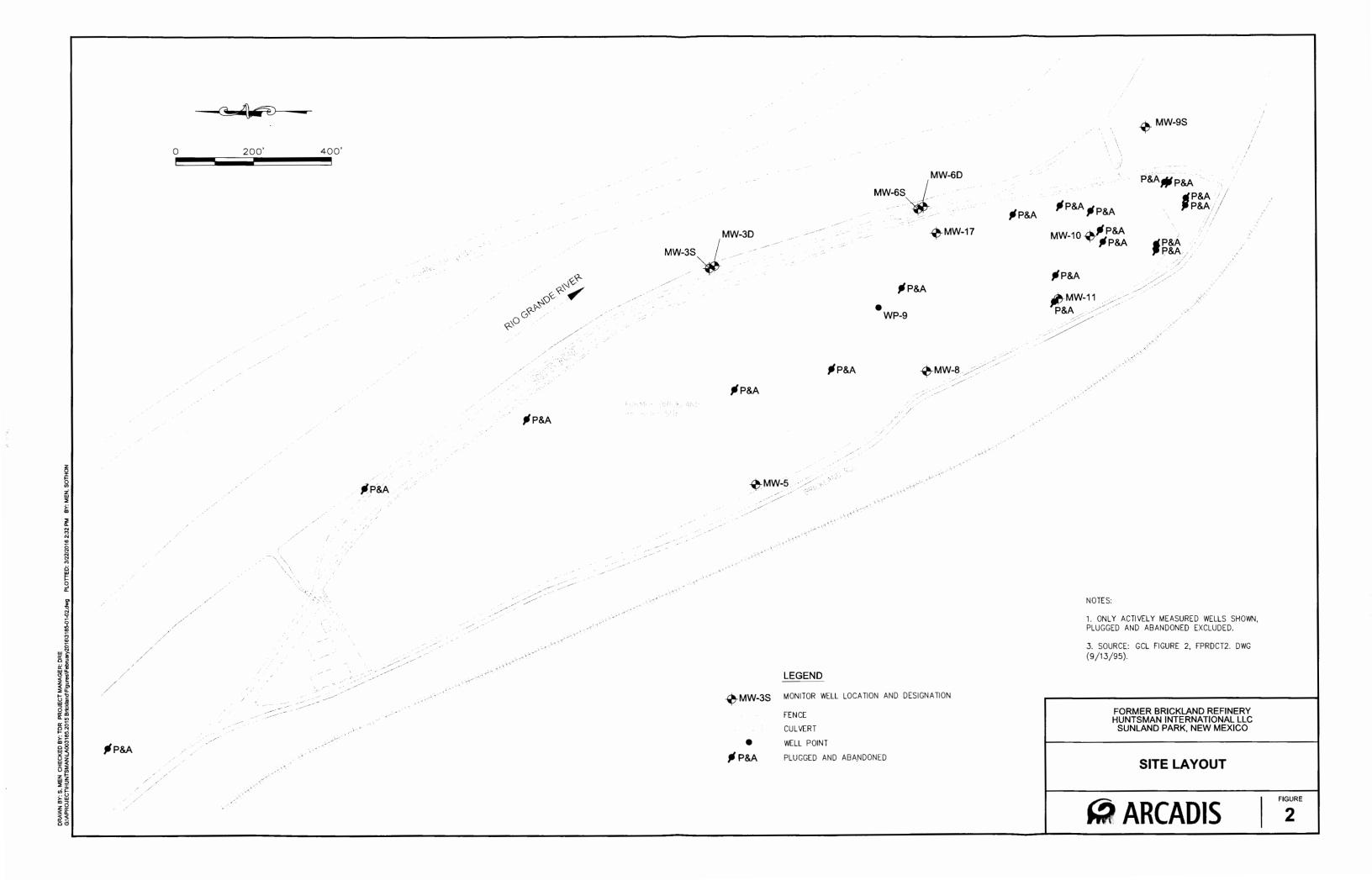
Tar = Thickness measurement not obtainable because of presence of thick, tar-like substance in well point.

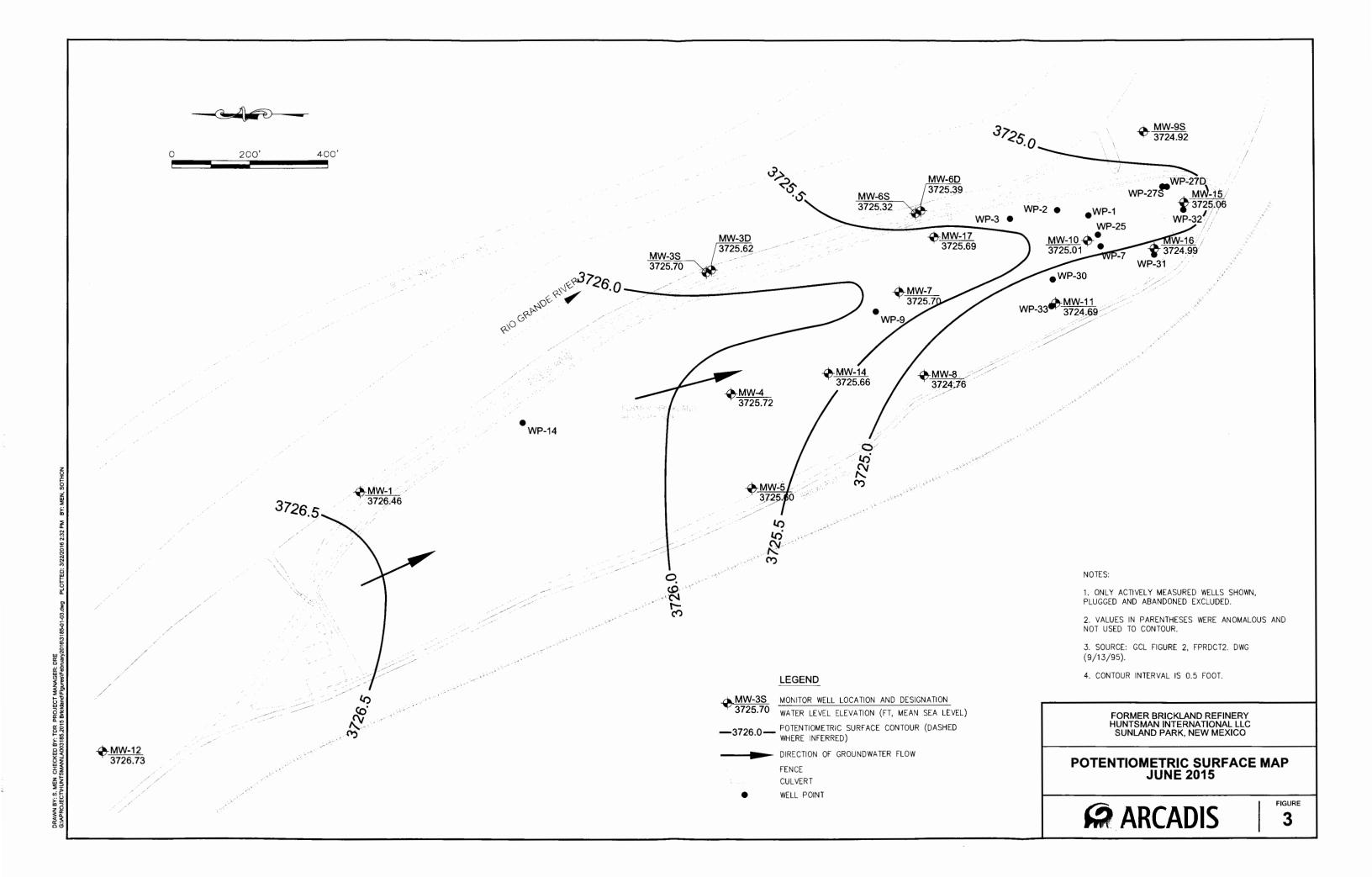
Trace = Traces of LNAPL observed; too thin to measure.

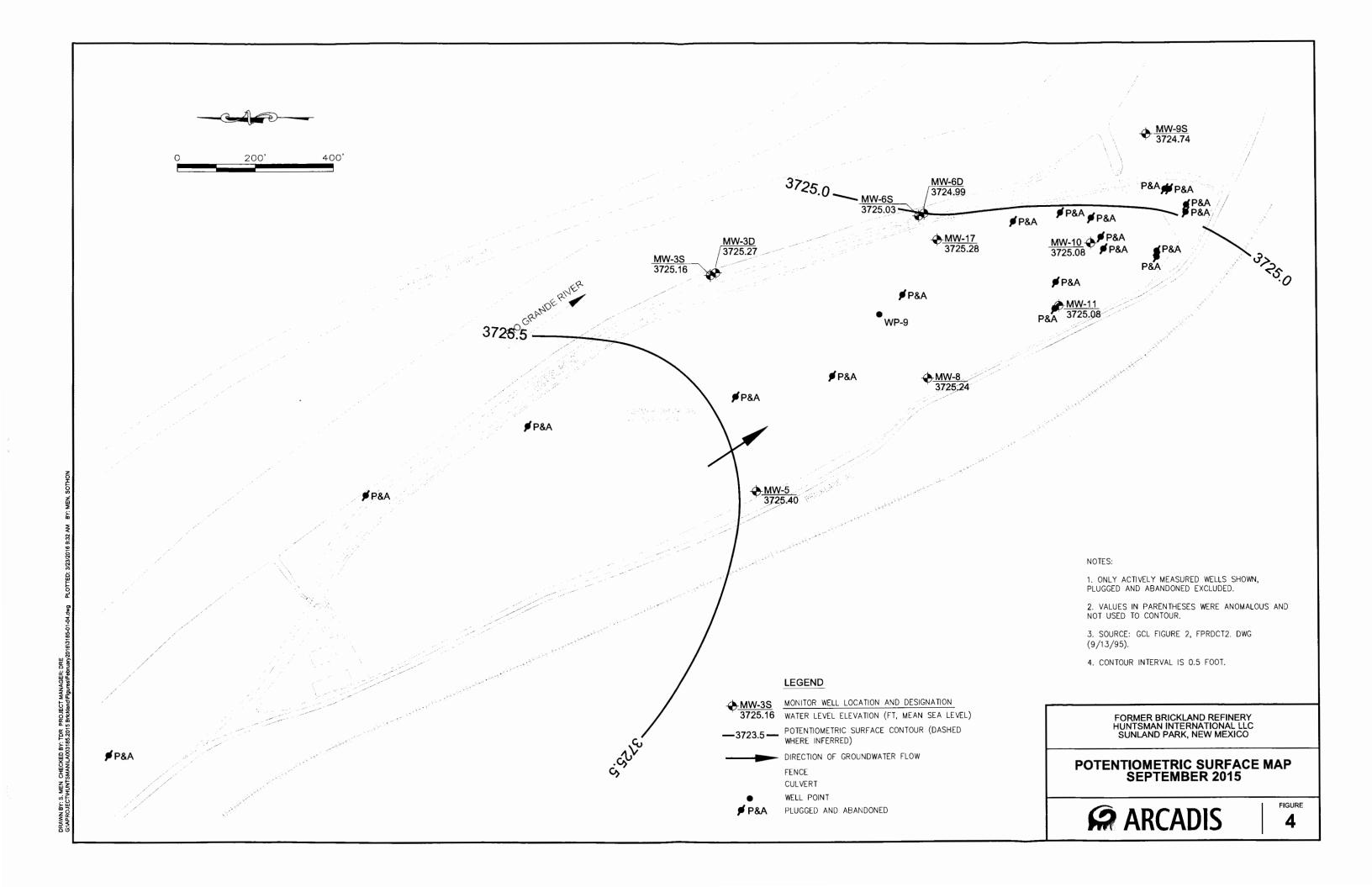
FIGURE

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DRAWN BY: S. MEN CHECKED BY: TOR PROJECT MANAGER: DRE







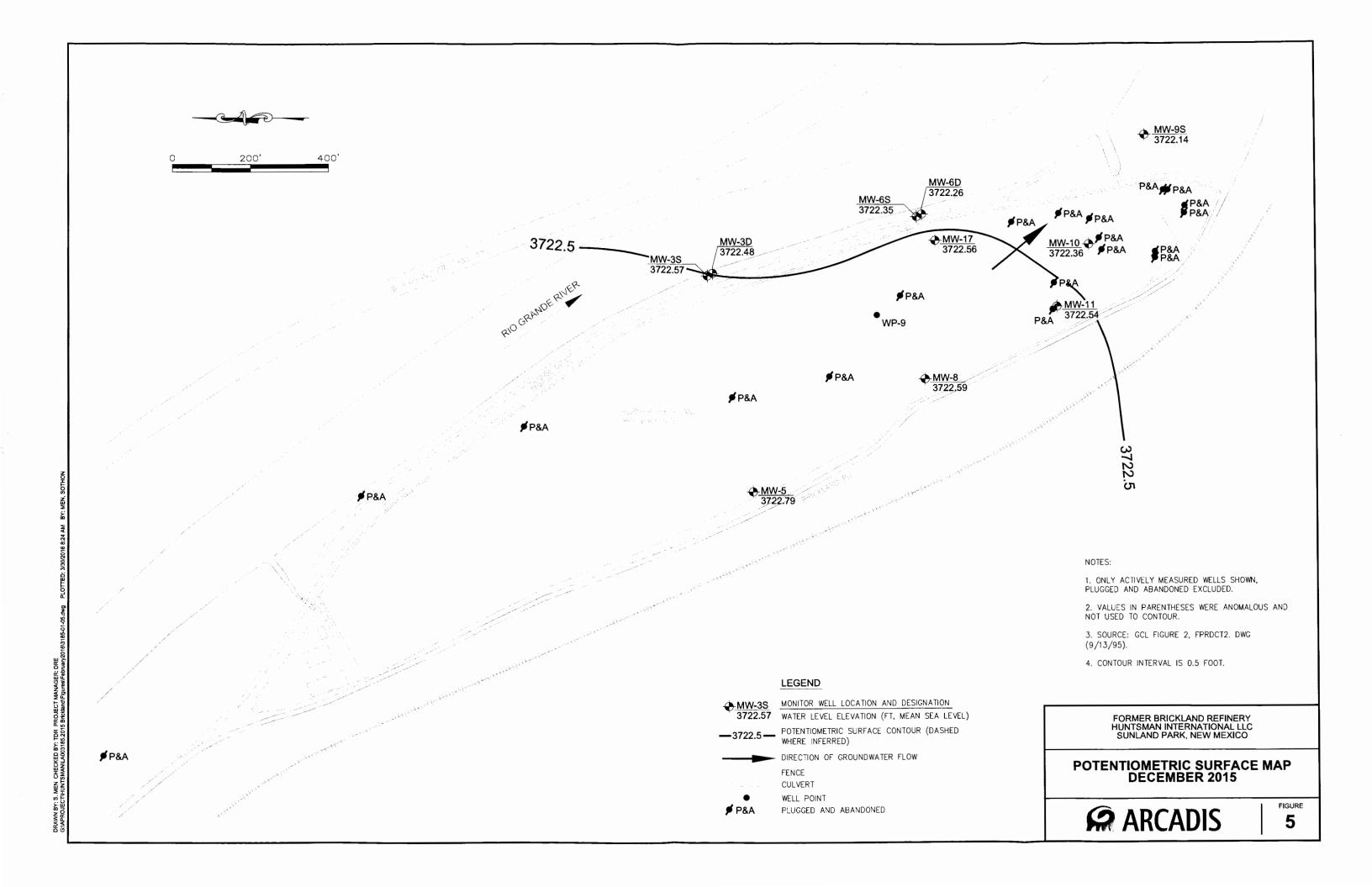
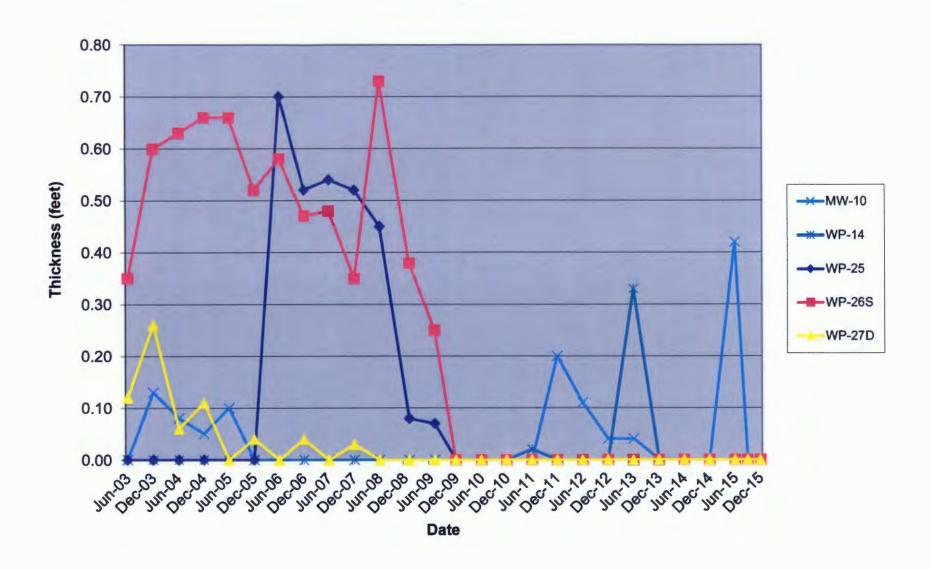




Figure 6 - Historical LNAPL Thickness





Appendix A

Modification Approval

State of New Mexico Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

David Martin
Cabinet Secretary

Brett F. Woods, Ph.D. Deputy Cabinet Secretary



APRIL 24, 2015

Mr. Ed Gunderson Senior Manager, EHS Legal and Regulatory Compliance Huntsman 8600 Gosling Road The Woodlands, Texas 77381

RE: Request to Modify Sampling at the Former Brickland Refinery, Sunland Park, New Mexico (AP-001)

Mr. Gunderson:

The Oil Conservation Division (OCD) has reviewed Huntsman's request of November 19, 2014 to modify its sampling program under its abatement plan AP-001. OCD also reviewed Huntsman's 2014 Annual Ground Water Monitoring Report (AGWMR) dated March 27, 2015. Huntsman proposes several changes to its abatement plan. Huntsman proposes to reduce the number of monitor wells that it samples, reduce its analyte list, and to plug and abandon monitor wells and well points. OCD hereby conditionally approves Huntsman's request.

In its 2014 AGWMR Huntsman discusses the presence of "tar" at WP-14 and proposed to excavate soil to eliminate the "tar". This action was not proposed in its request of November 19, 2014. OCD approves the 2014 AGWMR proposal to dig out the "tar" at WP-14.

Huntsman should follow the monitor well plugging procedures required by the Office of the State Engineer. Huntsman should submit an interim report documenting the results of its plugging program and soil excavation activities.

Finally, OCD reminds Huntsman that it must demonstrate that it has achieved compliance with the Water Quality Control Commission ground water standards for eight consecutive quarters.

In all future reports, Huntsman should report all "non-detects" as "less than the detection limit" and specify the detection limit, rather than just "ND". Also, please make sure that all future reports have had "text recognition" performed on them before being submitted.

OCD's conditional approval of Huntsman's request does not relieve it of responsibility should future information indicate a threat to ground water, surface water, human health, or the environment. Furthermore, it does not relieve Huntsman of responsibility for compliance with any federal, state, or local laws and/or regulations.

April 24, 2015 Page 2

Please contact me at (505) 476-3488 (<u>Glenn.VonGonten@state.nm.us</u>) if you have any questions.

Sincerely,

Glenn von Gonten Senior Hydrologist

Cc: Jim Griswold



Appendix B

Field Data



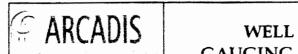
| Document Control Number:TGM | |
|----------------------------------------------------------------------------|--|
| TGM + project pumber plus dete as follows: xxxxxxxx xxxx xxxx - dd/mm/year | |

| T | AILGATE | HEALTH & SAFE | TY MEETIN | IG FORM | : \$\footnote{\psi}\$ |
|-----------------------------------------------------------------|------------------|-----------------------------------------|-----------------|---------------------------------------|-----------------------|
| | | | | Personnel who perform work oper | ations on- |
| Project Name: | | d to attend this meeting and to | Denientin | | |
| $V \subset V$ | nan- | Surlantiak, non | | Souland lark, M | <u>~</u> |
| Date: -18-15 Tim905 | Conducted | - P 30 (W) | | an two supervisor | ^ |
| Client: | Client Cont | act: | Subcontra | ctor companies: | |
| TRACKing the Tailga | ite Meet | ring | | | |
| Think through the Tasks Hist the | tasks for the | day): | | | |
| 1 Well mondoring | | 3 | | 5 | |
| 2 SITE observation | > | 4 | | 6 | |
| Other Hazardous Activities | | | | If there are none, write "None" here: | |
| other part If ves, describe them here: | y activities th | at may pose hazards to ARC/ | ADIS operations | Li Hone here. | |
| How will they be controlled? | | | | · · · | |
| | | | | | |
| Prework Authorization - check issuance or completion of a check | | | nit <u>Doc#</u> | | Doc# |
| Not applicable | Doc# | Working at Height | | Confined Space | |
| Energy Isolation (LOTO) | | Excavation/Trenching | | Hot Work | |
| Mechanical Lifting Ops | | Overhead & Buried Utilitie | es | Other permit | |
| Discuss following questio | NS (for some rev | new previous day's post activities). Ch | eck if yes : | Topics from Corp H&S to cov | er? |
| Incidents from day before to r | eview? | Lessons learned from the | day before? | Any Stop Work Interventions | yesterday? |
| Any corrective actions from ye | esterday? | Will any work deviate fro | m plan? | If deviations, notify PM & clien | nt |
| JLAs or procedures are avails | able? | Field teams to "dirty" JLA | s, as needed? | All equipment checked & OK | ? |
| Staff has appropriate PPE? | | Staff knows Emergency F | lan (EAP)? | Staff knows gathering points? | , |
| Comments: | | ` | | • | |
| Recognize the hazards (check a | | | • | | |
| circle risk level) - Provide an over | | | - | | egory. |
| Gravity (i.e., ladder, scaffold, trips) | (LMH) | Motion (i.e., traffic, moving wat | er) (LMH) | Mechanical (i e augers, motors) | (LMH) |
| Electrical (i.e. utilities, lightning) | (L M H) | Pressure (i.e. gas cylinders, v | vells) (LMH) | Environment (i.e., heat, cold, ce) | (L M H) |
| Chemical (i.e., fuel, acid peint) | (LMH) | Biological (i.e. toks poison in | (LMH) | Radiation (e , alpha, sun, laser) | (_ M H) |
| Sound (i.e., machinery, generators) | (LMH) | Personal (se alone high, no: | s) (LMH) | Driving the car, A.V. bost, dazer) | (LMH) |
| 04 | D | | | 1/0 | |
| Continue TRACK | Proces | s on Page 2 | | | |

| TAILGATE | HEALTH & SAFETY MEETING FO | ORI | M - Pg. 2 | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|----------------------------------------|--------------------------------------|
| | nose methods to control the hazards that will be tesses. Discuss and document any additional of | | , | he day): Revi | ew the |
| STOP WORK AUTHORITY (Must be addr Elimination Engineering controls General PPE Usage Personal Hygiene Emergency Action Plan (EAP) JLA to be developed/used (specify) | essed in every Tailgate meeting - (See statement Substitution Administrative controls Hearing Conservation Exposure Guidelines Fall Protection LPO conducted (specify job/JLA) | ₽ Price Pri | Isolation Monitoring Respiratory Pr Decon Proced Work Zones/S Traffic Control Other (specifical) | ures ite Control | |
| Signature an | d Certification Section - Site State | ff a | nd Visitors | | |
| | any/Signature // | | Initial & Sign in Time | Initial & Sign out Time | I have read and understand the |
| Doug Solon / AFCADIS | 10 mentes | | 900 | : | Z S |
| Am Putteriez /Arcadis | 1 2 G M | | 910 | | AG |
| THE CONCAR TO THE CONS | | 1 | 110 | | |
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| | | ┨. | atil exercise to be | | |
| Important Information and Numbers | Visitor Name/Co - not involved in work | 1 4 | will STOP the job a incertain about heal | th & safety or it anyo | one identifies a |
| All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns | | | razard or additional i project, job or task h | | led in the site, |
| In the event of an injury, employees will call WorkCare at | in Out | • | will be alert to any | • | |
| 1.800 455 5155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720 344.3844 | | 1 | he work site or haza razard assessments | | he original |
| In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S | In Out | 1 | If it is necessary to S TRACK; and then ar | nend the hazard as: | • |
| et 1.720 344 3844 and then Corp Legal at 1.720.344.3758. | În Out | | the HASP as needed | | |
| In the event of a utility strike or other damage to property | | ١, | l will not assist a su work unless it is abs | olutely necessary ar | nd then only |
| of a client or 3rd pany, employees will immediately notify the field supervisor, who will then immediately notify Corp | In Out | | efter I have done TR controlled the hazard | | roughly |
| Post Daily Activities Review - Re | eview at end of day or before next day's work (| Che | ck those appl | cable and ext | olain:) |
| Lessons learned and best practices learn | | | | | ,, |
| Incidents that occurred today: | iou iouay. | | | | |
| Any Stop Work interventions today? | | | | ······································ | |
| Corrective/Preventive Actions needed for | future work: | | | | |
| Any other H&S issues: | | | | | |
| | | Ţ | | | |
| <u>K</u> eep H&S 1 | it in all things | | WorkCare - 1.80 | 0.455.8155 | |

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|---|---|---|---|---|---|---|---|

| Project / N | o Page of |
|---------------------|---------------------------------------------------------------|
| Site Locat | ion thunts man project - Sunland Park, nm Date 2-18-15 |
| Subject | Quarterly monitoring Prepared By D. Solon |
| | |
| Time | Description of Activities |
| 905 | arrived on site / H&S moting |
| 915 | setupant observered mw-10. Gauged well - |
| | 9.95 DTW with no measurable moderat. Hydrocarbon |
| | odot - 10 pig was installed in well. Pig has been |
| | left out since Jone 2014 semi annual event and regrains |
| | nat |
| 940 | sotupon NP-14. Gaugedwell- no neasurable water |
| - | indicated. Tax like substance on and of probe. Pie was ranged |
| | and will remain out untill observation in June 2015 - |
| 955 | Drove around sity - observed fence line and property grands |
| | all is in good shape - to action required. |
| 1005 | Zetur to Hice. |
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| COLOR OF MANAGEMENT | |
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Site Name: #\ntsman

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| | | | | | Date & | Time: 2/18/15/0905 |
| quations (t | pefore purgi | ng) LNAPL On | ly | | | |
| ımn height | = | (well depth in | feet) - (initial depl | th to water in fee | t) | |
| yer thickne | ss = | (initial depth to | water in feet) - (| depth to product | ın feet) | |
| ing Informa | rtion | | | | | |
| Total Depth (feet bgs) | Depth to Product (feet bgs) | Depth to Water (feet bgs) | Water Column Height (feet bgs) | Product Layer Thickness (feet bgs) | Product Removed (galions) | Comments |
| | | 9.95 | | | | Odor no piamis in |
| | A A COMPANY OF THE PARTY OF THE | | Timporum , mark da marinana mana | No. 1887 viloversko v. 1 | | Odor no picturs in sixe June of 2014 |
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| | n Procedur | | | | | |
| Equipment | | FION | | | | |
| ocedures | | | | | | |
| | mn height yer thickne ling Information Total Depth (feet bgs) | yer thickness = yer thickness = ling Information Total Depth to Product (feet bgs) NO IN CCSNIC | Equations (before purging) LNAPL On the imm height = (well depth in the imm height = (initial depth to initial depth to initial depth to initial depth to initial depth to water (feet bgs) Product (feet bgs) C1.95 | requestions (before purging) LNAPL Only Imm height = (well depth in feet) - (initial depth in f | well depth in feet) - (Initial depth to water in feet) were thickness = (Initial depth to water in feet) - (depth to product ling Information Total Depth Product (feet bgs) Product Layer Thickness (feet bgs) | Equations (before purging) LNAPL Only Imm height = (well depth in feet) - (initial depth to water in feet) yer thickness = (initial depth to water in feet) - (depth to product in feet) Total Depth (feet bgs) |

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| Document Control Number:TGM - |
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| TGM + project number plus date as follows: xxxxxxxxxxxxxxxxxx - dd/mm/year |

| | | E HEALTH & SAFETY | | •• |
|----------------------------------------|----------------|---------------------------------------------------------------|--------------|---------------------------------------------------------|
| | | | | Personnel who perform work operations on- |
| Project Name: | | d to attend this meeting and to ac | Project Lo | |
| | ۷۱ | | <u> </u> | HUTTSTIC |
| Date: 0-8-15 0853 | Conducted | by: Ana Gutheliez | Signature/ | CAMPA (180001ST |
| Client: | Client Cont | tact: | Subcontra | ctor companies: |
| TRACKing the Tailga | te Meel | ling | | |
| Think through the Tasks (list the t | tasks for the | | | |
| 1 Well appearing | | 3 Nell Samplino | | 5 |
| 2 PID pooding | | 4 |) | 6 |
| | | box if there are any other ARCAD at may pose hazards to ARCAD | | If there are none, write "None" here: |
| If yes, describe them here: | | | | |
| How will they be controlled? | | | | |
| Prework Authorization - check a | | | <u>Pcc</u> # | <u>Doc #</u> |
| issuance or completion of a check | Mist or simili | Working a: Height | | Confined Space |
| Energy Isolation (LOTO) | | Excavation/I renching | | Hot Work |
| Mechanical Lifting Ops | | Overhead & Buried Utilities | | Other permit |
| Discuss following question | NS (for some m | view previous day's post retivities). Chack | if yes : | Topics from Corp H&S to cover? |
| Incidents from day before to re | | Lessons learned from the da | | Any Stop Work Interventions yesterday? |
| Any corrective actions from ye | esterday? | Will any work deviate from p | olan? | If deviations, notify PM & client |
| JLAs or procedures are availa | ble? | Field teams to "dirty" JLAs, a | s needed? | All equipment checked & OK? |
| Staff has appropriate PPE? | | Staff knows Emergency Plan | (EAP)? | Staff knows gathering points? |
| Comments: | | ` | | |
| Recognize the hazards (check a | il those that | are discussed) (Examples are pro | ovided) end | ssess the Risks (Low, <u>M</u> edium, <u>H</u> igh - |
| | | | | effy list them under the hazard category |
| Gravity (i.e. ladder scaffold, tribs) | (L M H) | Motion (i.e hattic moving water) Wolfing Close to RIVE | (LMH) | Mechanical (i.e., augers, motors) (i.e. M. R.) |
| Electrical (i.e. utilities, lightring) | (LMH) | Pressure (i.e. gas cylinders, wells |) (L M H) | Environment (re., heat cold, ce) (L. M. H.) Hot Weather |
| Chemical (i.e., fuel, add paint) | (L M H) | Biological (i.e., ticks poison ivy) | (L M H) | Radiation (e , alpha sin, laser) (_ M H) |
| Sound (i.e. machinery, generators) | (LMH) | SPACIS INSECTS, SYON | | Driving (Le car, ATV, boat dazer) (L. M. H) |
| | | | | |
| Continue TRACK | Proces | ss on Page 2 | | |

| TAILGATE | HEALTH & SAFETY MEETING FO | ORI | M - Pg. 2 | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|------|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|--------------------------------------|
| | hose methods to control the hazards that will be sesses. Discuss and document any additional | | | he day): Revi | ew the |
| STOP WORK AUTHORITY (Must be addr Elimination Engineering controls General PPE Usage Personal Hygiene Emergency Action Plan (EAP) JLA to be developed/used (specify) | Substitution Administrative controls Hearing Conservation Exposure Guidelines Fall Protection LPO conducted (specify job/JLA) | X | below) Isolation Monitoring Respiratory Proceed Decon Proceed Work Zones/S Traffic Control Other (specific | lures lite Control | |
| Signature an | nd Certification Section - Site State | ff a | nd Visitors | <u> </u> | |
| Name/Comp And Cutteriez/Arcadi | any/Signature | | Initial & Sign in Time | Initial & Sign out Time | I have read and understand the |
| Iranc Cartor Arcadis / | fithe | | 16 0857 | 10/1540 | ŢĊ. |
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| | | | | | |
| Important Information and Numbers All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns | Visitor Name/Co - not involved in work | h | ncertain about heal | thy time anyone is or th & safety or if anyo mitigation not record azarri assessment | ne identifies a |
| In the event of an injury, employees will call WorkCare at 1.800 455 5155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720 344.3844. | In Out | ı | will be alert to any | changes in personn tros not covered by t | |
| In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720 344 3844 and then Corp Legal at | In Out | 1 | | TOP THE JOB, I wi nend the hazard ass | |
| 1.720.344.3758. In the event of a utility strike or other damage to property of a client or 3rd party, employees will immediately notify | In Out | v | vork unless it is abs | abcontrector or other blutely necessary an ACK and I have tho | d then only |
| the field supervisor, who will then immediately notify Corp | In Out | | controlled the hazard | | |
| Post Daily Activities Review - Re | eview at end of day or before next day's work (| Che | ck those appl | icable and exp | lain:) |
| Incidents that occurred today: | iod ioday. | | | ···· | |
| | | | | | |
| Any Stop Work interventions today? | - E-b | | | | |
| Corrective/Preventive Actions needed for Any other H&S issues: | TULUTE WORK: | | | | |
| | | _ | | | |
| <u>K</u> eep H&S 1 | st in all things | 1 | WorkCare - 1 80 | 0.455.6155 | |



| Document Control Number:TGM - | |
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| TA | JLGATI | E HEALTH & SAF | ETY MEETIN | IG FORM | : \$5 ⁷ |
|-----------------------------------------|----------------|--------------------------------------------------------|--------------------------|---------------------------------------|--------------------|
| | | | | Personnel who perform work oper | ations on- |
| Project Name: / / / | - 4 | a to attend this meeting and | Project Loc | eir attendance, at least daily. | |
| TUNTSING | | | | HUISMUN | |
| 000/09/19 0800 | Conducted | - Twa Gutte | Mez Signatura | A COUDIST | • |
| Client: | Client Con | tact: | Subcontrac | etor companies: | |
| TRACKing the Tailga | te Mee | ting | | | |
| Think through the Tasks (list the t | asks for the | | 0-11 | | |
| 1 PID RECURING | 1 | 3 Well San | <u>aplina</u> | 5 | |
| 2 Well agricult | 20 | 4 | | 6 | |
| Other Hazardous Activities - | | box if there are any other Alet may pose hazards to AR | | If there are none, write "None" here: | |
| If yes, describe them here: | | | • | | |
| How will they be controlled? | | | | | |
| Prework Authorization - check a | | | ermit Doc# | | Doc# |
| issuance or completion of a check | Doc# | Working at Height | | Confined Space | |
| Energy Isolation (LOTO) | <u> </u> | Excavation/Trenching | | Hot Work | |
| Mechanical Lifting Ops | | Overhead & Buried Uti | lities | Other permit | |
| Liviectianical Living Ops | | Overneed a barred on | | | |
| Discuss following question | S (for some re | view previous day's post activities). | Check If yes : | Topics from Corp H&S to cove | er? |
| Incidents from day before to re | view? | Lessons learned from | the day before? | Any Stop Work Interventions | yesterday? |
| Any corrective actions from ye | sterday? | Will any work deviate | from plan? | If deviations, notify PM & clien | πt |
| JLAs or procedures are availal | ble? | Field teams to "dirty" J | LAs, as needed? | All equipment checked & OK? | ? |
| Staff has appropriate PPE? | | Staff knows Emergence | y Plan (EAP)? | Staff knows gathering points? | 1 |
| Comments: | | | | | |
| Recognize the hazards (check al | those that | are discussed) (Examples | are provided) and | asess the Risks (Low, Medium, I | High - |
| circle risk level) - Provide an overa | | | | | |
| Gravity (i.e. ladder, scaffold, tribs) | (LMH) | Motion (i.e. traffic, moving | water) (LMH) | Mechanical (i e . augers, motors) | (LMH) |
| Electrical (i.e., utilities, lightning) | (LMH) | Pressure (t.s. gas cylinde | | Hot Weamer | (L M H) |
| Chemical (i.e., fuel, acid paint) | (L M H) | Biological (i.e. toks poisson) | on ivy (LMH) Cots.Smakes | Radiation (e , alpha, sun, laser) | (_ M H) |
| Sound (i.e., machinery, generators) | (L M H) | Personal (re alone, night, | | Driving (Le car ATV, coat, dozer) | (L M H) |
| | | | | | |
| Continue TRACK | roces | ss on Page 2 | | | |

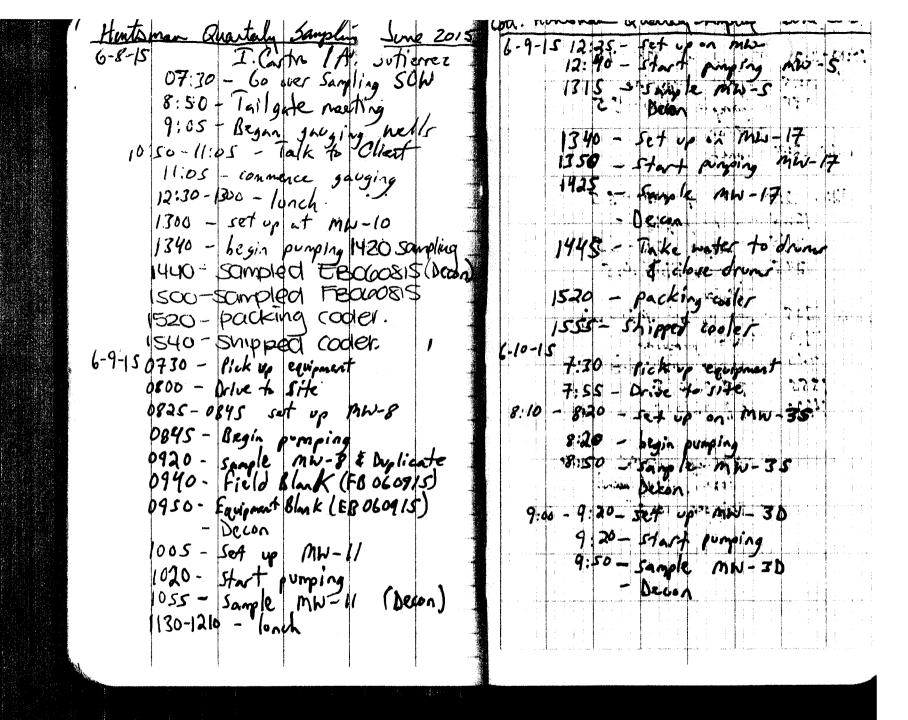
| TAILGATE | HEALTH & SAFETY MEETING FO | RM - Pg. 2 | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
| | nose methods to control the hazards that will be resses. Discuss and document any additional of | | | | |
| STOP WORK AUTHORITY (Must be address Elimination Engineering controls General PPE Usage Personal Hygiene Emergency Action Plan (EAP) JLA to be developed/used (specify) | Isolation Isolation Monitoring Respiratory Protection Decon Procedures Work Zones/Site Control Traffic Control Other (specify) | | | | |
| Signature an | d Certification Section - Site Staf | f and Visitors | | | |
| Name/Comp | Initial & Sign in Time Initial & Sign out Time Initial & Sign out Time Industrial the | | | | |
| A Ort / Arcadis / Isa | rac Carto | IC 0800 IC 1600 IC | | | |
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| Important information and Numbers All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns | Visitor Name/Co - not involved in work | I will STOP the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment | | | |
| In the event of an injury, employees will call WorkCare at 1.800 455 6155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720 344.3844. | in Out | I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments | | | |
| In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720 344 3844 and then Corp Legal at | In Out | If it is necessary to STOP THE JOB, I will perform TRACK; and then amend the hazard assessments of the HASP as needed. | | | |
| 1.720.344.3758. In the event of a utility strike or other damage to property of a client or 3rd party, employees will immediately notify | In Out | I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly | | | |
| the field supervisor, who will then immediately notify Corp. Legal at 1 578 373 9556 and Corp. H&S at | In Out | controlled the hazard | | | |
| | eview at end of day or before next day's work (| Check those applicable and explain:) | | | |
| Lessons learned and best practices learn | ned today: | | | | |
| Incidents that occurred today: | | | | | |
| Any Stop Work interventions today? | Edward and | | | | |
| Corrective/Preventive Actions needed for | rtuture work: | | | | |
| Any other H&S issues: | | | | | |
| <u>K</u> eep H&S 1 | st in all things | WorkCare - 1.800.455.5155 | | | |



| Document Control Number: TGM - | |
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| TGM + project number plus date as follow | ws: xxxxxxxx xxxx xxxxx - dd/mm/year |

| 1. T/ | AILGAT | E HEALTH & SAFET | Y MEETI | NG FORM | . 5 | | | |
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| • | - | inducted in accordance with the ed to attend this meeting and to | | . Personnel who perform work operati | ions on- | | | |
| Project Name: | | a to attend the moeting and to | Project Lo | ocation: 1 Land | | | | |
| Date: Time: | | Iby: A Charle | Signature | Signature/Title: | | | | |
| Date: Tima: Cilent: Cilent: | Client Con | iby: Ana Gotherie | Subcontre | actor companies: | 9St | | | |
| | | | - | otor companies | | | | |
| TRACKing the Tailga | ite Mee | ting | | | | | | |
| Think through the Tasks (list the | | | , | _ | | | | |
| 1 Well garaine | } | 3 Well Sampl | 11/9 | 5 | | | | |
| 2 PIU READINO | <u> </u> | 4 | | | | | | |
| | | box if there are any other ARCA nat may pose hazards to ARCA | | 1 1 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 | | | | |
| if yes, describe them here: | , 4047,120 4 | in the poor near to to the to | | | | | | |
| How will they be controlled? | | VII. | | | | | | |
| Prework Authorization - check | | | it Doc# | | Doc# | | | |
| issuance or completion of a checo | Doc# | ar before work begins: Working at Height | | Confined Space | | | | |
| Energy Isolation (LOTO) | | Excavation/Trenching | | Hot Work | | | | |
| Mechanical Lifting Ops | | Overhead & Buried Utilitie | s | Other permit | | | | |
| Discuss following question | NS (for some re | wiew previous day's post activities). Che | ck if yes : | Topics from Corp H&S to cover | ? | | | |
| Incidents from day before to | eview? | Lessons learned from the | day before? | Any Stop Work Interventions ye | sterday? | | | |
| Any corrective actions from ye | esterday? | Will any work deviate from | n plan? | If deviations, notify PM & client | | | | |
| JLAs or procedures are availa | able? | Field teams to "dirty" JLAs | s, as needed? | All equipment checked & OK? | | | | |
| Staff has appropriate PPE? | | Staff knows Emergency P | lan (EAP)? | Staff knows gathering points? | | | | |
| Comments: | | | | | | | | |
| - ' | | | | Assess the Risks (Low, Medium, Hig | - | | | |
| | | . 1 | - | riefly list them under the hazard categ | • | | | |
| Gravity (i.e., ladder, scaffold, trips) | (LMH) | Motion (i.e. traffic, moving water | r) (LMH) 10 | Mechanical (i.e. augers, motors) | (LMH) | | | |
| Electrical (i.e. utilities, lightning) | (LMH) | Pressure (i.e. gas cylinders, w | ells) (LMH) | Environment (i.e., heat, cold, ce) | (LMH) | | | |
| Chemical (i.e., fuel, acid peint) | (LMH) | Biological (i.e., take poison in | | Radiation (· e , alpha, sun, laser) | (_ M H) | | | |
| Sound (i.e., machinery, generators) | (LMH) | Personal (se alone, hight, not | R) (LMH) | Driving (i.e car, ATV, bpat, dozer) | (LMH) | | | |
| Continue TRACK | Droce | ss on Page 2 | | | | | | |
| Continue I MACK | L LOCE: | SOUI FAYE Z | | | | | | |

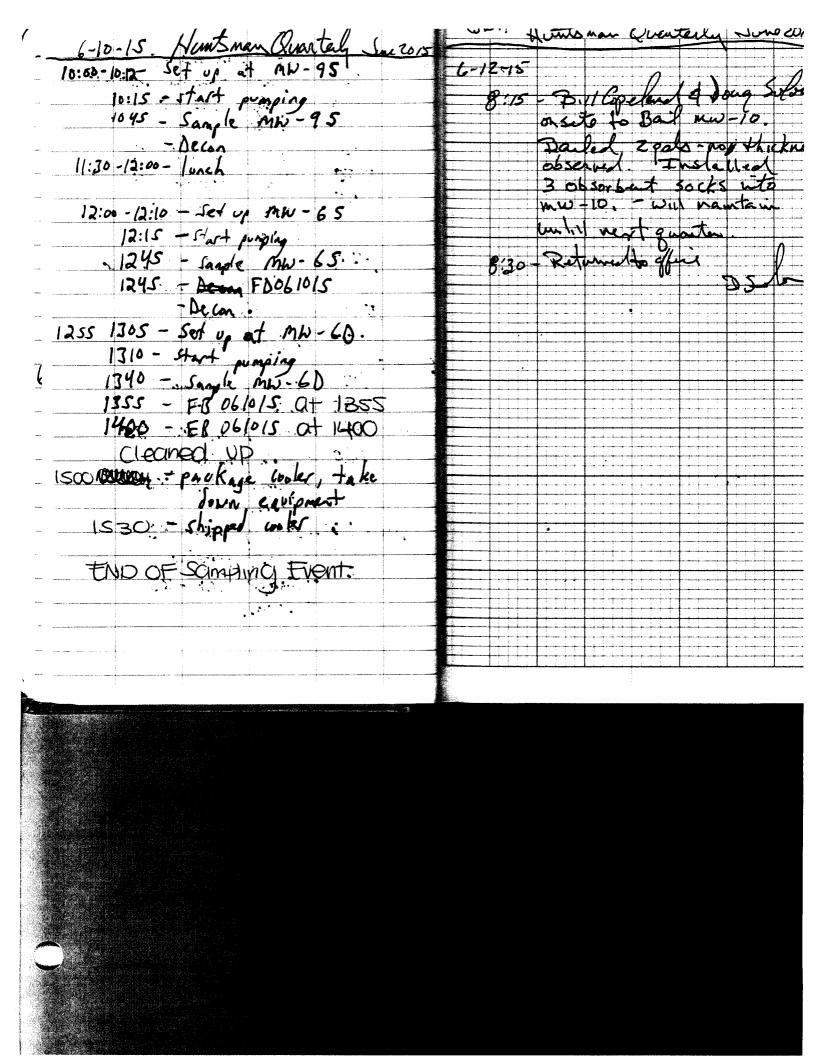
| TAILGATE | HEALTH & SAFETY MEETING FO |)RM - Pg. 2 | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
| ` | nose methods to control the hazards that will be resses. Discuss and document any additional | | | | | |
| STOP WORK AUTHORITY (Must be addr Elimination Engineering controls General PPE Usage Personal Hygiene Emergency Action Plan (EAP) JLA to be developed/used (specify) | ents below) Isolation Monitoring Respiratory Protection Decon Procedures Work Zones/Site Control Traffic Control Other (specify) | | | | | |
| Signature an | d Certification Section - Site Sta | ff and Visitors | | | | |
| Ana Gottevoz/Avca | Initial & Sign in Time Initial & Sign out Time Initial & Sign out Time Initial & Sign out and understand the IC 0800 TC 1500 TC | | | | | |
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| | | | | | | |
| Important Information and Numbers All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns | Visitor Name/Co - not involved in work | I will STOP the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment | | | | |
| In the event of an injury, employees will call WorkCare at 1.800 455 5155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720 344.3844 | in Out | I will be elert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments | | | | |
| In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720 344 3844 and then Corp Legal at 1.720 344 3758 | in Out | If it is necessary to STOP THE JOB, I will perform TRACK; and then amend the hazard assessments or the HASP as needed. | | | | |
| In the event of a utility strike or other damage to property of a client or 3rd pany, employees will immediately notify the field supervisor, who will then immediately notify Corp | of a client or 3rd pany, employees will immediately notify | | | | | |
| Post Daily Activities Review - Re Lessons learned and best practices learn | eview at end of day or before next day's work (ned today: | Check those applicable and explain:) | | | | |
| Incidents that occurred today: | | | | | | |
| Any Stop Work interventions today? | | | | | | |
| Corrective/Preventive Actions needed for | r future work: | | | | | |
| Any other H&S issues: | | | | | | |
| <u>K</u> eep H&S 1 | in all things | WorkCare - 1.800,455.6155 | | | | |



6-10-15. 10:60-10:12 Set of at AN-95 10:15 - start pumping 1045 - Sample MW-95 - Decon 11:30 -12:00 - lunch 12:00 -12:10 - Set up MW - 65 12:15 - Start pumping . 1245 - sample MW-65: 1245 - Dean F0061015 1355 - Set up at MW-60. 1310 - Start pumping 1340 - Sample MW-60 1355 - F-8 061015: at 1355 1420 - EB 06/015 OF 1400 cleaned up. 1500 Mary - PACKage Cooker, take

Soun causpnest

1530 - Shipped works. TND OF Sampling Event:



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| ARCADIS | | WE | ELL | Site Name: Huntsman | | | | | |
| | Environment - Buildings | GAUGII | | Pr | oject Number | : LA003185.000 | | | |
| | | | .0200 | | Date & Time: | | | | |
| | | | | | Dave or Tillie. | | | | |
| water column he | pight = | (well depth in fee | et) - (initial depth | to water in feet) r | reading from Top | of Casing | | | |
| Well Gauging in | formation | | | | | | | | |
| Well ID | Dete/Time | PID (ppm) | Depth to Product (ft) | Depth to Water (ft) | Product Thickness | Comments | | | |
| MW-1 | 1150 | 0.0 | 3.1 | | | | | | |
| MW-2 | | | | | _ | Plugged | | | |
| MW-3S | 1202 | 00 | | 4.30 | | | | | |
| MW-3D | 1201 | 0.0 | | 4.38 | L | en de la companya approximativa de la companya del la companya de | | | |
| MW-4 | 10.42 | 10.0 | | 3.14 | ļ | | | | |
| MW-5 | 19:38 | 330.6 | | 4.10 | | | | | |
| MW-6S MW-6D | 1512 | 8 | | 2 32 | <u> </u> | | | | |
| MW-7 | 199 | $\frac{1}{1}$ | | 336 | | | | | |
| MW-8 | 10.28 | 13.4 | | ŭ un | | A F ALL AL AND A STATE OF THE STATE AND ADMINISTRATIVE STATE OF THE ADMINISTRATION OF TH | | | |
| MW-9S | 1225 | 10.0 | | 509 | | | | | |
| MW-9D | | - | | | | Plugged | | | |
| MW-10 | 1000 | 117.3 | 7.11 | 7.53 | | | | | |
| MW-11 | 1022 | 0.0 | | (0.7) | | | | | |
| MW-12 | 1140 | 0.0 | | 3.02 | <u> </u> | | | | |
| MW-13 | 16.113 | 12 0 | | 4.80 | | Plugged | | | |
| MW-14 MW-15 | 10,97 | 23.2 | 13.55 | 13.50 | | ALICE AND THE PARTY AND ADDRESS OF THE PARTY ADDRESS OF THE PARTY ADDRE | | | |
| MW-16 | 0033 | 100 | 19.33 | 1120 | | | | | |
| MW-17 | 1105 | 13 | | 6.29 | | | | | |
| WP-1 | Maya | 188.न | | JH 8 | 37 | TD: 11.62, 000r | | | |
| WP-2 | 1005 | (00) | | 6.2 | | Oxidation on probe | | | |
| WP-3 | 1113 | 3.7 | | (c.73 | | | | | |
| WP-7 | 0938 | 10.0 | | 10.43 | <u> </u> | | | | |
| WP-14 | 1124 | IO.Q | | 5.04 | ļ | 01-6-50-50 | | | |
| WP-25 | 9944 | 15:0 | | dry | | Odor, TD: 10.53 Oxidation on probe | | | |
| WP-26S WP-26D | (754) | 12.4 123.9 | <u> </u> | 3.25 | <u> </u> | Oxidation on probe | | | |
| WP-27S | 6930 | 1680 | <u> </u> | 13.35 | <u> </u> | Oxidothan, strong odl | | | |
| WP-27D | 0950 | 1100 | | 3.3S 2.8S | | a lot of Oxidation | | | |
| WP-30 | 1014 | 10.0 | | 11.80 | | 1 | | | |
| WP-31 | | | | | | (azy Oben | | | |
| WP-32 | 0910 | 2.0 | | ary | | TD: 11.49 | | | |
| WP-33 | 109 | 90.2 | <u></u> | 14.00 | | | | | |
| | Decon Procedures | Malari | 0.01 (0.00) | ar Din | | | | | |
| Gauging Equip | | Wales I | eiel met | d TID | | | | | |
| Decon Procedu | ires | WHAT, | iquidnox | _2 | | | | | |

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| Page_ | of | 1 |
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| | | Date | 060815 | | | | | | | | |
|----------------------------------------------------------------------------|---------------------------------|--------------------------------|--------------------------------------|--|--|--|--|--|--|--|--|
| Project No 14003 185,000 | Sample Personnel AG IC | | | | | | | | | | |
| Site Name - Hintsman | Sample ID MW-IO | | | | | | | | | | |
| Site Location Huntsman | Duplicate ID 1 | EB000815 | | | | | | | | | |
| Site/Well No. MW TO | Start pump 13 | 42 Stop 1 | pump <u>1430</u> | | | | | | | | |
| Weather | Start sampling | 20 Stop : | sampling <u>1430</u> | | | | | | | | |
| EVAC | TIATION DATA | • | | | | | | | | | |
| | EVACUATION DATA | | | | | | | | | | |
| Description of Measuring Point (MP) North-end top | of well casing | MP Elevation (ft) | | | | | | | | | |
| Depth to Water before/after (ft) \frac{1.13}{5.03} | Casing Diameter (in) | 4" | | | | | | | | | |
| Water Column in Well 1 (ft) | Evacuation Vol./Rate | 300 ma | 11 | | | | | | | | |
| Volume per foot in Well ² | Pump Intake Depth (fi | | | | | | | | | | |
| Total Volume in Well 3 | Evacuation Method | Perisalti | CPUMP | | | | | | | | |
| | | | | | | | | | | | |
| Time Volume pH Spec. Cond Temp (gal or L) (S.U.) (mS/cm or (°C/°F) (mg/L | | ORP Other (mV) | Appearance (Clarity, Color, Odor) | | | | | | | | |
| uS/cm) | | | | | | | | | | | |
| 1390 FL26 8981 7419 1.3 | 1 6.18 -2 | 22.47.84 Sn | een on water | | | | | | | | |
| 13SS 7.208984 24081.4 | 3 511 8.00 -2 | | ellow tint | | | | | | | | |
| 1400 7.258.070 74.001.4 | 5 5007-20 2 | 2249832 3 | trong odor. | | | | | | | | |
| 1000 7.258,943 24.MI.3 | 1 445 5 66 2 | 232.1 8.39 235.1 8.49 | | | | | | | | | |
| 1410 FI.25 8 948 23.83 1 43 | | 26.48.61 | | | | | | | | | |
| | | | | | | | | | | | |
| 1420 1.22 8,956 23861.20 | 9.66 - | 226.3 8.63 | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | +/- 10%) (-/- 10% or <1) (+ | -/- 10 mV) (n/a) | (n/a) | | | | | | | | |
| su) 1 - Low flow purging, use length of tubing. 2 - Low-flow use tubing. | g vol.below. 2 - Low flow use 3 | Tubing Volume (gal/ft) (x) l | Pump Intake Depth (fi) | | | | | | | | |
| - Stabalization criteria must be met for 3 consecutive readings (~3-5 min | | | | | | | | | | | |
| | NER DESCRIPTION | | | | | | | | | | |
| Container: Lab or ARCADIS Contain | er (Type & Size) | No. of bottles | Preservative | | | | | | | | |
| NOA BOMZONO | Maal | 2 | 1000 | | | | | | | | |
| UOA = 1 Devizerie | 101711 | | NOIE _ | | | | | | | | |
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| Remarks: Equipment Blank | (FR MM | 1015) at | NUM | | | | | | | | |
| FIOLARINK (FROM PIC | 3) AF 150 | 0 0/ 01 | 1470 | | | | | | | | |
| TUBING DIAMETER VOLUMES. (In Millilliters per Foot) | WELL CASING DIALOTTES IN | VIII. | | | | | | | | | |
| 0.25" = 9.65 | WELL CASING DIAMETER VO | 7-016 37-037 1 | "= 0.65 6" = 1.46 | | | | | | | | |

 $2^{\circ} = 0.16$ $3^{\circ} = 0.37$ $4^{\circ} = 0.65$ $3.5^{\circ} = 0.50$ $5^{\circ} = 1.04$ $3^{\circ} = 2.56$

| ARCADI | S | | 1 | WATE | R SA | MPLI | NG LOG | } |] | Pageof | |
|------------------------------------------------------------------|-----------------------------------|----------------------------|------------------------------------------------|--------------------|-----------------------------|--------------------------------------------|-------------------------|----------------------------------------|---------------------|----------------------------------------------|--------------------|
| Project No Site Name Site Locati Site/Well I Weather | ion | 460 Hunt Hunts MW | 3185. (SmOV) SMOV) -8 | | | Sample Duplica Start pu Start sar | te ID | AG, MW- FDC 0845 0845 | 1C 8 609 s | ate OCO915 15 top pump OQ3 top sampling QQ3 | - - 35 35 |
| Descriptio | n of Mea | suring P | oint (MP) N | | | | | MP Fle | vation (1 | (1) | |
| Depth to | | _ | fter , | | | | Diameter (i | | 4" | | |
| (ft) Water Col | lumn in V | /ell ¹ (ft) | | v i Q | | | tion Vol./Ra | | 300 r | nall | |
| Volume p | | ` ' | | | | | ntake Depth | | | 195 | |
| Total Vol | | | | | | - | tion Method | | eriso | ILTIC PUMP | |
| Time | Volume (gal or L) | pH ¹ (S.U.) | Spec. Cond ² (mS/cm or uS/cm) | Temp ¹ | (mg/L) |) [±] (%) | Turbidity (NTU) | ORP ² (mV) | Other | Appearance (Clarity, Color, Odor) | |
| 0850 | | 7.15 | OF0).8 | 2270 | 1.03 | | 3.71 | -166.3 | 5.16 | yellow tint, | |
| 0855 | | 7.14 | 8,536 | 22.80 | 0.89 | | 3.36 | -195.1 | 6.67 | solids on # | 20 |
| 0990 | | 7.15 | 8,488 | 22.85 | 091 | | 3.17 | 196.9 | 5.95 | Strong Odio | r |
| 0905 | | 1115 | 8,424 | 22.95 | 0.89 | | 3.69 | -210.4 | 6.32 |) | |
| 0910 | <u> </u> | 7.16 | 8,307 | 23.12 | کِھ.٥ | | 3.42 | -206.6 | 6.63 | | |
| 0915 | | 7.10 | 8,365 | 23.32 | 0.85 | | 3.99 | 206.6 | | | |
| 0920 | - | 7.18 | 8,344 | 23 .7 2 | 0.78 | | 3.04 | -202.1 | 6.93 | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| Stabalization (| Criteria: | (+/- 0.1 su) | (÷/- 3 %) | (÷/- 3 %) | (<i>÷·i-</i> | 10%) | (=/- 10% or <1) | (+/- 10 mV) | (n/a) | (n/a) | |
| - Low flow pu | irging, use lei in criteria mu | ngth of tubi | ng. ² -1 r 3 consecutive r | Low-flow u | se tubing vi 3-5 minutes | ol.below. between r | 2 - Low flow usedings). | se Tubing Vol | ume (gal/fi |) (x) Pump Intake Depth (ft) | |
| | | | | | | | SCRIPTIO | <u>N</u> | | | |
| Container: | Lab 🔯 (| | ADIS 🗌 | Ca | ntainer | (Type | & Sizo) | ······································ | of bottle | D | |
| IZAII | Constit | ll v | 0h.or | Co | нашег | Type | N SILE) | 140. | ייי אייי | • | ť |
| Am | 10- 1001/ | 2011 | nuer . | | 4, | 111 | HEI_ | | 3 | - Nove | . — |
| Am | boer | 13011 | 10 | | $\frac{\lambda C}{1C}$ | <i>-</i> | | - | 0 | | |

| Remarks: | Field | Dup. | (FDQ | 10915 |) at | 0920 | | |
|--------------|--------------|---------------------|-------|------------|------------|----------------|---------|----------|
| Field B | lank (| F3000 | 915 C | it ogi | 40 Ea | urpment | Blank (| E8060915 |
| TUBING DIAME | TER VOLUMES. | (In Milliliters per | Foot) | WELL CASIN | G DIAMETER | VOLUMES (in Ga | OF OOS | 50 |

1.0" = 0.04 1.5" = 0.09 2.5" = 0.26

2"=0.16 3"=0.37 4"=0.65 6"=1.46 3.5"=0.50 5"=1.04 3"=2.56

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| ARCADIS | WATER SAMPLING LOG | | | | | | | | | |
|----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|--------------------------------|----------------------------|--------------------------------------|--|--|--|--|--|
| Project No Site Name Site Location Site/Well No. Weather | | Sample Personnel Sample ID Duplicate ID Start pump Start sampling | AG, 19 MW-1 1020 1055 | Date Stop p Stop s | ump [105] | | | | | |
| Description of Measuring Point | | of well casing | MP Elev | ation (ft) | | | | | | |
| • | Description of Measuring Point (MP) North-end top of well casing MP Elevation (ft) Depth to Water before/after (ft) O 95/96 Casing Diameter (in) | | | | | | | | | |
| Water Column in Well (ft) | | Evacuation Vol./Ra | | m or | TL | | | | | |
| Volume per foot in Well ² | | Pump Intake Depth | | <u> </u> | , = | | | | | |
| Total Volume in Well 3 | | Evacuation Method | | | | | | | | |
| | | | | | | | | | | |
| | ec. Cond Temp Temp Temp Temp Temp Temp Temp Temp | DO Turbidity (%) (NTU) | 1 | Other | Appearance (Clarity, Color, Odor) | | | | | |
| | uS/cm) | | | | | | | | | |
| 1025 7.48 7 | .65023.65 1.18 .60523.65 0.9 | 0.22 | -85.6 | 7.48 Hz | dicalbano | | | | | |
| 1030 743 7 | 581 239105 | 6 2.37 | -83.2 | 8 23 | 3heen on | | | | | |
| 1040 7487 | 540 24 13 0.4 | | | 8.56 | Probe | | | | | |
| 1045 7.497 | 523 23980 3 | | | 8.85 | 1.000 | | | | | |
| 1050 3.487 | ,497242103 | 8 2.48 | -127.29 | 1.09 | | | | | | |
| 1055 7457 | 517 24.00 0.3 | 8 2.80 | -138.0° | 136 | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | 11/200 11/200 | 1 100/1 | | | | | | | | |
| Stabalization Criteria: (÷/- 0.1 su) 1 - Low flow purging, use length of tubing. 2 - Stabalization criteria must be met for 3 c | 2 - Low-flow use tubing | vol.below. 3 – Low flow t | (÷/- 10 mV) ese Tubing Volu | (n/a) me (gal/ft) (x) P | (n/a) ump intake Depth (fi) | | | | | |
| Container: Lab 🛛 or ARCADI | | NER DESCRIPTIO | <u>N</u> . | | | | | | | |
| Constituents | | er (Type & Size) | No. o | f bottles | Preservative | | | | | |
| VOA - Benzen | e | to m1 | | 3_ | None | | | | | |

Remarks:

 TUBING DIAMETER VOLUMES. (In Milliliters per Foot)
 WELL CASING DIAMETER VOLUMES. (In Gallous per Foot)

 0.25T = 9.65
 0.5T = 38.61
 1.0T = 0.04
 2T = 0.16
 3T = 0.37
 4T = 0.65
 6T = 1.46

 0.375T = 21.72
 0.75T = 86.87
 1.5T = 0.09
 2.5T = 0.26
 3.5T = 0.50
 5T = 1.04
 3T = 2.36

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 3.5T = 0.50
 5T = 1.04
 3T = 0.26

| ARCADI: | S | | 1 | WATF | R SA! | MPLI | NG LOO | à | | Page | of | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-------------------------------------|------------------------------------------|-------------------|-----------------------------|------------------------------------------------------|-----------------------------|-----------------------------|--------------|------------------|-------------------------|----------|
| Autorio. | | | , | ***** | | | | | | | | |
| Project No Site Name Site Location Site/Well No. Weather | | | | | | Sample Sample Duplica Start pu Start sar | te ID | AG, MW-9 1240 (315 | s | top pump | 0915 320 8 1320 | |
| | | | | Ī | EVACU | ATION | DATA | | | | | |
| Description of Measuring Point (MP) North-end top of well casing MP Elevation (ft) Depth to Water before/after (ft) 4.01/617 Casing Diameter (in) Water Column in Well 1 (ft) Evacuation Vol./Rate Volume per foot in Well 2 Pump Intake Depth (ft) Total Volume in Well 3 Evacuation Method | | | | | | | | | | | | |
| Time | Volume (gal or L) | pH ² (S.U.) | Spec. Cond ² (mS/cm or uS/cm) | Temp ¹ | mg/I) | (%) | Turbidity (NTU) | ORP ² (mV) | Other | (Clarity. | Color. Odor) | |
| 1245 | | 6.51 | 19,824 | 238 | 0.81 | | 10.1 | -228.1 | 4.78 | Dark | OOY. | |
| 1250 | | 6.48 | 19.788 | 24.18 | 0.40 | | 12.3. | 233.4 | 5.15 | Salds | α | |
| 1255 | (| 043 | 19,727 | 24.06 | 0.34 | | 12.2 | -220.4 | 5.36 | WC | Her. | |
| 1300 | | 6.40 | 19,594 | 24.59 | 0.32 | | 13.0 | 253.4 | 5.50 | VEM S | trang | |
| 1305 | | 0.37 | 19,563 | 2452 | 0.27 | | 12.3 | 299.3 | 5.52 | nyaia | amor | α |
| 1310 | | 0.37 | 19,495 | 24.75 | 0.25 | | 20.3 | · · | 593 | ana s | TONOW | Ω |
| 1315 | | 6.35 | 19,477 | 24.83 | 0.19 | | 25.1 | -429.1 | 6.17 | water | <u> </u> | |
| | | <u> </u> | | - | | | | | | | | |
| | | | | | | | | - | | | | |
| Stabalization (| riteria: | (÷/- 0.1 | (+/-3 %) | (÷/- 3 %) | (÷/- | 10%) | (=/- 10% or <1) | (+/- 10 mV) | (n/a) | 1 | (n/a) | |
| 1 - Low flow pu 2 - Stabalization | rging, use les n criteria mu | su) ngth of tubi st be met fo | ing. 2-1 or 3 consecutive r | Low-flow u | se tubing vi 3-5 minutes | ol.below. between r | 3 – Low flow (eadings). | ise Tubing Vo | lume (gal/fi |) (x) Pump Intal | ke Depth (fi) | |
| | | | | CO | NTAIN | ER DE | SCRIPTIO | N | | | | |
| Container: | Lab 🖾 (| | ADIS [_] | Co | ntainer | (Type | & Size) | No. | of bottle | es Pi | reservative | |
| VOA | - Be | | ne, | | 40r | иl | • | | 3 | | ano. | |

| Container: Lab or ARCADIS | CONTAINER DESCRIPTION | | |
|----------------------------|-------------------------|----------------|--------------|
| Constituents | Container (Type & Size) | No. of bottles | Preservative |
| VOA-Benzene | 40m1 | 3 | None |
| | | | |
| | | | |
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| | | | |
| | | | |
| Remarks: | | | |
| | | | |

TUBING DIAMETER VOLUMES. (In Milliliters per Foot)

0.25" = 9.65

0.5" = 38.61

0.375" = 21.72

0.75" = 86.87

0.5" = 0.09

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| Page_ | 1 | of | 1 | |

| Project No LACO2 Site Name Site Location Site/Well No. Weather | 8185.000 sman sman -17 | Sam Dup Start | ple Personnel ple ID licate ID t pump t sampling | AG 1 MW-1 1347 1425 | Stop | p pump 425 p sampling 1430 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|---------------------|---------------------------------------------------------|------------------------------|----------------|-------------------------------|
| Description of Measuring Point (MP) North-end top of well casing MP Elevation (ft) Depth to Water before/after (ft) Casing Diameter (in) 4 Water Column in Well 1 (ft) Evacuation Vol./Rate Yolume per foot in Well 2 Pump Intake Depth (ft) Total Volume in Well 3 Evacuation Method | | | | | | 911- |
| Time Volume pH 2 | Spec. Cond Temp | | Turbidity | ORP ² | Other | Appearance |
| (gal or L) (S.U.) | (mS/cm or uS/cm) | (ng/) (° | 6) (NTU) | (mV) | OM | (Clarity, Color, Odor) |
| 1355 7.24 | 12,320 23.2 | | 3.67 | 7 | 6.39 | Some solias |
| 1400 7.20 | 12,32 23.1 | 10.33 | 295 | -1922 | 6.40 | on water. |
| 1405 7.20 | 12,298 23.0 | 40.27 | 2.91 | 1937 | 6.41 | |
| 1410 7.20 | 12,2910 73.11 | 00.27 | 12.95 | -193.4 | 640 | |
| 1415 7.22 | 12,323 2313 | 3 0.23 | 2.40 | 192.8 | 0.41 | |
| 1420 7.21 | 12,338 233 | 0.23 | 2.90 | -186.11 | 6.411 | |
| 1425 7.21 | 12,421 23.2 | 30.24 | 3.83 | 184.4 | 6.41 | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| Stabalization Criteria: (+/- 0.1 su) | (÷/- 3 %) (÷/- 3 % | 6) (+/- 10%) | (-/- 10% or <1) | (÷/- 10 mV) | (n/a) | (n/a) |
| Low flow purging use length of tubi - Stabalization criteria must be met for Container: Lab or ARC | or 3 consecutive readings | ~3-5 minutes betw | ow. ² – Low flow reen readings). DESCRIPTIO | | me (gal/ft) (x | x) Pump Intake Depth (ft) |
| Constituents | | Container (Ty | pe & Size) | No. o | of bottles | Preservative |
| VOA-Benzen | e | 40m | 1 | | 3_ | Nane |
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| Remarks: | | | | | | |

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| | | | Date ()(0101 | 5_ |
|------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|--------------------------------|------------------------------|-----------------------|
| Project No LA-003185.000 | Sample Personnel | AG,10 | , | |
| Site Name HUNTSMAN | Sample ID | MW-35 | | |
| Site Location Huntsman | Duplicate ID | | | |
| Site/Well No. MW -3S | Start pump | 0817 | Stop pump | \mathbf{S}_{∞} |
| Weather | Start sampling | 0850 | Stop sampling | Ω |
| FWAC | THATION DATA | | | |
| | CUATION DATA | \/D = | (6) | |
| Description of Measuring Point (MP) North-end top Depth to Water before/after | or well casing | MP Elevatio | n (π) | |
| (ft) 4.49 /5.24 | _ Casing Diameter (| in) <u>4"</u> | | |
| Water Column in Well 1 (ft) | _ Evacuation Vol./R | ate 300n | MIL | |
| Volume per foot in Well ² | Pump Intake Depth | n (ft) | | |
| Total Volume in Well ³ | Evacuation Metho | d Peris | taltic Pum | $\overline{\Omega}$ |
| | | | | 1 |
| | DO 1 Turbidity | ORP Othe | | 1 |
| (gal or L) (S.U.) (mS/cm or (°C/°F) (mg/i | (%) (NTU) | (mV) OT | (Clarity, Color, | Odor) |
| 0820 7.376,441 2010 1.5 | 9 5.48 | 126.7 4.8 | S Organics o | n |
| 0825 7.22 6,424 20.35 1.0 | | -122.1 4.9 | 8 MOYEN | |
| 08.30 7 24 6 414 20.43 0.00 | 0 4.45 | -113.8 5.1 | 0 | |
| 0835 7.20 6.394 20.38 0.38 | 8 4.15 | -117.3 5.1 | 5 | |
| | 3.17 | +117.8 S.2 | 20 | |
| 0845 7326355 2039 0.3 | 0 3.11 | 118.052 | 2 | |
| 0850 7.336347 20.45 02 | 8 3.04 | -48.952 | <u>u</u> | |
| | | | | |
| | | | | |
| | | | | |
| Stabalization Criteria: (+/- 0.1 (+/- 3 %) (+/- 3 %) (| (+/- 10%) (-/- 10% or <1 |) (÷/-10 mV) (n/s | n/a) | |
| - Low flow purging, use length of tubing. 2- Low-flow use tubin - Stabalization criteria must be met for 3 consecutive readings (-3-5 minutes) | ng vol.below. 2 – Low flow utes between readings). | use Tubing Volume (§ | ral/ft) (x) Pump Intake Dept | th (ft) |
| | INER DESCRIPTIO | <u>N</u> | | |
| Container: Lab or ARCADIS Contain | ier (Type & Size) | No. of bo | attles Dussey | |
| 1/ | ۸ | No. 01 BC | ottles Preser | vanve |
| VOA - Bonzone 4 | Oml | 3 | Nanc | رک |
| | | | | |
| | | | | |
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| | | | | |
| D 1 1 1 D | _ ^ | Address Allerton and a Company | | |
| Remarks: Declicated Pump do | vesht nork | | | |

TUBING DIAMETER VOLUMES. (In Milliliters per Foot)
0.25" = 9.65
0.5" = 38.61
 WELL CASING DIAMETER VOLUMES
 (In Gallous per Foot)

 1.0" = 0.04
 2" = 0.16
 3" = 0.37
 4" = 0.65

 1.5" = 0.09
 2.5" = 0.26
 3.5" = 0.50
 5" = 1.04
 8" * 2.5€
 $0.25^{\circ} = 9.65$ $0.375^{\circ} = 21.72$

0.75" = 86.87

5" = 1.46

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| Page | of | 1 |
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| | | Date | 061015 |
|-------------------------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| Project No L-A 00318 S.000 | Sample Personnel | AG,10 | |
| Site Name + HUNTSMAN | Sample ID | MW-30. | |
| Site Location Huntsman | Duplicate ID | | |
| Site/Well No. MW-3D | Start pump | OGOC) Stop | pump 1000 |
| Weather | Start sampling | | sampling (OCO |
| FYAC | TIATION DATA | | |
| | CUATION DATA | MP Elevation (ft) | |
| Description of Measuring Point (MP) North-end top Depth to Water before/after | Of Well Cashing | WIF Elevation (II) | |
| (ft) 4.41 / 4.42 | _ Casing Diameter | (in) 4" | |
| Water Column in Well 1 (ft) | _ Evacuation Vol./I | Rate <u>300 mQ</u> | |
| Volume per foot in Well ² | Pump Intake Dep | th (ft) | |
| Total Volume in Well 3 | Evacuation Metho | od <u>Dedical</u> | led Pump |
| Time Volume pH Spec. Cond Temp | DO 2 Turbidity | ORP Other | Appearance |
| (gal or L) (S.U.) (mS/cm or (°C)F) (ng/L | _ 1 | (mV) DW | (Clarity, Color, Odor) |
| 17.16 17.864 2065 0.4 | 3.103 | -85 3 442 | |
| 0925 7.16 17.516 20.640.2 | | L=4 1 U 43 | |
| 0920 7161776020.430.2 | 7 290 | -798443 | |
| 0935 7.17 17 81500540.7 | 8 2 96 | -81.8 443 | |
| 0940 7 18 17 794 20.65 0.3 | | +82.1 443 | |
| 0945 718 17770 2070 0.3 | | -822 442 | |
| 0950 7.18 17720 20.81 0.4 | 5 2.00 | 1-79.0442 | |
| | | | |
| | | | |
| | | | |
| | +/- 10%) (-/- 10% or | (1) (+/- 10 mV) (n/a) | (n/a) |
| su) 1 - Low flow purging, use length of tubing. 2 - Low-flow use tubin | g vol.below. 2 - Low flow | v use Tubing Volume (gal/ft) (x) | Pump Intake Depth (fi) |
| - Stabalization criteria must be met for 3 consecutive readings (~3-5 mim | utes between readings). | | |
| | NER DESCRIPTI | <u>ON</u> | |
| Container: Lab or ARCADIS Contain | er (Type & Size) | No. of bottles | Preservative |
| VOA - Bonzono, 40 | | . 7 | None |
| VOTI-BUILDING 40 | (11) | | TOUTE |
| | | | |
| | | | |
| | | | |
| | | | |
| | | 1000 | |
| Remarks: Discharge time 5 | Fill Tim | 10.6 | |
| Venial ps. A CONTACT LILLS 2 | , , , , , , , , , , , , , , , , , , , | | |
| | | The second secon | |

TUBING DIAMETER VOLUMES. (In Millillers per Foot)
0.25" = 9.65
0.375" = 21.72
0.75" = 86.87

 WELL CASING DIAMETER VOLUMES
 (In Gallons per Foot)

 1.0" = 0.04
 2" = 0.16
 3" = 0.37
 4" = 0.65

 1.5" = 0.09
 2.5" = 0.26
 3.5" = 0.50
 5" = 1.04
 5" ± 2.66

6" = 1.46

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| Project No Site Name Site Location Site/Well No. Weather | Sample P Sample II Duplicate Start pum Start sam | D e ID np npling | AG, 10 MW- 012 045 | | p pump p sampling | 15 055 1055 | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|---------------------------------------------------------|---------------------------------------------------|---------------------------|------------------------------------------|---------------------------|----------|
| Description of Measuring Poil Depth to Water before/afte (ft) Water Column in Well ¹ (ft) Volume per foot in Well ² Total Volume in Well ³ | | Casing D Evacuati Pump In | osing Diameter (in on Vol./Ratake Depth on Method | n) | vation (ft) 4 ¹ 200m Ded (| g/L Taled | Pump |
| Time Volume pH 3 S (gal or L) (S.U.) | | 0.65 | Turbidity (NTU) 3.03 3.08 | TIS. 3 -124.8 | Other DTW 5,10 L 5,09 5,08 S | Appeara (Clarity, Colo | r. Odor) |
| 1030 7.25 1035 7.27 1040 7.27 1045 7.27 | 1100 | 0.45 0.45 0.50 | 3.38 4.40 3.52 4.49 | -1245 -123.8 -121.4 | 508 508 508 508 508 | Ode | |
| Stabalization Criteria: (+/- 0.1 su) - Low flow purging, use length of tubing | (+/- 3 %) (+/- 3 %) | (÷/- 10%) se tubing vol.below. | (-/- 10% or <1) | | (n/a) | (n/a) | |
| - Stabalization criteria must be met for : Container: Lab or ARCA! Constituents | 3 consecutive readings (~3- <u>CON</u> DIS | -5 minutes between re NTAINER DES ntainer (Type & | adings). | <u>N</u> . | of bottles | | ervative |
| VOA - Benger | 1e | 40m1 | | | 3 | | MO. |
| Remarks: | | | | | | | |

TUBING <u>DIAMETER VOLUMES. (In Milliliters per Foot)</u>
0.25" = 9.65
0.375" = 21.72
0.75" = 86.87
 TUBING DIAMETER VOLUMES. (In Milliliters per Foot)
 WELL CASING DIAMETER VOLUMES. (In Gallons per Foot)

 0.25" = 9.65
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 1.0" = 0.04
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 4" = 0.65

 0.375" = 21.72
 0.75" = 86.87
 1.5" = 0.09
 2.5" = 0.26
 3.5" = 0.50
 5" = 1.04
 5" = 2.36

 Citiestrick/soloni/AppDatail_coal/Microsoft/Windows/Temporary Internet Files/Content/Octock/UK412464/quarticlp/VCCs-2008.dox
 6" = 1.46

| ARCADIS | WATER SAMPLING LOG | Page of | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|--|--|
| Project No Site Name Site Location Site/Well No. Weather | Start pump Start sampling | Date 00015 16,10 10-05 100015 210 Stop pump 1255 245 Stop sampling 1255 | | |
| Description of Measuring Point (M | EVACUATION DATA P) North-end top of well casing | MP Elevation (ft) | | |
| Depth to Water before/after | 29 /6 63 Casing Diameter (in) | . 11 | | |
| (ft) September 1 (ft) September 2 (ft) S | Evacuation Vol./Rate | | | |
| Volume per foot in Well ² | Pump Intake Depth (1 | | | |
| Total Volume in Well 3 | Evacuation Method | Dedicated Pumb | | |
| | ond Temp DO Turbidity | ODD: 1 CL | | |
| Time Volume pH Spec. C (gal or L) (S.U.) (mS/cn uS/cr | or (°C)F) (mg/) (%) (NTU) | ORP Cother Appearance (Clarity, Color, Odor) | | |
| 1215 7.17 17.8 | 772381441 6.31 - | 101.85.69 yellow tint the | | |
| 1220 70918,0 | 9 2173 063 5.33 - | 135.55.78NU10COLDON | | |
| 1275 7.10 18,0 | 182170 0.26 5.38 - | 150.515.87 000V. | | |
| 1230 7 12 18,0 | 3 21750.26 6.08 | 55.55.98 | | |
| 1235 7.14 17.9 | 8 2200018 6.25 | 60.2448 | | |
| 1240 7.1318.0 | 10/23/10.17 6.10 + | 165.4-6.48 | | |
| 1245 7.14 18,46 | 1 22700.15 607 | 1624 663 | | |
| | | | | |
| | | | | |
| Stabalization Criteria: (+/- 0.1 (+/- 3 | %) (+/- 3 %) (+/- 10%) (-/- 10% or <1) { | ÷/-10 mV) (n/a) (n/a) | | |
| su) 1 - Low flow purging use length of tubing. 2 - Stabalization criteria must be met for 3 consecutions. | ² – Low-flow use tubing vol.below. ³ – Low flow use utive readings (~3-5 minutes between readings). | Tubing Volume (gal/ft) (x) Pump Intake Depth (ft) | | |
| CONTAINER DESCRIPTION Container: Lab or ARCADIS | | | | |
| Constituents | Container (Type & Size) | No. of bottles Preservative | | |
| VOA-BONZONE | 40ml | 3 Nane | | |

HOM None VOA-Benzene # FO001015 at 1245

 WELL CASING DIAMETER VOLUMES
 (In Gallous per Foot)

 1.0" = 0.04
 2" = 0.16
 3" = 0.37
 4" = 0.65

 1.5" = 0.90
 2.5" = 0.26
 3.5" = 0.50
 5" = 1.04
 5" ± 2.5€

5" = 1.46

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| rage | 01 | |

| Project No Site Name Site Location Site/Well No. Weather | S S S | sample Personnel sample ID Suplicate ID Start pump Start sampling | | op pump 1355 op sampling 1255 | | |
|---------------------------------------------------------------------------|----------------------|-------------------------------------------------------------------|----------------------------------------------|--------------------------------------------------------|--|--|
| Description of Managing Boint (MB) No | | | MD Elevation (A | | | |
| Description of Measuring Point (MP) No Depth to Water before/after | Jitii-end top of | well casing | MP Elevation (ft |) | | |
| (ft) S.12 | 1509 | Casing Diameter (| in) 4" | | | |
| Water Column in Well 1 (ft) | | Evacuation Vol./Ra | | 211- | | |
| Volume per foot in Well ² | | Pump Intake Depth | | | | |
| Total Volume in Well 3 | | Evacuation Method | · | HAT Pilmo | | |
| | | | | MA TOMP | | |
| 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | Temp DO | 1 | ORP Other | Appearance | | |
| uS/cm) | (°C)°F) (mg/L) | (%) (NTU) | (mV) QIVV | (Ciarity, Color, Odor) | | |
| [310 73621,477] | 2369291 | 8.93 | 53.65.11 | | | |
| 1315 731 21,212 | 228010.88 | 7.67 | 69.4 5.12 | | | |
| 1320 7.3171.082 | 2.150.61 | 6.44 | 760.95.12 | | | |
| 1325 7.2821.075 2 | 2.14 0.52 | 6.14 | -40.3 S.11 | | | |
| 1330 7.20121035 P | 2260.52 | 4.79 | -64.25.10 | | | |
| 1335 7.27 21,040 | 22.48 0.43 | S. 22 | S2.3 S.10 | | | |
| 1340 7.28 20,902 | 248 0.34 | 5.72 | 7659 5.09 | | | |
| | | | | | | |
| | | | | | | |
| Stabalization Criteria: (+/- 0.1 (+/- 3 %) | (+/- 3 %) (÷/- 1 | 10%) (-/- 10% or <1) |) (+/- 10 mV) (n/a) | (n/a) | | |
| su) | , | | use Tubing Volume (gal/ft) | • | | |
| Subalization criteria must be met for 3 consecutive real | adings (~3-5 minutes | between readings). | re i nome volume (Saru) | (x) rump intake Depth (R) | | |
| | CONTAINI | ER DESCRIPTIO | N | | | |
| Container: Lab or ARCADIS | | | | | | |
| Constituents | Container | (Type & Size) | No. of bottles | Preservative | | |
| VoA-Banzone | し | lomi | _ 3 | None | | |
| VOH - BEUZENE | <u> </u> | 10ml | 3 | None | | |
| NOH-Benzane | | OML | | -None | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| The Olor Harman and the 1000 | | | | | | |
| Remarks: 120 3000 1 80000 01 1355 | | | | | | |
| - Equipment 101010 | - TROX | 01012 0 | H_1400 | THE R. P. S. C. S. | | |
| TUBING DIAMETER VOLUMES. (In Milliliters per F 0.25 = 9.65 0.5 = 38.61 | Foot) WEI | L CASING DIAMETER | VOLUMES (In Gallons p 2" = 0.16 3" = 0.37 | er Foot) 4" = 0.65 6" = 1.46 | | |



| Document Control Number:TGM |
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| TAILGATE HEALTH & SAFETY MEETING FORM | | | | | |
|---------------------------------------------------------------------|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | - | | - | Personnel who perform work opera | itions on- |
| Project Name: 1 1 | | to attend this meeting and to act | Project Loc | -47 | |
| TIVINDIYO | (V) | 6 | | Humsin | |
| Date: 6-8-15 0853 | Conducted | by: Ana Gutieriez | Signature/T | CALLYN GROOGS | <u>;+</u> |
| Client: | Client Conta | act: | Subcontrac | tor companies: | 9 |
| TRACKing the Tailga | te Meeti | ing | | | |
| Think through the Tasks (list the | tasks for the | | | | |
| 1 Well arwaing | | 3 Nell Samplina | | 5 | |
| 2 PID poading | | ٨ | | 6 | |
| | | ox if there are any other ARCADI at may pose hazards to ARCADIS | | If there are none, write "None" here: | |
| If yes, describe them here: | · · · · · · · · · · · · · · · · · · · | | | | |
| How will they be controlled? | | artendini Minimus " | | | |
| Prework Authorization - check | activities to be | e conducted that require permit | Dcc# | | Doc # |
| issuance or completion of a chec | Doc# | r before work begins: Working at Height | | Confined Space | |
| Energy Isolation (LOTO) | | Excavation/I renching | | Hot Work | |
| Mechanical Lifting Ops | | Overhead & Buried Utilities | | Other permit | |
| | | Land Separation of the Control of the Con | i ma | | e de la constitución de la const |
| | | ew previous day's post activities). Chack | | Topics from Corp H&S to cove | ĺ |
| Incidents from day before to r | | Lessons learned from the day | / before? | Ariy Stop Work Interventions y | |
| Any corrective actions from you | esterday? | Will any work deviate from pl | lan? | If deviations, notify PM & clien | t |
| JLAs or procedures are availa | able? | Field teams to "dirty" JLAs, as | s needed? | All equipment checked & OK? | |
| Staff has appropriate PPE? | | Staff knows Emergency Plan | (EAP)? | Staff knows gathering points? | |
| Comments: | | | | | |
| Recognize the hazards (check a circle risk level) - Provide an over | | | | | |
| Gravity (i.e. ladder scaffold, hios) | | | | | |
| Gravity (.e. laoder scariolo, iliba) | (5. 10/ 31/ | MOIKING CLOSE TO KIVER | (2 141 11) | | (C :VI 11; |
| Electrical (i.e. utilities, lightning) | (LMH) | Pressure (i.e. gas cyairders, wells) | (L M H) | Environment (te, heat, cold, ce) | (LMH) |
| Chemical (i.e., fuel, add paint) | | Biological (i.e., ticks, poison ivy) | (L M H) | Radiation (e , alphe st.n. laser) | (_ M H) |
| | | spaeis insects, snak | | K77= | 4. 4.4.1. |
| Sound (i.e. machinery, generators) | (L M H) | Personal (i.e. alone, hight, not fit) | (L M H) | Driving (Le ,csr, ATV, boat, dozer) | (LMH) |
| Continue TRACK Process on Page 2 | | | | | |
| Continue I RACK | FIOCES | S UII Faye L | | | |

| TAILGATE HEALTH & SAFETY MEETING FORM - Pg. 2 | | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|--------------------------------------|
| | nose methods to control the hazards that will be sesses. Discuss and document any additional of | | | he day): Revi | ew the |
| STOP WORK AUTHORITY (Must be addr Elimination Engineering controls General PPE Usage Personal Hygiene Emergency Action Plan (EAP) JLA to be developed/used (specify) | essed in every Tailgate meeting - (See statement Substitution Administrative controls Hearing Conservation Exposure Guidelines Fall Protection LPO conducted (specify job/JLA) | X | below) Isolation Monitoring Respiratory Pr Decon Proced Work Zones/S Traffic Control Other (specific | ures ite Control | |
| Signature an | d Certification Section - Site Stat | ff a | nd Visitors | ; | |
| Name/Comp | any/Signature | | Initial & Sign in Time | Initial & Sign out Time | i have read and understand the |
| Ana Cutherrez/Arradi | SIGNA | - | 60857 | 1641540 | 49 |
| Leans Carton Arcadis / | shell? | ┨┟ | 16 0857 | 10/540 | J.C. |
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| | |] [| | | |
| | | Jl | | | |
| Important information and Numbers All site staff should arrive fit for work. If not, they should | Visitor Name/Co - not involved in work | ii h | ncertain about heal scard or additional | iny time anyone is on this safety or if anyon mitigation not recons | ine identifies a |
| report to the supervisor any restrictions or concerns | In Out | P | rcject, job or task hi | azard assessment | |
| In the event of an injury, employees will call WorkCare at 1.80G 455 5155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720 344.3844. | | U | - | changes in parsonneres not covered by t | |
| In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720 344 3844 and then Corp Legal at | In Out | 7 | | TOP THE JOB, I winend the hezard ass | |
| 1.720.344.3756. | In Out | , | will not assist a su | bcontractor or other | party with their |
| In the event of a utility strike or other damage to properly of a client or 3rd party, employees will immediately notify the field supervisor, who will then immediately notify Corp | In Out | | | olutely necessary an ACK and I have tho I | |
| Post Daily Activities Review - Review at end of day or before next day's work (Check those applicable and explain:) | | | | | |
| Lessons learned and best practices learned today: | | | | | |
| Incidents that occurred today: | | | | | |
| Any Stop Work interventions today? | | | | | |
| Corrective/Preventive Actions needed for future work: | | | | | |
| Any other H&S issues: | | | | | |
| <u>K</u> eep H&S 1 ^s | it in all things | V | VorkCare - 1 800 | 0.455.6155 | |



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| T/ | TAILGATE HEALTH & SAFETY MEETING FORM | | | | |
|--------------------------------------------|---------------------------------------|-------------------------------------|------------------------|------------------------------------------------------------------------|------------|
| | • | | = | . Personnel who perform work opera heir attendance, at least daily. | ations on- |
| Project Name: / / / | - 4 | o to attend the moothing | Project Lo | | |
| | Cu/ \ Conducted | lby: An Galle | Signature | Title: / Godlock | |
| Date: Olionic Time: Olionic Client: | Client Con | 1100 | ellez Eur | ector companies: | |
| | | | | | |
| TRACKing the Tailga | | | | | |
| Think through the Tasks (list the | tasks for the | | pridmi | 5 | |
| 2 Well Away | da | 4 | | 6 | |
| Other Hazardous Activities | | • | | If there are none, write "None" here: | |
| other party If yes, describe them here: | | et may pose hazards to | ARCADIS operations | Holle here. | |
| How will they be controlled? | | | | | |
| Prework Authorization - check | | | e permit Doc# | | Doc# |
| issuence or completion of a check | Doc# | Working at Height | | Confined Space | |
| Energy Isolation (LOTO) | | Excavation/Trenchi | ng | Hot Work | |
| Mechanical Lifting Ops | | Overhead & Buried | Utilities | Other permit | |
| Discuss following questio | ÚS (for some re | view previous day's post activities |). Check if yes : | Topics from Corp H&S to cove | er? |
| Incidents from day before to r | eview? | Lessons learned fro | om the day before? | Any Stop Work Interventions | resterday? |
| Any corrective actions from you | esterday? | Will any work devia | ate from plan? | If deviations, notify PM & clien | ıt |
| JLAs or procedures are availa | able? | Field teams to "dirty | y" JLAs, as needed? | All equipment checked & OK? | ı |
| Staff has appropriate PPE? | | Staff knows Emerg | ency Plan (EAP)? | Staff knows gathering points? | |
| Comments: | | | | | |
| | | | | Assess the Risks (Low, Medium, Lifety list them under the hazard cate | |
| • | | . ^ | ving wateri (L M H) | Mechanical (i e . augers, motors) | |
| Electrical (i.e., utilities, lightning) | (L M H) | Pressure ma gas cyl | irders, Wells) (L M H) | Environment (i.e., heat. cold, ce) | (L M H) |
| Chemical (i.e., fuel, acid paint) | (L M H) | Biological (i e. ticks) | sects snake | Radiation (e , alpha, sun, laser) | (_ M H) |
| Sound (i.e., machinery, generators) | (L M H) | Personal (se alone, n | | | (LMH) |
| Continue TDAOY | Decas | an Bara 2 | | | |
| Continue TRACK | Proces | s on Page 2 | | | |

| TAILGATE HEALTH & SAFETY MEETING FORM - Pg. 2 | | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
| | hose methods to control the hazards that will be besses. Discuss and document any additional of | • | | | |
| STOP WORK AUTHORITY (Must be addressed in every Tailgate meeting - (See statements below) Elimination Engineering controls Administrative controls General PPE Usage Hearing Conservation Personal Hygiene Exposure Guidelines Emergency Action Plan (EAP) JLA to be developed/used (specify) Elimination Substitution Administrative controls Respiratory Protection Respiratory Protection Work Zones/Site Control Traffic Control Other (specify) | | | | | |
| Signature an | nd Certification Section - Site Staf | f and Visitors | | | |
| Name/Company/Signature Name/Company/Signature Name/Company/Signature Name/Company/Signature Name/Company/Signature Initial & Sign in Time Initial & Sign in Time Time AG OROO AG 1600 AG IC OROO IC 1600 TC | | | | | |
| 7 / / / / / / / / / / / / / / / / / / / | | | | | |
| | | | | | |
| | | | | | |
| Important Information and Numbers All site staff should arrive fit for work. If not, they should | Visitor Name/Co - not involved in work | I will STOP the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, | | | |
| In the event of an injury, employees will call WorkCare st 1.800 455 6155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720 344,3844. | In Out | i will be aiert to any changes in parsonnel, conditions at the work site or hazards not covered by the original hazard assessments | | | |
| In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720 344 3844 and then Corp Legal at | in Out | If it is necessary to STOP THE JOB, I will perform TRACK; and then amend the hazard assessments or the HASP as needed. | | | |
| 1.720.344.3758. In the event of a utility strike or other damage to property of a client or 3rd party, employees will immediately notify | In Out | I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly | | | |
| the field supervisor, who will then immediately notify Corp legal at 1.678.373.9556 and Corp H&S at | in Out | controllec the hazard | | | |
| Post Daily Activities Review - Review at end of day or before next day's work (Check those applicable and explain:) | | | | | |
| Lessons learned and best practices learned today: | | | | | |
| Incidents that occurred today: | | | | | |
| Any Stop Work interventions today? | | | | | |
| Corrective/Preventive Actions needed for future work: | | | | | |
| Any other H&S issues: | | | | | |
| Keep H&S 1 st in all things WorkCare - 1.800.455.9155 | | | | | |



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| TAILGATE HEALTH & SAFETY MEETING FORM | | | | | | | | |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------|------------------------|--|--|--|--|--|
| This form documents the tailgate meeting site during the day are re | ng conducted in accordance with the Pr equired to attend this meeting and to act | | | | | | | |
| Project Name: 11 | Squired to attend this integring and to ac- | Project Location: 1.1 | | | | | | |
| TI OV TISYCU) | ucted by: A C . h aveaa | Signature/Title: | 14) | | | | | |
| 0015 10800 | Tha Gollenez | 1 myse / | Jedogst | | | | | |
| Client: Client | Contact: | Subcontractor companies: | ,) | | | | | |
| TRACKing the Tailgate N | leeting | | | | | | | |
| Think through the Tasks (list the tasks f | | | | | | | | |
| 1 well awaing | 3 Well Samplu | <u>5</u> | | | | | | |
| 2 PIO Reading | 4 | <u> </u> | | | | | | |
| | the box if there are any other ARCADI ties that may pose hazards to ARCADIS | 1 1 751- | ne. write ne" here: | | | | | |
| If yes, describe them here: | | | | | | | | |
| How will they be controlled? | | | | | | | | |
| Prework Authorization - check activities issuance or completion of a checklist or | | Doc.# | Doc# | | | | | |
| Not applicable Doc | | Confined Space | | | | | | |
| Energy Isolation (LOTO) | Excavation/Trenching | Hot Work | | | | | | |
| Mechanical Lifting Ops | Overhead & Buried Utilities | Other permit | | | | | | |
| Discuss following questions (for a | ome review previous day's post setivities). Check | If yes: Topics from Corp He | LS to cover? | | | | | |
| Incidents from day before to review? | Lessons learned from the day | y before? Any Stop Work Inter | ventions yesterday? | | | | | |
| Any corrective actions from yesterds | y? Will any work deviate from p | olan? If deviations, notify F | PM & client | | | | | |
| JLAs or procedures are available? | Field teams to "dirty" JLAs, a | es needed? XAII equipment check | ed & OK? | | | | | |
| Staff has appropriate PPE? | Staff knows Emergency Plan | (EAP)? Staff knows gathering | g points? | | | | | |
| Comments: | | | | | | | | |
| Recognize the hazards (check all those | | | | | | | | |
| circle risk level) - Provide an overall asse | <i>L</i> | | | | | | | |
| Gravity (i.e., ladder, scaffold, tribs) (L. M | Motion (i.e. traffic, moving water) WOYKING, CLOSE TO | (L M H) Mechanical (i.e. auger | s, motors) (L M H) | | | | | |
| Electrical (i.e., utilities, lightning) (L. M. | H) Pressure (i.e. gas cylinders, wells) |) (L M H) Environment (I e , heat | | | | | | |
| Chemical (i.e., fuel, acid paint) (L. N | H) Biological (i.e., take poison iny) | (LMH) Radiation (e, alpha, s | un, taser) (_ M H) | | | | | |
| Sound (i.e., machinery, generators) (L. N | | (L M H) Driving (Le car, AIV. b) | oat, dozer) (LMH) | | | | | |
| | | | | | | | | |
| Continue TRACK Pro | cess on Page 2 | | | | | | | |

| TAILGATE HEALTH & SAFETY MEETING FORM - Pg. 2 | | | | | | | | |
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| Control the hazards (Check all and discuss those methods to control the hazards that will be implemented for the day): Review the HASP, applicable JLAs, and other control processes. Discuss and document any additional control processes. | | | | | | | | |
| STOP WORK AUTHORITY (Must be addr Elimination Engineering controls General PPE Usage Personal Hygiene Emergency Action Plan (EAP) JLA to be developed/used (specify) | Engineering controls General PPE Usage Personal Hygiene Emergency Action Plan (EAP) Administrative controls Hearing Conservation Exposure Guidelines Fall Protection | | | | | | | |
| Signature an | d Certification Section - Site Staf | f and Visitors | | | | | | |
| Ana Gotteros/Arca 25/201 Cartro / Arcadis | Initial & Sign in Time Initial & Sign out Time Industrial the Initial & Sign out Time Industrial the Initial & Sign out Time I | | | | | | | |
| | | | | | | | | |
| Important Information and Numbers All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns | Visitor Name/Co - not involved in work | i will STOP the job any time anyone is concerned or uncertain about health & safety or it anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment | | | | | | |
| In the event of an injury, employees will call WorkCare at 1.800 455 5155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720 344.3844 | In Out | I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments | | | | | | |
| In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1,720 344 3844 and then Corp Legal et | If it is necessary to STOP THE JOB, I will perform TRACK; and then amend the hazard assessments of the HASP as needed. | | | | | | | |
| 1.720.344.3758. In the event of a utility strike or other damage to properly of a client or \$rd party, employees will immediately notify the field supervisor, who will then immediately notify Corp. | I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard | | | | | | | |
| Lensi at 1 578 373 9556 and Com H&S at | ndew at and of day or hotors next dayle wait !! | Chack those annihophis and evaluin: | | | | | | |
| Lessons learned and best practices learn Incidents that occurred today: Any Stop Work interventions today? | eview at end of day or before next day's work ((| элеск шове аррисаріе ала ехріаіп.) | | | | | | |
| Corrective/Preventive Actions needed for | future work: | | | | | | | |
| Any other H&S issues: | | | | | | | | |
| Keep H&S 1 | st in all things | WorkCare - 1.800,455.8155 | | | | | | |



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+1 616 399 6070

Holland, MI

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Houston, TX

+1 610 948 4903 Salt Lake City, UT +1 801 266 7700

Spring City, PA

outh Charleston, WV 04 356 3168 ...k, PA +1 717 505 5280

coc ID: 128175

Environmental ALS Work Orier # **Project Information** Parameter/Method Request for Analysis **Customer Information** Brickland Refinery Huntsman 8260 Benzene (unpreserved) 8270 - PAH ARCADIS U.S., Inc. ARCADIS U.S., Inc. Garett Ferguson 211 N Florence Street, Suite 202 211 N Florence Street, Suite 202 El Paso, TX 79901 El Paso, TX 79901 (915) 533-9025 (915) 533-3902 (915) 533-6045 Garett.Ferguson@arcadis-us.com Sample Description X Shipment Method Results Die Date Received by: Notes: Received by (Laboratory):: Level 2 Std QC TRRP CHILIST Level 3 Std QC/Row da TRRP Level 4 Level 4 SW846/CLP

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. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.

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of

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Spring City, PA +1 610 948 4903 Salt Lake City, UT +1 801 266 7700

South Charleston, WV 04 356 3168 +1 717 505 5280

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| | ARCADIS U.S., Inc. | | BIL To G | official ARCAD | 16 U,S., Ir | nc. | 4.5 | 6 | \$.54 | | | | | | | |
| | Garet Ferguson | | linve | i de la companya di santa di | | | er er | N | | | | | | | | |
| Fedres | 211 N Florence Street, Suite 202 | | | | 211 N Florence Street, Suite 202 | | | | | | | | | | | |
| Gly/Sulte/Zip | El Paso, TX 79901 | | Gity/6 | ma//en El Paso | El Paso, TX 79901 | | | 9 | | | | | | | | |
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| | | | | (915) 5: | 33-9045 | | | | | | | | | | | |
| | Garet.Ferguson@arca | dis-us.com | estate. | cines: | | | • | | | | | | | | | |
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| Garrett Ferguson | i invers | Accounts Payable | | | | | | | | | | | |
| 401 East Main Street, Suite 400 | | 630 Plaza Dri | 630 Plaza Drive, Suite 600 | | | | | | | | | | |
| El Paso, TX 79901 | El Paso, TX 79901 Hightand | | | Highlands Ranch | | | | | | | | | |
| (915) 523-39C | 2 13 14 | (303) 471-369 | 19 | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Garett, Ferguson@arcadis-us.com | a Sexido and | | | | | | | | | | | | |
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| Document Control Number:TGM - | |
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| TAILGATE HEALTH & SAFETY MEETING FORM | | | | | | | | | |
|-------------------------------------------------------|----------------------|------------------------------------------------------|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--|--|--|--|
| · | - | | - | Personnel who perform work oper heir attendance at least daily. | ations on- | | | | |
| Project Name: | A STECOME | d to alterid this meeting i | Project Lo | | | | | | |
| th untom | an | hu | | sumand fack, no | <u>~</u> | | | | |
| Date: 9-14-15 Time: 0825 | Conducted | \$. Solow | ma | Signature Title Sopervisor | | | | | |
| Client: | Client Con | tact; | Subcontra | ctor companies: | | | | | |
| TRACKing the Tailga | ite Mee | ting | | | | | | | |
| Think through the Tasks (list the | tasks for the | day): | | | | | | | |
| 1 Gauge all w | Ells | 3 | | 5 | | | | | |
| 2 Sample wells | | 4 | | 6 | | | | | |
| Other Hazardous Activities other party | | box if there are any other at may pose hazards to | | If there are none, write "None' here: | | | | | |
| if yes, describe them here: | | | | | | | | | |
| How will they be controlled? | | | | | | | | | |
| Prework Authorization - check | | - | permit Doc# | | Doc # | | | | |
| issuance or completion of a checonomic Not applicable | Rist or simu Doc# | Working at Height | | Confined Space | | | | | |
| Energy isolation (LOTO) | 200 17 | Excavation/Trenchir | | Hot Work | | | | | |
| Mechanical Lifting Ops | | Overhead & Buried | | Other permit | | | | | |
| | | | | | | | | | |
| Discuss following questio | NS (for some re- | view pravious day's post activities; | . Check if yes: | Topics from Corp H&S to cov | er? | | | | |
| Incidents from day before to r | eview? | Lessons learned fro | m the day before? | Any Stop Work Interventions | yesterday? | | | | |
| Any corrective actions from you | esterday? | Will any work devia | ite from plan? | If deviations, notify PM & clien | nt | | | | |
| JLAs or procedures are availa | able? | Field teams to "dirty | " JLAs, as needed? | All equipment checked & OK | ? | | | | |
| Staff has appropriate PPE? | | Staff knows Emerge | ency Plan (EAP)? | Staff knows gathering points? | , | | | | |
| Comments: | | *** | | 44 | | | | | |
| | II these that | andiament / Expens | a are newided and | Access the Dieles (Leave Marilland | 11 _ 1_ | | | | |
| | | | | Assess the Risks (Low, Medium, interpretation) in the Risks (Low, Me | | | | | |
| Gravity (i.e., ladder, scaffold, trios) | (LMH) | Motion (i.e. traffic, mov | ing wateri (LMH) | Mechanical (i.e. augers, motors) | (LMH) | | | | |
| Electrical (i.e. utilities, lightning) | (LMH) | Pressure (i.e. gas cylin | rders, wells) (L M H) | Environment (i.e., heat cold, ce) | (L M H) | | | | |
| Chemical (i.e., fuel, acid paint) | (LMH) | Biological (14. 139 p | oison my (LMH) | Radiation (le , alpha, sun, laser) | (_ M H) | | | | |
| Sound (i.e., machinery, generators) | (LMH) | Personal (/ e alche ni | ght, not fit) (LMH) | Driving (Le ast, ATV. book dozer) Rough Tarram | (L M H) | | | | |
| | | | | | | | | | |
| Continue TRACK | Proces | ss on Page 2 | | | | | | | |

| TAILGATE | TAILGATE HEALTH & SAFETY MEETING FORM - Pg. 2 | | | | | | | | |
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| Control the hazards (Check all and discuss those methods to control the hazards that will be implemented for the day): Review the HASP, applicable JLAs, and other control processes. Discuss and document any additional control processes | | | | | | | | | |
| STOP WORK AUTHORITY (Must be address Elimination Engineering controls General PPE Usage Personal Hygiene Emergency Action Plan (EAP) JLA to be developed/used (specify) | | | | | | | | | |
| Signature an | d Cartification Section - Site Sta | f and Visitors | | | | | | | |
| | Signature and Certification Section - Site Staff and Visitors Name/Company/Signature Initial & Sign on Time Initial & Sign out Time Initial & Sign out and understand the | | | | | | | | |
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| ſ <u></u> | | | | | | | | | |
| Important information and Numbers All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns | Visitor Name/Co - not involved in work | I will STOP the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment | | | | | | | |
| In the event of an injury, employees will call WorkCare at 1.800 455 9155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720 344.3844 | In Out | I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments | | | | | | | |
| In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1,720 344 3844 and then Corp Legal at | In Out | If it is necessary to STOP THE JOB, I will perform TRACK; and then amend the hazard assessments of the HASP as needed. | | | | | | | |
| 1.720.344.3756. | în Out | I will not assist a subcontractor or other party with their | | | | | | | |
| In the event of a utility strike or other damage to property of a client or 3rd party, employees will immediately notify the field supervisor, who will then immediately notify Corp | work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard | | | | | | | | |
| Post Daily Activities Review - Re | eview at end of day or before next day's work (| Check those applicable and explain:) | | | | | | | |
| | | | | | | | | | |
| Lessons learned and best practices learn | icu icudy. | | | | | | | | |
| Incidents that occurred today: | | | | | | | | | |
| Any Stop Work interventions today? | Edwards and a | | | | | | | | |
| | Corrective/Preventive Actions needed for future work: | | | | | | | | |
| Any other H&S issues: | | | | | | | | | |
| Keep H&S 1 | st in all things | WorkCare - 1.800,455,5155 | | | | | | | |



| Document Control Number.TGM - | |
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| TA | VILGATE | HEALTH & SAI | FETY MEETIN | NG FORM | · 5% | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------------------------------------------------|----------------------|------------------------------------------------------------------------|-----------|--|--|
| This form documents the tailgate meeting conducted in accordance with the Project HASP. Personnel who perform work operations on- site during the day are required to attend this meeting and to acknowledge their attendance at least daily. | | | | | | | |
| Project Name: | | | Project Lo | cation: / | | | |
| | Conducted | | Signature/ | Title: | | | |
| Date 7-15-15 Time 815 | Client Cont | | pm | from | | | |
| Client: Hutsman | Client Cont | act. | Subcontra | ctor companies: | | | |
| TRACKing the Tailga | te Meet | ing | | | | | |
| Think through the Tasks (list the | | | | | | | |
| 1 MONITOR WEUST | pline | 3 | | 5 | | | |
| 2 | | 4 | | 6 | | | |
| Other Hazardous Activities - other party | | ox if there are any other and may pose hazards to A | | If there are none, write "None' here: | | | |
| if yes, describe them here: | • | | | | | | |
| How will they be controlled? | | | | | | | |
| Prework Authorization - check | | | permit Doc# | | Doc# | | |
| issuance or completion of a chec Not applicable | Doc# | Working at Height | | Confined Space | | | |
| Energy Isolation (LOTO) | | Excavation/Trenching | | Hot Work | | | |
| Mechanical Lifting Ops | | Overhead & Buried L | /tilities | Other permit | | | |
| Discuss following question | OS (for some revi | ew gravious day's post activities). | Check if ves : | Topics from Corp H&S to cove | er? | | |
| Incidents from day before to re | | Lessons learned from | • | Any Stop Work Interventions | esterday? | | |
| Any corrective actions from ye | sterday? | Will any work deviate | e from plan? | If deviations, notify PM & clien | nt | | |
| JLAs or procedures are availa | ble? | Field teams to "dirty" | JLAs, as needed? | All equipment checked & OK? | ١ | | |
| Staff has appropriate PPE? | | Staff knows Emerger | ncy Plan (EAP)? | Staff knows gathering points? | | | |
| Comments: | | A | | | | | |
| | | | | A | | | |
| | | | | Assess the Risks (Low, Medium,) telly list them under the hazard cate | | | |
| Gravity (i.e., ladder, scaffold, tribs) | | | | Mechanical (i.e. augers, motors) | (LMH) | | |
| Electrical (i.e., utilides, lightning) | (L M H) | Pressure (i.e. gas cylind | ders, wells) (L M H) | Environment (i.e., heat cold, ce) | (LMH) | | |
| Chemical (i.e., fuel, acid paint) | (LMH) | Biological (1 a . taks po | isograyi (LMH) | Radiation (e. alpha. sur. laser) | (_ M H) | | |
| Sound (se . machinery, generators) | (LMH) | Personal (e aiche higi | ht, not fit) (LMH) | Driving (Le car. ATV, boat, dozer) | (L M H) | | |
| | | | | | | | |
| Continue TRACK | Proces | s on Page 2 | | | | | |

| TAILGATE HEALTH & SAFETY MEETING FORM - Pg. 2 | | | | | | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|
| Control the hazards (Check all and discuss those methods to control the hazards that will be implemented for the day): Review the HASP, applicable JLAs, and other control processes. Discuss and document any additional control processes | | | | | | | |
| STOP WORK AUTHORITY (Must be address Elimination Engineering controls General PPE Usage Personal Hygiene Emergency Action Plan (EAP) JLA to be developed/used (specify) | ents below) Isolation Monitoring Respiratory Protection Decon Procedures Work Zones/Site Control Traffic Control Other (specify) | | | | | | |
| Signature ar | nd Certification Section - Site Sta | ff and Visitors | | | | | |
| | any/Signature | Initial & Sign in Initial & Sign out Time Initial & Sign out and understand the | | | | | |
| Ama Guheirez Arrac | AG 815 AG | | | | | | |
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| | | | | | | | |
| Important Information and Numbers All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns | Visitor Name/Co - not involved in work | I will STOP the job any time anyone is concerned or uncertain about hearth & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment | | | | | |
| In the event of an injury, employees will call WorkCare at 1.800 455 6155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720 344.3844 | In Out | I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments | | | | | |
| In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720 344 3844 and then Corp Legal at 1.720 344,3755. | in Out | If it is necessary to STOP THE JOB, I will perform TRACK; and then amend the hazard assessments or the HASP as needed. | | | | | |
| In the event of a utility strike or other damage to property of a client or 3rd pany, employees will immediately notify | | I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly | | | | | |
| the field supervisor, who will then immediately notify Corp Legal at 1.575.373.5556 and Com H&S at | in Out | controlled the hazard | | | | | |
| Post Daily Activities Review - Re Lessons learned and best practices learned | eview at end of day or before next day's work (ned today: | Check those applicable and explain:) | | | | | |
| Incidents that occurred today: | | | | | | | |
| Any Stop Work interventions today? | | | | | | | |
| Corrective/Preventive Actions needed for | r future work | *************************************** | | | | | |
| Any other H&S issues: | TOTAL STORY | | | | | | |
| Keep H&S 1 | it in all things | WorkCare - 1.800,455.8155 | | | | | |



| Document Control Number:TGM - | |
|-----------------------------------------|--------------------------------------|
| TGM + project number plus dete as folio | ws: xxxxxxxxxxxxxxxxxxx - dc/mm/year |

| T | AILGAT | E HEALTH & SAFETY | MEETIN | IG FORM | . 37. |
|--------------------------------------------------------------------|------------------|----------------------------------------------------------------------|-----------------|-----------------------------------------------------------------------|------------|
| , | • | nducted in accordance with the P ad to attend this meeting and to ac | • | Personnel who perform work oper | ations on- |
| Project Name: Hands ma | | id to attend this meeting and to ac | Project La | | |
| | Conducted | l by: | Signature/ | | |
| Client: | Client Con | D. Join | 101 | Title: on Field Super | (VISO |
| | | | | our companies. | |
| TRACKing the Tailga | ite Mee | ting | | | |
| Think through the Tasks (list the | | | | | |
| 1 montitor WEILS | rimplin | 1 3 | | 5 | |
| 2 | | 4 | | 6 | |
| 8 | | box if there are any other ARCAD | | If there are none, write | |
| other party if yes, describe them here: | y activities th | nat may pose hazards to ARCADI | S operations | "None" here: | |
| | | | | | |
| How will they be controlled? | | | | | |
| Prework Authorization - check issuance or completion of a check | | | Doc# | | Doc # |
| Not applicable | Doc# | Working at Height | | Confined Space | |
| Energy Isolation (LOTO) | | Excavation/Trenching | | Hot Work | |
| Mechanical Lifting Ops | | Overhead & Buried Utilities | | Other permit | |
| Discuss following questio | FIS (for some re | view previous day's post activities). Checi | (if yes : | Topics from Corp H&S to cov | er? |
| Incidents from day before to r | eview? | Lessons learned from the da | y before? | Any Stop Work Interventions | yesterday? |
| Any corrective actions from you | esterday? | Will any work deviate from | olan? | If deviations, notify PM & clien | nt |
| JLAs or procedures are availa | able? | Field teams to "dirty" JLAs, | s needed? | X All equipment checked & OK | ? |
| Staff has appropriate PPE? | | Staff knows Emergency Plan | (EAP)? | Staff knows gathering points? | , |
| Comments: | | | | under 1 | |
| | 11 4 | andinavand (Taranalas caras | المحادث المحادث | Access the Dialog (I am the St | |
| | | | | Assess the Risks (Low, Medium,) lefty list them under the hazard cat | |
| Gravity (i.e., ledder, scaffold, trios) | (L M H) | Motion (i.e., traffic, moving water) | (L M H) | Mechanical (i e . augers, motors) | (L M H) |
| Electrical (i.e. utilities, lightning) | (L M H) | Pressure (i.e. gas cylinders, wells | (LMH) | Environment (i.e., Neat cold., ce) | (LMH) |
| Chemical (i.e., fuel, acid point, | (LMH) | Biological (1 + /taks poison my | (LMH) | Radiation (e , sipha, sun, laser) | (_ M H) |
| Sound (i.e., machinery, generators) | (LMH) | Personal (alone hight, not fit) | (L M H) | Driving (Le car, ATV, boat, dozer) | (LMH) |
| Oantinus TDAOI | D | | | | |
| Continue TRACK | Proces | ss on Page 2 | | | |

| TAILGATE | TAILGATE HEALTH & SAFETY MEETING FORM - Pg. 2 | | | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|
| Control the hazards (Check all and discuss to | hose methods to control the hazards that will besses. Discuss and document any additional | e implemented for the day): Review the | | | | | |
| STOP WORK AUTHORITY (Must be address Elimination Engineering controls General PPE Usage Personal Hygiene Emergency Action Plan (EAP) JLA to be developed/used (specify) | essed in every Tailgate meeting - (See statem Substitution Administrative controls Hearing Conservation Exposure Guidelines Fall Protection LPO conducted (specify job/JLA) | Isolation Monitoring Respiratory Protection Decon Procedures Work Zones/Site Control Traffic Control Other (specify) | | | | | |
| Signature ar | nd Certification Section - Site Sta | ff and Visitors | | | | | |
| | any/Signature | Initial & Sign in Initial & Sign out and understand the | | | | | |
| Doug Solon ARCHO | 15 James | 0750 05 | | | | | |
| Ana Güherrez Arcao | is all | CTSU AG | | | | | |
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| Important Information and Numbers All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns | Visitor Name/Co - not involved in work | I will STOP the job any time anyone is concerned or uncertain about hearth & safety or if anyone identifies a hazard or additional mitigation not recorded in the sita, project, job or task hazard assessment | | | | | |
| In the event of an injury, employees will call WorkCare at 1.800 455 5155 and then notify the field supervisor who will in turn, notify Corp H&S at 1.720 344.3844 | In Out | I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments | | | | | |
| In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1,720 344 3844 and then Corp Legal at | in Out | If it is necessary to STOP THE JOB, I will perform TRACK; and then amend the hazard assessments or the HASP as needed. | | | | | |
| 1,720.344.3755. | In Out | | | | | | |
| In the event of a utility strike or other damage to property | | I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only | | | | | |
| of a client or 3rd party, employees will immediately notify the field supervisor, who will then immediately notify Corp | In Out | after I have done TRACK and I have thoroughly controlled the hazard | | | | | |
| Poet Daily Activities Review - D | ! eview at end of day or before next day's work (| Chark those applicable and evaluin:) | | | | | |
| | | спеск шове арржаме ата ехрапт.) | | | | | |
| Lessons learned and best practices learn | ned today: | | | | | | |
| Incidents that occurred today: | | | | | | | |
| Any Stop Work interventions today? | | | | | | | |
| Corrective/Preventive Actions needed for | r future work: | | | | | | |
| Any other H&S issues: | | | | | | | |
| Keep H&S 1 | st in all things | WorkCare - 1.800,455.5155 | | | | | |



| Project / No | Page_ | of |
|-------------------------------------------------------|-------|---------------------------------------|
| Site Location Hentsman, - Sonland Park NM | | 9-14-15 |
| Subject Qt (y GW SAmplus Prepared By Q-Sola | | |
| | | |
| Time Description of Activities | | |
| 0820 - D.S. / A.G. on site | | |
| 0825 - Tailgate meeting | | |
| 0840 - Began gang mig wells | | |
| 0920 - Setup on MW-17 . Began purging | | |
| 0955 - Sampled MW-17 - BENZENE - 3 VOA'S | | _ |
| - Field Dup FD091415 - BENZENE - 3 vons | | |
| 1015 - SETUP on mw-11 - Began punging | | |
| 1050 - Sampled MW-LI-BENZENE-BUDA'S | | |
| 1110 - Returned to office | | |
| 1240 - onsite - setup on mw-35 | | |
| 130 - Began Porquis | | |
| 1330 - Sampled MW-3'S -BENZENE -3 VOU'S | | |
| 340 - Fuld Black - FB 09 1415 - DI HZO 3 NOA'S | | |
| 1345 - SETOP on MW-3D Began Purging | | : |
| 1415 - Sampled MW. 3D -BENZENE - 3 VOA'S | | |
| 1425 - Component Black - EB091415 - DI HOW down probe | , | |
| 1430 - Returned to flaire | | ; |
| 145- Rackage cooler for shims | | |
| 1500 - Travel to FEREX to drip of | | · · · · · · · · · · · · · · · · · · · |
| 1,0 | | |
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| Project / No. | | | oi |
|---------------|----------------------------------------------------------------------------------------------------------------------|-------------|---------------------------------------|
| Site Location | | Date _ | 9-15-15 |
| Subject | Qrtly GW Sampling Prepared By D. Solon | | |
| | | | |
| Time | Description of Activities | | |
| 0812 - 2 | 5/AG onsite | | |
| 0315 - | Tailgate meeting - GF on site | W### | |
| 0820 - | Setup on mu- 65 - Began purging | | |
| 0905 - 5 | sampled mw-LS_BENZETKE - 3 von's | | • |
| 0910 | setup on mw-60 | | _ |
| 0925 - | Began Purging | | |
| 0955 - | Sanaled mu-100 - BEHZENE -3 VOA'S | | |
| 1000 - | Field Black - FB091515 - 3 von's DIHZO | | |
| | SETUP ON # MW-95 | | |
| 1 | | | |
| | Sampled MW-95-BENZENE-3VOA'S | | |
| 11:00 | Return to office | | |
| | $\cdot \cdot $ | | · · · · · · · · · · · · · · · · · · · |
| 1250 - | ansity. Set up on mw-05 | | |
| 1310 + | Began persing | | |
| 1340 + = | Sampled MW-05 BENZETTE 3 VOAS | | |
| 1355- | Europent Black - EB091515 - BDT HEO are of | w Prot | એ |
| 1400 | them to flice | | |
| 1415 | Package samples for shoping | | |
| 1415 - 8 | ex ladord | | |
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| Project / N | o. <u>LA 00 3185, 250</u> | _ Page _ | of |
|-------------|-------------------------------------------------------------|-------------|-----------|
| Site Locati | on Houteman - Sinland Park, non | _ Date | 9-16-15 |
| Subject | artly GW Sampling Prepared By D. John | | • |
| | | | |
| Time | Description of Activities | | |
| 0750 - | - anni et site 25/AG -TAIlgate | | |
| 0 305 | - Setap on no-8 - Began purping | | |
| 0935 | Sampled MW-8 -BENZENE 3YORS /PAH 3 | 6 3 | • |
| | Diplicate FD091615 - PAH 310A'S | | |
| 0850 | Egopport Blank - EB091665- DI HOO over ofa | Pa-La | 60 |
| | | | |
| | Fuld Blank - FB 0916/5 3 NOM'S DI HZC | <u>, -B</u> | oth Eis q |
| | FB sample for PAH BENERE | | |
| 0905- | Setup on mw-10 Began purging | | |
| 0940- | Sampled MW-10 Began purging Sampled MW-10 - BEHZENE 3 VOR'S | | |
| 0945 | - Decon Gingment | | |
| 0965 | - observed stormwater effluent locations - al | 0/100 | 4. |
| | c. V / d Cara to | l loca | |
| | Scaled of Concrete | -4 | 00 |
| | Recon around the permeter flerce line for sa | early | chek |
| 1015 | arrived pak at office | • | |
| - | padeaced exemperat | *** | |
| | shipped samples to FEDEX | | |
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artly Sangel SEP. 2015 9-14-15 A.G. D.S. 0820 onsito 0825 Toulaste mea 0840 0920 Setup on MW-17 Began purque 0955 MW-17 - Bonzene Field Dup FDO91415 Boneone Setupon MW-11 1015 Began purgu 3-404 5 Semoted marti Bonzon 1050 returned to offers 1240 setup on MW.35 1300 Began 1330 1340 Fuld Blank - FBOGKID -PAHLO BIONS 1345 SETUD on MW-3D Bream sampled MW 30. BENZENK 1415 Egippont Black - EB091415-1425 Benzauc - 3von's o/w Probe DI 1430 - return to 445 - Rackage Cooten for 1500 - FEDER to drop & coolin

A.G. /D.S. SETUP OR MW-65 0830 - Began Pung. 0905 Sangled MW-US -BENZENE 0910-SET UP on MW-6D 0925. De pay Fine mu - 60 - Bonzone 1000 - Fild Black - FB 0915 15 - BAREVE 3 VON 1 - DI HZU 1008 - SETUP on MW- 95 1015 - Brand ang 3- 95 - BENEFRE Beton + 1/2 11:00 1250 - onsit + Setup on MW-05 1310-1340 - sampl mw. os BENZERE 1355 - Kpyr & Black EB091515 -BENZAHE BUNN 1400- Return to for 1415 - Packaged Samples for Shipping 1430- FEDEX fundings of6 $\subset \mathscr{U}$

Cont: Hontoman Orthy 5 sling 2005 9-16-15 DS/AG 750-anie at site - TA Igate 0805- SETUP on MW-8 0835 - Sampled mu. 8 BEHZONE PAH - Duplicate FD091615 - 30000/91414 900 - Egypmet Black - EBO91415 BENEARD PAH 0850 Field Island - FB091615 -30NOTOS PACI PIHZO for EB + FB Samples 0905 solupion mw-10 - began 0940. Sandla mus-10 -BENEENE 0955 - Observed swellhat locations-all closed and sealed and seeing check at the Shaped Sample to Id8X

| ARC ARC | אחוכ - | WE | ידי | Si | te Name: | Huntsman | |
|-----------------|-----------------------|----------------------------------------|-----------------------------------------|--------------------------------------------------|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| | Environment Buildings | GAUGIN | | Pr | oject Number | : LA003185.0 | 000 |
| | | | | | Date & Time: | 091415/0840 | |
| | | | | | | | |
| water column he | eight = | (well depth in fee | et) - (initial depth | to water in feet) r | reading from Top | of Casing | |
| Well Gauging In | formation | ······································ | | | | | |
| Well ID | Date/Time | PID (ppm) | Depth to Product (ft) | Depth to Water (ft) | Product Thickness | Comments | |
| | | | | | | | |
| | course boule | ~~ | | 11 6.1 | | Plugged | |
| MW-3S | 091415/0840 | Q.QQ | | 4.84 | | | |
| MW-3D | w 10895 | Q.QQ | | 4.73 | | | |
| MW-5 | 10905 | | 1.2 | ч.3 0 | | | |
| MW-6S | 2 10905 | 7 77 | T. <u>_</u> | 5.62 | | | |
| MW-6D | 11 10855 | <u> </u> | | 5.63 | | The first processed actions of the process of the second process of the second section of the second | |
| | 10055 | \bigcirc . \bigcirc | | ر س.ت | | | |
| MW-8 | W 1,0910 | 3.7 | *************************************** | 3.98 | | | |
| MW-9S | 11 10900 | 0.00 | | 5.29 | | | |
| -MAL-SD | | | | | | Plugged | |
| MW-10 | 10920 | 25.2 | | 7.40 | | Hydrocarioan odc | x |
| MW-11 | W/0915 | 0.0 | | 0.37 | L | | |
| | | | | | | | |
| | | | | <u> </u> | | Plugged | |
| ADW.45 | | | | | | | |
| 450444 | | | | | | | |
| MW-17 | 2/0921 | 0.0 | | 0.70 | | hydrocarbon oc | dor. |
| 4424 | 10121 | U. U | | 0.10 | <u> </u> | 7.90.000 | <u> </u> |
| - AMPLE - | | | | | | | |
| 444 | | | | | | | |
| 944pmp | | | | | | | |
| -स्राम | | | | | | | |
| -WD-89- | | ļ | | | | | |
| 4WP-000 | | | | | | | |
| WF-200 | | | | | <u> </u> | | |
| WP-art | | | | | | | |
| | | | | | | | |
| 447-57 | | | | | † | | |
| | | | | | | | |
| 44F-00 | | | | | | | |
| Equipment and | Decon Procedures | | | | ٥ | | |
| Gauging Equips | nent | water | level v | Meter | PID | | |
| Decon Procedu | res | MOHEY (| ana 1191 | JKINOX. | | | |

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| H | D | | - | i, | , 1 | _3 |

| Page | of | |
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| | | |

| | | D | ate 091415 |
|--------------------------------------------------------------------|-------------------------------|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Project No LA003185.00 | Sample Personne | DR AG | |
| Site Name Huntsman | Sample ID | MW-17 | |
| Site Location Huntoman | Duplicate ID | FMOQIH | 5 FBOOTHS |
| Site/Well No. MW - 17 | Start pump | 0919 s | top pump 1005 |
| Weather 75°P | Start sampling | ^^ - | top sampling 1005 |
| | | | |
| | EVACUATION DATA | | |
| Description of Measuring Point (MP) North-e | nd top of well casing | MP Elevation (| ft) |
| Depth to Water before/after | Carlan Diameter | (2) 11 11 | |
| (ft) <u>6.70</u> | Casing Diameter | | |
| Water Column in Well 1 (ft) | Evacuation Vol./ | | ma/L |
| Volume per foot in Well | Pump Intake Dep | oth (ft) | <u> </u> |
| Total Volume in Well 3 | Evacuation Meth | od Peristat | tic pump |
| Time Volume pH Spec. Cond Temp | DO Turbidity | ORP Other | Appearance |
| (gal or L) (S.U.) (mS/cm or (20-2F) | (NTU) | (m/c) DLM | (Ciarity, Color, Odor) |
| 0925 7.28 11.741 24.8 | 0.24 30.7 | -126.3 6.72 | Strong hildre |
| 09130 7.28 11.711 242 | 0.16 19.2 | -131.7 6.72 | carban odbr |
| 0935 7 29 11 572 24.2 | 0.14 15.1 | -131.8 6.72 | Slight yellan |
| 0940 728116281241 | 0.11 5.34 | 136.8 6.72 | tint on Jwater. |
| 040 F001180 F 2UPO | 0.10 7.13 | -139.46.72 | 11-11-01-00-10 |
| 0950 7.28 11.610 23.9 | 0.10 4.58 | -140.1 (0.72 | |
| 0955 3GAH-28 11579 24.1 | 0.09 2.42 | | |
| 0-19-30-pt 11-28 11,5 1 1 2-1.1 | 001 2.1. |) 1,51,1,0.12 | |
| | | | |
| | | | |
| Stabalization Criteria: (÷/- 0.1 (+/- 3 %) (÷/- 3 %) |) (=/- 10%) (10% or - | (1) (÷/-10 mV) (n/a) | (n/a) |
| su) 1 – Low flow purging, use length of tubing. 2 – Low-flow | use tubing vol.below Low flow | v use Tubing Volume (gal/ft | (x) Pump intake Depth (fc: |
| - Stabalization criteria must be met for 3 consecutive readings (~ | | | , , , , , = = . , , |
| | NTAINER DESCRIPTI | <u>ON</u> | |
| Container: Lab or ARCADIS Constituents | ontainer (Type & Size) | No. of bottle | es Preservative |
| NOA BONGONO | 110-1 | 2 | _ |
| Von-bergere | 40m1 | | _None_ |
| | | | |
| | | | |
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| - Doblicate | | Section 1880 of Section 7 Section 7 | And the second s |
| Remarks: Field Blown | FD 091415) | at 0955 | |
| -Field Plank (FB A | G Pun | noed 3 G | ials |
| TUBING DIAMETER VOLUMES. (In Milliliters per Foot) 0.257 = 9.65 | WELL CASING DIAMETE | 2" = 0.16 3" = 0.37 | per Foot) 47 = 0.65 |
| A 1000 - 01 00 A 000 - 04 00 | | 357 = 0.50 57 = 1.04 | 1.1 2.2 6 |

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| 1 1120 | Page | <u></u> 01 | 1 |

| | | | | | | | | Da | te 0916 | 115 |
|---------------------------------------------------|--------------------|-------------|-------------|-------------------|-------------|----------------|---------------|-----------------|-------------------|-------------|
| Project No | LAOO | 3185. | 000 | | Sample | Personnel | DS. | 46 | | |
| Site Name | -14114- | th thur | itsm | an | Sample | ID | MW | -11 | | |
| Site Location | Afrint | sman | | | Duplica | te ID | | | | , |
| Site/Well No. | MW | -11 | | | Start pu | mp | 1014 | Sto | op pump | 1100 |
| Weather | 82 | °F | | | Start sa | mpling | 1050 | Sto | op sampling | 1100 |
| | | | <u>]</u> | EVACU | ATION | DATA | | | | |
| Description of | Measuring P | oint (MP)_1 | lorth-er | d top o | of well c | asing | MP Ele | evation (ft | .) | |
| Depth to Wa | iter before/a | fter 6. 2 | 818. | 58 | Casing | Diameter (| in) | 4" | | |
| Water Column | in Well 1 (ft |) | | | Evacua | tion Vol./R | ate | 1300 | mall | |
| Volume per fo | ot in Well 2 | | | | Pump I | ntake Deptl | n (ft) | | \mathcal{O} | |
| Total Volume | in Well 3 | | | | Evacua | tion Metho | d Pe | rista | the Pu | mp |
| Time Volu | ıme pH | Spec. Cond | Temp * | | 0 2 | Turbidity | ORP - | Other | Appea | Tance 1 |
| | or L) (S.U.) | (mS/cm or | (F) | (mg/L) | (0) | (NTU) | (mV) | DIM | (Ciarity, Co | 1 |
| 1020 | 7 24 | Q ILL = | 25 R | 017 | Ţ | 1.53 | -117.8 | 6.75 | Slight | maro- |
| 1025 | 7.20 | 8.978 | 20.2 | 0.10 | | 2.17 | -124.1 | 7.10 | corpon | CHOY. |
| 1020 | 7.20 | 8779 | | 0.06 | 2 | 1.75 | -131.4 | 7.50 | Slight u | iellaw |
| 1035 | 7.32 | 6751 | 26.1 | 0.04 | | 245 | -140.2 | 12001 | tint. | 1 ~ · · · |
| 1040 | 7.33 | 6,589 | 26.3 | 0.04 | | 2.54 | 144.6 | 8.12 | | |
| 1045 | 7.34 | 7.844 | 26.1 | 0.04 | | 2.20 | +147.6 | 8.35 | | |
| 1050 30 | gal 7.34 | 6,395 | 26.0 | 0.03 | | 2.48 | -150.7 | 8.58 | | |
| | | | | | Ì | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| Stabalization Criteria | t: (÷/- 0.1 su) | (+/- 3 %) | (÷/- 3 %) | (+/ - | 10%) | (10° a cr <1) | (÷/-10 mV) | (n/a) | (n/s | a) |
| 1 - Low flow purging. 2 - Stabalization criter | | | | | | | use Tubing Vo | lume (gal/ft) (| (x) Pump intake I | Depth (fil) |
| Container: Lab | ⊠ or ARC | ADIS 🗌 | <u>CO</u> 3 | NTAIN | ER DE | SCRIPTIO | <u>N</u> | | | |
| | nstituents | | Co | ntainer | (Type | & Size) | No. | of bottles | Pres | ervative |
| VOA | - Benze | ene_ | | 4 | Oml | | | _3 | _ NC | ne_ |
| | | - | | | | | | | _ | |
| | | | | | | | | | | |
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| | | | | | | | - | | | |
| Remarks: | | | ····· | | | | | | | |

TUBING <u>DIAMETER VOLUMES. (In Milliliters per Foot)</u>

0.25 = 9.65

0.5 = 38.61

0.375" = 21.72

0.75" = 86.87

CRUSSES diston-AppBatil-post-Microsoft Windows Temporary Internet: Resilicontent Outhors (INCL 2454 quantities).

5" = 1.46

| ARCADIS | WATER SAMPLING LOG | Page of | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------|--|--|--|
| Project No Site Name Site Location Site/Well No. Weather | Sample Personnel Sample ID Duplicate ID Start pump Start sampling | Date 091415 OS, AG Date 091415 PB 091415 250 Stop pump 1346 330 Stop sampling 1346 | | | |
| Delia (MAD) | EVACUATION DATA | MR Claustics (6) | | | |
| Description of Measuring Point (MP) Depth to Water before/after (ft) 4.8 | 7/5.57 Casing Diameter (in) | | | | |
| Water Column in Well 1 (ft) | Evacuation Vol./Rate Pump Intake Depth (f | | | | |
| Volume per foot in Well ³ Total Volume in Well ³ | Evacuation Method | " Peristattic Pump | | | |
| Time Volume pH Spec. Cond (s.U.) (mS/em.or | Temp DO Turbidity (%) (NTU) | ORP Color Other Appearance (Ciarity, Color, Odor) | | | |
| 1300 7.43 4.196 | 23.1 0.16 2.07 1 | 38.95.47 | | | |
| 1305 7.40 4,198 | 23.1 0.15 1.95 - | 43.2 5.56 | | | |
| 1310 7.48 4,192 | 123 0.12 2.20 | 45.2550 | | | |
| 1315 7.50 4.180 | 23.10.12 2.49 | 46.45.59 | | | |
| 1320 7.504,193 | 22.40.10 2.44 +1 | 46.1 5.57 | | | |
| 1325 7.51 4,199 | 23.1 0.11 3.03 1 | 40.95.57 | | | |
| 1330 39. 7.51 4,194 | 23.00.09 3.16 +1 | 46.15.57 | | | |
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| | | | | | |
| | | | | | |
| Stabalization Criteria: (+/- 0.1 (+/- 3 %) (+/- 3 %) (+/- 10%) (10% or <1) (+/- 10 mV) (n/a) (n/a) su) 1 – Low flow purging, use length of tubing. 2 – Low-flow use tubing vol.below. 3 – Low flow use Tubing Volume (gal/ft) (x) Pump Intake Depth (ft) 4 – Stabalization criteria must be met for 3 consecutive readings (~3-5 minutes between readings). | | | | | |
| | CONTAINER DESCRIPTION | | | | |
| Container: Lab or ARCADIS | Containur (Tama & Siza) | No. of bottles Preservative | | | |
| Constituents | Container (Type & Size) | 2 | | | |
| VOA - Benzene | TOMI | | | | |
| VOH - Benzene | <u> 40ml</u> | | | | |

(FB091415) at 1340 Field Blank

5" = 1.46

TUBING DIAMETER VOLUMES. (In Milliliters per Foot)
0.25 = 9.65
0.5 = 38.6)

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| | Date 091415 |
|----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| Project No LA003185.000 | Sample Personnel DS AG |
| Site Name + Huntsman | Sample ID MW-3D |
| Site Location Huntsman | Duplicate ID EB091415 |
| Site/Well No. MW-3D | Start pump 1339 Stop pump 1425 |
| Weather | Start sampling 1415 Stop sampling 1425 |
| | |
| EVAC | CUATION DATA |
| Description of Measuring Point (MP) North-end top | of well casing MP Elevation (ft) |
| Depth to Water before/after (ft) 4.82 / 4.85 | Casing Diameter (in) |
| Water Column in Well 1 (ft) | Evacuation Vol./Rate 2300 mall |
| Volume per foot in Well ² | Pump Intake Depth (ft) |
| Total Volume in Well 3 | Evacuation Method PONISTOHIC PUMP |
| | TOIONIO TOILI |
| | DO Turbidity ORP Other Appearance |
| (S.U.) (ms/cm) (**C**) (mg/) | (°5) (NTU) (mV) OTW (Cigrity, Color, Odor) |
| 1345 7.27 13.030 21.6 0.2 | 3 15.98 106.64.85 |
| 1350 7.28 13.628 2140.16 | 0 4.88 -109.94.85 |
| 1355 7.29 13.584 21.40.15 | 5 5.24 -111.4 4.85 |
| 1400 7.29 13,595 21,3 0.12 | 4.02 -112.5 4.85 |
| 1405 7.30 13,554 21.1 0.12 | 4.54-113514.85 |
| 1410 7.30 13,550 21 1 0.11 | 4.08 -114.414.85 |
| 1415 36a17.3013.548 21.1 0.0 | 8 2.38 - 114.8 4.85 |
| | |
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| | |
| Stabalization Criteria: (÷/- 0.1 (÷/- 3 %) (÷/- 3 %) (÷/- 3 %) | (-10%) $(-10% or < 1)$ $(+/-10 mV)$ (n/a) (n/a) |
| | vol.below 3 – Low flow use Tubing Volume (gal/ft) (x) Pump Intake Depth (ft) tes between readings). |
| | NER DESCRIPTION |
| Container: Lab ⊠ or ARCADIS □ | /T 0.51) |
| Constituents Containe | r (Type & Size) No. of bottles Preservative |
| VOA-Benzene | 40ml 3 None |
| VOA-Benzene | 40 ml 3 None |
| | |
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| | |
| Remarks: Equipment Bland | K (EB091415) at 1425 |

TUBING DIAMETER VOLUMES. (In Milliliters per Foot) WELL CASING DIAMETER VOLUMES. (In Gallous per Foot)

0.25" = 9.65
0.5" = 38.61
1.0" = 0.04
2" = 0.16
3" = 0.37
4" = 0.65
0.375" = 21.72
0.75" = 86.87
0.75" = 86.87
0.75" = 0.30
0.75" = 0.26
0.75" = 0.26
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6" = 1,46

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| | | D | ate 091515 |
|---------------------------------------------------------------------|-------------------|----------------------------|----------------------------|
| Project No LA 003185.000 | Sample Personnel | OS, AG | |
| Site Name - HUNTSMAN | Sample ID | MW-65 | |
| Site Location HUNISMAN | Duplicate ID | | |
| Site/Well No. MW - 6S | Start pump | 0828 St | top pump 0915 |
| Weather | Start sampling | | top sampling QIS |
| EVAC | UATION DATA | • | |
| Description of Measuring Point (MP) North-end top | of well casing | MP Elevation (f | t) |
| Depth to Water before/after (ft) 5.80/7.45 | Casing Diameter | (in) 4" | |
| Water Column in Well (ft) | Evacuation Vol./R | tate $\sqrt{300}$ | mall |
| Volume per foot in Well ² | Pump Intake Depti | h (ft) | 9 |
| Total Volume in Well ³ | Evacuation Metho | d Peristo | altic Pump |
| Time Volume pH Spec. Cond Temp | OO Turbidity | ORP Other | Appearance |
| (gal gr L) (S.U.) (mS/em or (FC)F) (mg/L) |) (%) (NTU) | (mV) DTW | (Ciarity, Color, Odor) |
| 0835 7.11 13.687 25.0 0.12 | 7.27 | -121.7 (0.77 | water nos a |
| 0840 7.11 13.764 25.1 10.08 | 3 410 | -128.5 (0.53 | uellow tint. |
| 0845 7.12 13, 804 25.1 0.00 | 4.46 | 136.6 6.78 | 7 |
| U850 7.12 13.827 25.2 0.04 | 14.75 | -140.5 6.88 | |
| 0855 7.12 13.849 25.3 0.04 | 4.05 | -145.57.02 | |
| 0900 7.12 13,861 725.50.04 | 4.38 | -14547.25 | |
| 0905 7.12 13.871 25.5 10.04 | 1 5.79 | 146.57.45 | |
| | | | |
| | | | |
| | | | |
| Stabalization Criteria: (÷/- 0.1 (+/- 3 %) (÷/- 3 %) (÷/- 3 %) (÷/- | -10%) (10% cr<1 |) (+/-10 mV) (n/a) | (n/a) |
| | | use Tubing Volume (201/ft) | (x) Pump intake Depth (fi) |
| CONTAIN Container: Lab or ARCADIS □ | NER DESCRIPTION | <u>)N</u> | |
| | r (Type & Size) | No. of bottle | s Preservative |
| 1100 - 80102000 | 10nd | ス | Nano |
| VOA-Benzene | tom | 3_ | |
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| | | | |
| Remarks: | | | |

TUBING <u>DIAMETER VOLUMES. (In Milliliters per Foot)</u>
0.25" = 9.65
0.375" = 21.72
0.75" = 86.87

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| Project No | Sample Personnel | 15, AG | |
| Site Name Tuntsman | Sample ID | MW-60 | |
| Site Location | Duplicate ID | ROGISIS | |
| Site/Well No | Start pump | 2018 Stop F | |
| Weather | Start sampling C | Stop s | sampling 1005 |
| Ī | EVACUATION DATA | | |
| Description of Measuring Point (MP) North-en | d top of well casing | MP Elevation (ft) | |
| Depth to Water before/after (ft) S.60 / S | .60 Casing Diameter (in) | 4" | |
| Water Column in Well 1 (ft) | Evacuation Vol./Rate | 1300mg | 11 |
| Volume per foot in Well 2 | Pump Intake Depth (f | t) | , |
| Total Volume in Well 3 | Evacuation Method | Peristation | c Pump |
| Time Volume pH Spec. Cond Temp | DO 2 Turbidity | ORP Other | Appearance |
| or L) (S.U.) (mS/cm or (°C)*F) | (%) (NTU) | (mV) | (Clarity, Color, Odor) |
| 0925 7.37 14.88023.5 | 0.24 10.60 - | 91.1 5.60 | |
| 0930 7.38 14915 23.4 | 0.17 12.8 | 75.45.60 | |
| 0935 7.38 14.92323.3 | 0.14 14.5 | 184 5.60 | |
| 0940 7.39 14,9723.3 | 0.12 10.6 -9 | 79.55.60 | |
| 0945 7.3914,915 23.3 | 0.12 9.61- | 100.2 5.60 | |
| 0950 7.39 14,913 23.2 | 0.12 9.94 -1 | 0.45.60 | |
| 0955 36al 7.39 14,901 23.1 | 0.12 10.7 -1 | 00.4560 | |
| | | | |
| | | | |
| | | | |
| Stabalization Criteria: (+/- 0.1 (+/- 3 %) (+/- 3 %) su) | (÷√-10%a) (10% σ<1) (÷ | - | (n/a) |
| ¹ – Low flow purging, use length of tubing. ² – Low-flow us ² – Stabalization criteria must be met for 3 consecutive readings (~3- | e tubing vol.below. 3 – Low flow use 3 – 5 minutes between readings). | Tubing Volume (gal/fi) (x) Pe | ump intake Depth (fi) |
| | TAINER DESCRIPTION | | |
| Container: Lab or ARCADIS Constituents Con | ntainer (Type & Size) | No. of bottles | Preservative |
| \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ | 11. | 140. Of Bottles | 1 leservaine |
| von-Benzone | <u> 40m1</u> | <u></u> | None |
| Von-Benzene | <u> 40m</u> | | None |
| | | | |
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| Remarks: Field Blank (1 | En Mariar) | + 1000 | The same of the sa |
| Remarks: TRA DIVITE C | 1) (215140CI | W 1090 | |
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5" = 1.46

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| | Date 091515 |
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| Project No LA003185.000 | Sample Personnel AG, DS |
| Site Name + HUNTSMAN | Sample ID MW-98 |
| Site Location Huntsman | Duplicate ID |
| Site/Well No. NW -9 S | Start pump 1008 Stop pump 1055 |
| Weather | Start sampling 1045 Stop sampling 1055 |
| | |
| EVAC | CUATION DATA |
| Description of Measuring Point (MP) North-end top | of well casing MP Elevation (ft) |
| Depth to Water before/after (ft) 5.22 / S.24 | Casing Diameter (in) |
| Water Column in Well 1 (ft) | Evacuation Vol./Rate 2300mg/L |
| Volume per foot in Well ² | Pump Intake Depth (ft) |
| Total Volume in Well 3 | Evacuation Method Penstatic Pump |
| | |
| | DO Turbidity ORP Other Appearance |
| (gallor L) (S.U.) (mS/cm or (°C)*F) (mg/L) | (°a) (NTU) (mV) (Ciarity, Color, Odor) |
| 1015 7.2813,39324.90.2 | 1 3.39 -143.55.24 |
| 1020 7.28 13,340 24.90.13 | 3 2.57 -144.65.24 |
| 1025 7.2913,319 24.90.1 | 1 3.69 +146.95.24 |
| 1030 7.29 13, 277 25.0 0.0 | 9 4.09 -148,45.24 |
| 1035 7.2913,258,25.00.0 | 8 3.52-148.95.24 |
| 1040 7.30/3,237/25.00.0 | 7 2.43 -149.95.24 |
| 1045 7.30 13,227 25.0 0.0 | 7 3.68 150.7 5.24 |
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| | ! |
| Stabalization Criteria: (+/- 0.1 (+/- 3 %) (+/- 3 %) (+/- 3 %) (+/- 3 %) | -(-10%) (10% or <1) (±/-10 mV) (n/a) (n/a) |
| | g vol.below. $^{-3}$ – Low flow use Tubing Volume (gal/ft) (x) Pump intake Depth (ft) ites between readings). |
| | NER DESCRIPTION |
| Container: Lab or ARCADIS Contains | er (Type & Size) No. of bottles Preservative |
| | · · · · · |
| VOA-Benzehe | tom 3 None |
| | |
| | |
| | |
| | |
| | |
| | |
| Remarks: | |

 TUBING DIAMETER VOLUMES (In Milliters per Foot)
 WELL CASING DIAMETER VOLUMES (In Gallous per Foot)

 0.25" = 9.65
 0.5" = 38.61
 1.0" = 0.04
 2" = 0.16
 3" = 0.37
 4" = 0.65

 0.375" = 21.72
 0.75" = 86.87
 5" = 0.39
 2.5" = 0.26
 3.5" = 0.50
 5" = 1.02
 0.7 = 2.00

 C-Users display/Data/Local/Microsoft Windows Temporary Internal Residence (USE) Support TUBING <u>DIAMETER VOLUMES</u>. (In Milliliters per Foot) 0.25" = 9.65 0.5" = 38.61

(" = 1.46

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| Project No Site Name Site Location Site/Well No. Weather LACO3185.000 HUNTSMAN HUNTSMAN EVAC | Sample Personnel Sample ID Duplicate ID Start pump Start sampling CUATION DATA | DS, AG MW-455 CB091515 # 1303 s | ate OUISIS top pump 1350 top sampling 1350 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|------------------------------------------|---------------------------------------------|
| Description of Measuring Point (MP) North-end top Depth to Water before/after (ft) Water Column in Well ¹ (ft) Volume per foot in Well ² Total Volume in Well ³ | Casing Diameter (i Evacuation Vol./Ra Pump Intake Depth Evacuation Method | te ~300n (ft) Peristo | ng/L Hic Pump. |
| Time Volume pH Spec. Cond Temp (gal or L) (S.U.) (mS/cm or C)F) (mg/l | DO Turbidity (NTU) | ORP Cother (mV) | Appearance (Ciarity, Color, Odor) |
| 1320 6.85 14,628 26.7 0.19 1325 6.74 14,572 26.6 0.12 1330 6.67 14,591 26.8 0.11 1335 6.67 14,670 26.8 0.11 1340 3501 6.65 14,748 26.90.0 Stabalization Criteria: (÷/-0.1 (÷/-3%) (÷/-3%) (| =/-10%) (10% or <1) by vol.below. 2 - Low flow us | , | (n/a) (x) Pump intake Depth (ft) |
| CONTAL Container: Lab ☑ or ARCADIS ☐ | NER DESCRIPTION | <u>X</u> . | |
| | er (Type & Size) | No. of bottle | s Preservative None None |
| Remarks: Equipment Blank | (EB 09151 | 5) át | 1355 |

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| Project No 1 A 003185 000 | Sample Personnel | $\bigcap \bigcap A \subset A$ | |
| Site Name TUNTSMAN | Sample ID | MW-8 | |
| Site Location HUNKSMAN | Duplicate ID | FD0916019 | 5 |
| Site/Well No. MW-8 | Start pump | 0801 8 | top pump 0845 |
| Weather | Start sampling | | top sampling 0845 |
| | | 0800 | - VA-13 |
| EVAC | CUATION DATA | | |
| Description of Measuring Point (MP) North-end top | of well casing | MP Elevation (f | t) |
| Depth to Water before/after | | ., 4 | |
| (ft) <u>4.02/6.02</u> | _ Casing Diameter | (in) <u>4</u> . | |
| Water Column in Well 1 (ft) | _ Evacuation Vol./F | Rate <u>~300</u> | mall |
| Volume per foot in Well 2 | Pump Intake Dept | th (ft) | <u> </u> |
| Total Volume in Well 5 | Evacuation Metho | od <u>Perista</u> | altic Pump |
| Time Volume pH Spec. Cond Jemp | DO Turbidity | ORP Other | Appearance |
| (gal pr L) (S.U.) (mS/cm or (2°C)F) (mg/L |) (%) (NTU) | (m/r) DIM | (Ciarity, Color, Odor) |
| us/cm) | 11 10 1 | 107 04 112 | Charac laudia |
| 0805 7.33 7.843 26.5 0.3 | 4 15.6 | 187.21.74 | Strong hydrot |
| 0810 7.25 4.270 27.3 0.1 | 1 9.40 | 105 9508 | COLDON COLON |
| UNIS 7.23 6,924 27.60.1 | 0.64 | 793.85.08 | solids on |
| 0820 7.22 6,924 27.60.1 | 9.80 | 200.8 3.40 | water. |
| 0875 7.21 6,907 727.0 0.1 | 8.77 | 703.13.61 | |
| 0830 7.20 6.830 27.7 0.0 | | 7210.1 5.90 | |
| 083536al 7.206,810 27.80.0 | 8 4.0 | -212.9 602 | |
| | | | |
| | | | |
| Stabalization Criteria: (+/- 0.1 (+/- 3 %) (+/- 3 %) (+/- 3 %) | +/- 10%) (10% or < | 1) (÷/-10 mV) (n/a) | (n/a) |
| su) | | | ••• |
| Low flow purging, use length of tubing Low-flow use tubing - Stabalization criteria must be met for 3 consecutive readings (~3-5 minu | | use Tubing Volume (gal/ft) | (x) Pump intake Depth (fi.) |
| CONTAI | NER DESCRIPTION | ON | |
| Container: Lab ⊠ or ARCADIS □ | | . | |
| Constituents Contain | er (Type & Size) | No. of bottle | s Preservative |
| VOA - PAH WED | 40ml | 3 | None |
| VOA - PAH PD | | | |
| VOA - PAH FR | | | |
| VOA - PAH EB | | | |
| VOA - Benzene well | | | |
| VOA - Benzone FB | | | |
| VOA - Benzene BB | | | |
| Remarks: Field DUD (FD0916) | 5) at as | 35 EBlan | K (FB091615) |
| of 0850 Failinmoint All | ank & (Fi | 3001015 | + 0900 |
| TOTAL DIAMETER VOLUMES (In MUNICIPAL DES FACE) | AFLI CASING DIAMETE | R VOLUMES (In Gallons) | per Foot) |
| 0.25" = 9.65 | $1.0^{\circ} = 0.04$ $5^{\circ} = 0.3^{\circ} 2.5^{\circ} = 0.26$ | $2^{\circ} = 0.16$ $3^{\circ} = 0.37$ $3.5^{\circ} = 0.50$ $5^{\circ} = 1.04$ | 47 = 0.65 57 = 1.46 57 = 2.6c |
| 0.375" = 21.72 | 0.2- 2.3 - 0.40 | = 00 = 1114 | |

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5" = 1.45

| | | I | Date 091015 | | | | | | |
|------------------------------------------------------------|---------------------|--------------------------|-------------------------------|--|--|--|--|--|--|
| Project No LA 003185.000 | Sample Personnel | DS,AG | | | | | | | |
| Site Name + HUNTSMAN | Sample ID | MW-10 | MW-10 | | | | | | |
| Site Location TUNTSMAN | Duplicate ID | • | | | | | | | |
| Site/Well No. 100 | Start pump | 0905 | Stop pump 0950 | | | | | | |
| Weather | Start sampling | | Stop sampling 0950 | | | | | | |
| EVACUATION DATA | | | | | | | | | |
| Description of Measuring Point (MP) North-end to: | | MP Elevation | (6) | | | | | | |
| Depth to Water before/after (ft) 7.33/8.10 | Casing Diameter | | | | | | | | |
| Water Column in Well 1 (ft) | Evacuation Vol./F | | mall | | | | | | |
| Volume per foot in Well ² | Pump Intake Dept | | m gie | | | | | | |
| Total Volume in Well ³ | Evacuation Metho | 1 (0-1 | TOHIC Olmo | | | | | | |
| Total volume in wen | Lvacuation ivieting | | and ruip | | | | | | |
| Time Volume pH Spec. Cond Temp | DO Turbidity | ORP Other | Appearance | | | | | | |
| (S.U.) (ms/cm or (F) (mg/l | (%) (NTU) | (mV) DTW | (Ciarity, Color, Odor) | | | | | | |
| | 5 32.7 | -228.2 7.90 | hudrocarbon | | | | | | |
| 0915 7.248,913 24.9 0.1 | 12.9 | -209.8 8.00 | odor. | | | | | | |
| 0920 7.24 9107 25.1 0.0 | 9 8.86 | -198.1 8.03 | yellow tint on | | | | | | |
| 0925 7.238,539 25.10.0 | 8.92 | 190.9 8.05 | | | | | | | |
| 0930 7.22 8.392 25.2 0.0 | 8.37 | 1189.618.08 | | | | | | | |
| 0935 7.21 8.173 25.3 0.0 | 7 7.09 | -194.68.09 | | | | | | | |
| 09403Gal 7.21 8.144 25.40.0 | 7 8.79 | -199.3 8.10 | | | | | | | |
| | | | | | | | | | |
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| | ! | | | | | | | | |
| Stabalization Criteria: (÷/- 0.1 (÷/- 3 %) (÷/- 3 %) (su) | -/- 10%) (10% or < | l) (+/- 10 mV) (n/a) | (n/a) | | | | | | |
| | | use Tubing Volume (gal/f | f) (x) Pump Intake Depth (fi) | | | | | | |
| | NER DESCRIPTION | <u>ON</u> | | | | | | | |
| Container: Lab or ARCADIS | | No. of head | D | | | | | | |
| Constituents Contain | er (Type & Size) | | es Preservative | | | | | | |
| VOA - Benzene | 40ml | 3_ | None | | | | | | |
| | | | | | | | | | |
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| Remarks: | | | | | | | | | |
| | | | | | | | | | |

TUBING <u>DIAMETER VOLUMES. (In Milliliters per Foot)</u>

0.27 = 9.65

0.57 = 38.61

0.75 = 21.72

0.75 = 86.87

0.75 = 86.87

0.75 = 86.87

0.75 = 21.72

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Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.

2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.

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Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.

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3. The Chain of Custody is a legal document. All information must be completed accurately.



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| | | | | IG FORM | . W |
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| | | | | Personnel who perform work opera eir attendance, at least daily. | ations on- |
| Project Name: | | to attend this meeting and | Project Loc | ation: / II | |
| Datain 9 16 Times 5 | Conducted I | 100 C J | Signature/ | Surland MM | |
| 10 4-13 1 7017 | | Q.00C | | D m Solon | |
| Client: Humanau | Client Conta | ct: | Subcontrac | ctor companies: | |
| TRACKing the Tailgat | te Meeti | ng | | | |
| Think through the Tasks (list the ta | asks for the | day): | | | |
| Think through the Tasks (list the tangle 1 Monto well Sample | - Genzin | 3 | | 5 | |
| 2 | | 4 | | 6 | |
| Other Hazardous Activities - | | _ | | If there are none, write | |
| other party If yes, describe them here: | activities tha | t may pose hazards to AR | CADIS operations | "None" here: | |
| - | | | | | |
| How will they be controlled? | | | | | |
| Prework Authorization - check a issuance or completion of a check | | | ermit <u>Doc#</u> | | Doc# |
| Not applicable | Doc# | Working at Height | | Confined Space | |
| Energy isolation (LOTO) | [| Excavation/Trenching | | Hot Work | |
| Mechanical Lifting Ops | | Overhead & Buried Uti | lities | Other permit | |
| Discuss following question | S (for some ravk | ow previous day's post activities). | Check If yes : | Topics from Corp H&S to cove | er? |
| Incidents from day before to re | view? | Lessons learned from | the day before? | Any Stop Work Interventions | yesterday? |
| Any corrective actions from yes | sterday? | Will any work deviate | from plan? | If deviations, notify PM & clien | nt |
| JLAs or procedures are availab | ble? | Field teams to "dirty" J | LAs, as needed? | X All equipment checked & OK? | , |
| Staff has appropriate PPE? | | Staff knows Emergence | y Plan (EAP)? | Staff knows gathering points? | |
| Comments: | ; | / | | — | |
| Recognize the hazards (check all | these that a | an dinaunand\ /E | | Assess the Dieles // aux 82-4" 1 | liab. |
| circle risk level) - Provide an overa | | | | | |
| Gravity (i.e., ladder, scaffold, trips) | (L M H) | Motion (i.e. traffic, moving | water) (L M H) | Mechanical (i e . augers, motors) | (L M H) |
| Electrical (i e , utilities, lightning) | (LMH) | Pressure (i.e., gas cylinder | rs, wells) (LM H) | Environment (i.e., heat, cold, ce) | (LMH) |
| Chemical (i.e., fuel, acid paint) | (LMH) | Biological (i = Iticks, poise | onivy: (LMH) | Radiation (i.e., alpha, sun, laser) | (L M H) |
| Sound (i.e., machinery, generators) | (LMH) | Personal (Le alche light | not Rt) (LMH) | Driving (Le car, ATV, boat, dozer) | (LMH) |
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| Continue TRACK I | roces | s on Page 2 | | | |

| TAILGATE HEALTH & SAFETY MEETING FORM - Pg. 2 | | | | | | | | |
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| control the hazards (Check all and discuss those methods to control the hazards that will be implemented for the day): Review the IASP, applicable JLAs, and other control processes. Discuss and document any additional control processes. | | | | | | | | |
| STOP WORK AUTHORITY (Must be addressed in every Tailgate meeting - (See statements below) Elimination Substitution Isolation Engineering controls Administrative controls Monitoring General PPE Usage Hearing Conservation Exposure Guidelines Decon Procedures Emergency Action Plan (EAP) Fall Protection UPO conducted (specify job/JLA) JLA to be developed/used (specify) Traffic Control Other (specify) | | | | | | | | |
| Signature an | d Certification Section - Site Staf | f and Visitors | | | | | | |
| | any/Signature | Initial & Sign in Time Initial & Sign out Time Independent In Independent Initial & Sign out and understand the DS 8/9 DS | | | | | | |
| The Quiese ma | iais contra | 49 81S AG | | | | | | |
| important information and Numbers All site staff should arrive fit for work. If not, they should | Visitor Name/Co - not involved in work | I will STOP the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hexard or additional mitigation not recorded in the site. | | | | | | |
| In the event of an injury, employees will call WorkCare at 1.800 455 8155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720 344.3844 | In Out | project, job or task hazard assessment. I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments. | | | | | | |
| In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720.344.3644 and then Corp Legal at 1.720.344.3756. In the event of a utility strike or other damage to property | in Out | If it is necessary to STOP THE JOB, I will perform TRACK; and then amend the hazard assessments or the HASP as needed. I will not assist a subcontractor or other party with their | | | | | | |
| of a client or 3rd party, employees will immediately notify the field supervisor, who will then immediately notify Corp Legal at 1 578 373 9556 and Corp H&S at | in Out | work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard | | | | | | |
| | eview at end of day or before next day's work (C | Check those applicable and explain:) | | | | | | |
| Lessons learned and best practices learn | ed today: | | | | | | | |
| Incidents that occurred today: | | | | | | | | |
| Any Stop Work interventions today? | | | | | | | | |
| Corrective/Preventive Actions needed for | future work: | | | | | | | |
| Any other H&S issues: | | | | | | | | |
| <u>K</u> eep H&S 1 ^s | st in all things | WorkCare - 1.800.455.6155 | | | | | | |

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| This form documents the tailgate | meeting con | ducted in accordance with t | he Project HASP. I to acknowledge the | Personnel who perform work opera eir attendance, at least daily. | ations on- |
| Project Name: Tunks v | nami " | | Project Loc | | |
| Date: 3 - 15 Ties 05 | Conducted | by: D . 50/5~ | Signature/T | Title om Solow | |
| Client: William | Client Cont | | Subcontrac | ctor companies: | |
| TRACKing the Tailga | ite Meet | ing | | | |
| Think through the Tasks (list the | tasks for the | day): | | _ | |
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| 2 | | 1 | | | |
| Other Hezardous Activities other part | | ox if there are any other AR at may pose hazards to AR | | If there are none, write "None" here: | l |
| If yes, describe them here: | | | | | |
| How will they be controlled? | | | · | | |
| Prework Authorization - check issuance or completion of a che | | | mit Doc# | | Doc# |
| Not applicable | Doc# | Working at Height | | Confined Space | |
| Energy Isolation (LOTO) | | Excavation/Trenching | | Hot Work | |
| Mechanical Lifting Ops | | Overhead & Buried Util | ities | Other permit | |
| Discuss following question | ITIS (foresome rev | terw previous day's post activities). | heck if yes : | Topics from Corp H&S to cov | er? |
| Incidents from day before to | review? | Lessons learned from t | he day before? | Any Stop Work Interventions | yesterday? |
| Any corrective actions from y | resterday? | Will any work deviate | from pian? | If deviations, notify PM & clie | nt |
| JLAs or procedures are avail | lable? | Field teams to "dirty" J | LAs, as needed? | All equipment checked & OK | ? |
| Staff has appropriate PPE? | | Staff knows Emergence | y Plan (EAP)? | Staff knows gathering points | ? |
| Comments: | | | | | |
| | | | | Assess the Risks (Low, Medium, iefly list them under the hazard cal | |
| Gravity (i.e., ladder, scaffold, tribs) | | Motion (i.e., traffic, moving | | Machanical (i.e. sugers, motors) | (L. M H) |
| Electrical (i.e., utilities, lightning) | (L M H) | Pressure (i.e., gas cylinder | s, welle) (LMH) | Environment (i e heat, cold, roe) | (LMH) |
| Chemical (i.e., fuel, acid paint) | (LMH) | Biological/(i e . tietes, poisc 5 Notes/5 (Notes) | onivys (LMH) | Radiation (fe., atpha, sun, leser) | (LMH) |
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| Continue TRACK | Proces | ss on Page 2 | | | |
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| TAILGATE HEALTH & SAFETY MEETING FORM - Pg. 2 | | | | | | | |
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| Control the hazards (Check all and discuss those methods to control the hazards that will be implemented for the day): Review the IASP, applicable JLAs, and other control processes. Discuss and document any additional control processes. | | | | | | | |
| STOP WORK AUTHORITY (Must be addressed in every Tailgate meeting - (See statements below) Elimination Engineering controls General PPE Usage Personal Hygiene Emergency Action Plan (EAP) JLA to be developed/used (specify) Substitution Administrative controls Hearing Conservation Exposure Guidelines Exposure Guidelines Fall Protection LPO conducted (specify lob/JLA) Traffic Control Other (specify) | | | | | | | |
| Signature an | d Certification Section - Site Staf | fa | nd Visitors | | | | |
| Name/Compa | eny/Signature | | initial & Sign in Time | Initial & Sign out Time | I have reed and understand the | | |
| Aug Gutienrez Arcod | | 05 805 AG 805 | | 19 | | | |
| | | | | | | | |
| Important information and Numbers All site staff should srive fit for work. If not, they should report to the supervisor any restrictions or concerns | Visitor Name/Co - not involved in work | 1 | will STOP the job o uncertain about hea rezard or additional project, job or task h | ith & safety or if any mitigation not recor | one identifies a | | |
| In the event of an injury, emptoyees will call WorkCare at 1.800 455 8155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720.344.3844. | In Out | 1 1 | will be alert to any he work site or haze hazard assessments | ards not covered by | | | |
| In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720.344 3844 and then Corp Legal at | in Out | 1 | If it is necessary to STOP THE JOB, I will perform TRACK; and then amend the hazard assessments or the HASP as needed. | | | | |
| 1.720.344.3756. In the event of a utility strike or other damage to properly of a client or 3rd parry, employees will immediately notify | in Out | 1 | I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly | | | | |
| the field supervisor, who will then immediately notify Corp Legal at 1.678.373.9558 and Corn H&S at | In Out | | controlled the hezar | | | | |
| Lessons learned and best practices learn Incidents that occurred today: | eview at end of day or before next day's work (| Che | eck those app | licable and ex | plain:) | | |
| | Any Stop Work interventions today? | | | | | | |
| Corrective/Preventive Actions needed for future work: Any other H&S Issues: | | | | | | | |
| Keep H&S 1 | st in all things | T | WorkCare - 1.80 | 0.455.6155 | | | |

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| | Control the hazards (Check all and discuss those methods to control the hazards that will be implemented for the day): Review the IASP, applicable ILAs, and other control processes. Discuss and document any additional control processes. | | | | | | | |
| STOP WORK AUTHORITY (Must be address Elimination Engineering controls General PPE Usage Personal Hygiene Emergency Action Plan (EAP) JLA to be developed/used (epecify) | Isolation Monitoring Respiratory Protection Decon Procedures Work Zones/Site Control Traffic Control Other (specify) | | | | | | | |
| Signature an | d Certification Section - Site Staf | f and Visitors | | | | | | |
| | any/Signature | initial & Sign in Time I I have read and understand the | | | | | | |
| And Chiteriez Ar | codes of the | AS 805 AG | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| Important information and Numbers All site staff should envie it for work. If not, they should | Visitor Name/Go - not involved in work | i will STOP the job eny lime anyone is concerned or uncertein about health & safety o' if anyone identifies a hazard or additional mitigation not recorded in the site, | | | | | | |
| In the event of an injury, employees will call WorkCare at 1.800 455.8155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720.344.3844. | In Out | project, job or task hazard assessment I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments | | | | | | |
| In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1,720,344 3844 and then Corp Legel at | In Out | If it is necessary to STOP THE JOB, I will perform TRACK; and then amend the hazard assessments or the HASP as needed. | | | | | | |
| 1.720.344.3756. In the event of a utility strike or other damage to property of a client or 2rd party, employees will immediately notify | In Out | I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only | | | | | | |
| the field supervisor, who will then immediately notify Corp | in Out | after I have done TRACK and I have thoroughly controlled the hazzard | | | | | | |
| Post Daily Activities Review - Review at end of day or before next day's work (Check those applicable and explain:) | | | | | | | | |
| Lessons learned and best practices learn | ned today: | | | | | | | |
| Incidents that occurred today: | | | | | | | | |
| | Any Stop Work interventions today? | | | | | | | |
| Corrective/Preventive Actions needed for Any other H&S issues: | r tuture work: | | | | | | | |
| | st in all things | WorkCare - 1.800.455.8155 | | | | | | |

| Project / No | D. LA 00 31 85 Page L of L |
|---------------|----------------------------------------------------------|
| Site Location | on Sunland Paule NW Date 12,2-15 |
| Subject | Hurlsman Qrtly Sampling Prepared By Robots |
| • | |
| Time | Description of Activities |
| 0810 | onsite |
| 2815 | Taileate |
| 0920 | Began gavering wells |
| 0905 | Solvo on mw-17 |
| 0900 | Presan suraine |
| 0940 | Sampled mw-17 - Benzen 3 von's Fild Dup - 3 von's |
| 0950 | Setup on MW-11 Regan sumain |
| 1030 | Sandad Mw-11 - Benzene - 3 von's |
| 1045 | Returned to office |
| 1300 | Setup on MN-35 Began supin |
| 1340 | Sampled nw-35 - Genzene - 3 von's Fuld Black - 300A's |
| 1350 | Selvo on Mw-30 - Began pumoni |
| 1428 | Sampled mw -3D - Benzere -31DA'S Egup ment Black -31DA! |
| 1435 | Returned to His - Parkaged & shapped sampled from Folton |
| | 4 5 11 |
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| Project / No | o. <u>LA 00 3185</u> Page <u>L</u> of | |
|---------------|------------------------------------------------------------|-----|
| Site Location | on Suland Park NW Date 12-3- | 15 |
| Subject | Horlsman actly Sampling Prepared By D. Sola | |
| Time | Description of Activities | |
| 800 | on site. | |
| 305 | Talente | |
| 825 | Setup on much Began sunsing | |
| 0855 | Sandled mw-us - Benzine - 3 UDA'S | |
| 0915 | Sotro on MW-UD - Becan purain | |
| 0945 | Sampled MW-60 - Berzene Fuld Dip -3 vok's DI | |
| 1600 | Setup on MU-95 and began proming | |
| 1030 | Sampled mw95 - Denzeni - 3 vons | |
| 1055 | Strop on NW-5 - Began Pumping | |
| 125 | Sampled mu-5 - Benzene - 3 von's - Egup mit Black - 3 voti |)JF |
| | Al plu grade | |
| 148 | Retail to flice - Ana parkyel & shaped sample to FOOE | 7 |
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DAILY LOG

| Project / No | 3185 | | Page _ L of L |
|-----------------------------------------|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| Site Location Sal | and dur | | Date 12-4-15 |
| Subject that's Ma | an Orthy sampling | Prepared By D. Str. | _ |
| | | | |
| Time | Desc | ription of Activities | - |
| 805 July 0 | noite Tralecte | | |
| Pals sotro | on mw. o and began | Samplin | |
| 0850 Sampled | 0 0 1 0 | rene Fuld Dop -? | 5 VOA'S |
| 00. | | Dank - PAH, Denzen | |
| | Flin Di | de - 8 At Benza | - 3 101A'S RA |
| ogn Sotro and | tate on | the contract of the contract o | |
| sque Sampled | 1000 | u - 3 vak's | |
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| | where many to | 100 | 1 + |
| 1015 Returned | to offer jork ge | I + shaped sample | and equipment |
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| AR(| CADIS | WE | ELL | Si | te Name: | Huntsman |
|-------------------|---------------------------|-------------------|---------------------------------------|--------------------------------------------------|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | - Environment - Buildings | GAUGII | | Pı | oject Number | : LA003185.000 |
| | | | | | Date & Time: | 120215/0815 |
| water column h | neight = | (well depth in fe | et) - (initial depth | to water in feet) | reading from Top | of Casing |
| Well Gauging is | nformation | | · · · · · · · · · · · · · · · · · · · | | | |
| Well ID | Date/Time | PID (ppm) | Depth to Product (ft) | Depth to Water (ft) | Product Thickness | Comments |
| _1414-4- | | | 7.7 | | | |
| - 1410/ 00 | | | | | | Plugged |
| MW-3S | 120215/ | 0.0 | | 7.42 | | |
| MW-3D | W | 0.0 | | 757 | | |
| | | | | 1 | | The state of the s |
| MW-5 | 1/1 | 308.5 | | 6.91 | | Strang hydrocarbon od |
| MW-6S | 1/ | 0.0 | | 8.30 | | 3.3.45 |
| MW-6D · | W | 0.0 | | 8.36 | | |
| جتاعظي | | | | | | |
| MW-8 | 10 | 14.2 | | 6.63 | | |
| MW-9S | V/ | 0.0 | | 7.87 | | |
| -11111-019 | | | | | | Plugged |
| MW-10 | 12 | 145.5 | | 10.18 | | |
| MW-11 | V | 10.0 | | 8.80 | | |
| | | | | | | |
| 1011-13 | | | | | | Plugged |
| | | | | | - | |
| JAN-12 | | | | | | |
| जारर-गर्छ | | | | | | |
| MW-17 | V | 0.0 | | 9.42 | | |
| | <u> </u> | | | | | |
| 447-6- | | | | ļ | | |
| | | | | | | |
| 7444 | | | | | | |
| **** | | | | | | |
| what | | | | | ļ | |
| WP-28S | | | | | | |
| WP-000 | <u> </u> | | <u> </u> | | ļ | |
| ML-SIQ. | | | | | | |
| 4H-210 | | | | | - | |
| | - | | | | | |
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| Environment on | d Danas Proceedings | | L | 1 | 1 | |
| Equipment and | d Decon Procedures | TAMOV | tount | meter, | DO | |

| ARCADIS | WATER SAMPLING LOG | Page of |
|-------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|
| Project No LA 003185 Site Name HUNTSMON Site Location HUNTSMON Site/Well No. MW-17 Weather 4045 | Start pump 090 | 120215 |
| | EVACUATION DATA | |
| Description of Measuring Point (MP) | North-end top of well casing MP | Elevation (ft) |
| Depth to Water before/after (ft) | 升 / 9.44 Casing Diameter (in) | 4" |
| Water Column in Well (ft) | Evacuation Vol./Rate | v3comg/L |
| Volume per foot in Well 2 | Pump Intake Depth (ft) | 0-6-1-11-6-10 |
| Total Volume in Well 3 | Evacuation Method | Peristatic pump |
| Time Volume pH Spec. Cond (gal or L) (S.U.) (mS/cm or (uS/cm) | | 1 |
| 0910 7.0612,912 | 2 22.6 0.50 7.40 -24. | 29.44 |
| 0915 7.15 12.908 | 8 22.7 0.25 13.40 (68. | |
| 7.19 2.86 | | |
| 0925 7.2012,800 | | |
| 0930 7.21 12.78 0935 7.21 12.770 | 0 22.8 0.13 12.0 +102 0 22.9 0.12 16.9 +106 | |
| 9 0 9 | 3422.90.11 16.0 -108 | |
| 0-1919 0001 7:01 | | |
| | | |
| | | |
| Stabalization Criteria: (+/- 0.1 (+/- 3 %) su) | (+/- 3 %) (+/- 10%) (+/- 10% or <1) (+/- 10) | mV) (n/a) (n/a) |
| 1 - Low flow purging, use length of tubing. 2 - Stabalization criteria must be met for 3 consecutive. | ² -Low-flow use tubing vol.below. ³ -Low flow use Tubing ve readings (~3-5 minutes between readings). | Volume (gal/ft) (x) Pump Intake Depth (ft) |
| | CONTAINER DESCRIPTION | |
| Container: Lab or ARCADIS Constituents | | No. of bottles Preservative |
| Constituents | 11001 | 2 |
| VOH - DENSENIE | <u>40Ml</u> | o None |
| VUT DUBURE | 401111 | 2 NOTE |
| | | |
| | | |

Remarks: Field Ouplicate (FD120215) at 0940.

TURING DIAMETER VOLUMES (In Millithers per Foot) WELL CASING DIAMETER VOLUMES (In Gallons per Foot)

 TUBING DIAMETER VOLUMES. (In Millithers per Foot)
 WELL CASING DIAMETER VOLUMES. (In Gallons per Foot)

 $0.25^{\circ} = 9.65$ $0.5^{\circ} = 38.61$ $1.0^{\circ} = 0.04$ $2^{\circ} = 0.16$ $3^{\circ} = 0.37$ $4^{\circ} = 0.65$ $6^{\circ} = 1.46$
 $0.375^{\circ} = 21.72$ $0.75^{\circ} = 86.87$ $1.5^{\circ} = 0.0\%$ $1.5^{\circ} = 0.26$ $3.5^{\circ} = 0.50$ $5^{\circ} = 1.04$ $8^{\circ} = 2.66$

| ARCADI | S | | , | WAT | ER SA | MPL | ING LO | G | | Page | of <u>1</u> |
|---------------|------------|-------------------|-------------------------|----------|----------|-----------|--------------|---------|-----------|-----------------|--------------|
| | | | | | | | | | D |)ate 120 | 215 |
| Project No | L | Aco. | 3185. | 2015 | | Sample | Personnel | DS.F | 161 | raic 120 | 210 |
| Site Name | .:- | Hunt | Sman | | | Sample | : ID | Ń | 1W-1 | | |
| Site Locat | ion | | sman | | | Duplica | | | | | |
| Site/Well | No. | MW | | | | Start pu | | 0954 | o s | top pump | 1040 |
| Weather | | 4 | 0°F | | | Start sa | mpling | 103 | <u> </u> | top sampling | 1040 |
| | | | | | FVACI | IATIO | N DATA | | | | |
| | | | | , | | | | | | _ | |
| • . | | _ | oint (MP)_1 | North-ei | nd top o | of well o | casing | _ MP EI | evation (| ft) | |
| Depth to (ft) | Water | before/a | | 2/11. | 22 | Casing | Diameter (| in) | 4" | | |
| Water Col | umn in V | Vell 1 (ft |) | | | Evacua | tion Vol./Ra | ate / | V3001 | mall | |
| Volume p | er foot in | Well ² | - | | | Pump I | ntake Depth | | | J | |
| Total Vol | | | | | | - | tion Method | ~ | existo | ith C Pi | mp |
| | | | | | | | | | | 1.1 1. | |
| Time | Volume | pH ' | Spec. Cond ⁴ | 1/1 | , | 0, | Turbidity | ORP * | Other | | earance |
| | (gal or L) | (S.U.) | (mS/cm-or uS(cm) | (C/F) | (462/L) | (%) | (NTU) | (mV) | OW | (Clarity. (| Color. Odor) |
| 1000 | | 7.26 | 8,885 | 24.4 | 0.33 | 1 | 15.3 | -80.6 | 9.22 | | |
| 1005 | | 7.20 | 8,566 | 24.3 | 0.12 | | 10.6 | -99.0 | 9.72 | | |
| 1010 | | 7.20 | 8,290 | 24.3 | 0.11 | | 18.1 | 0.801- | 10.12 | | |
| IDIS | | | 8,125 | 24.4 | 0.08 | | 12.0 | -112.6 | | | |

(÷/- 10%)

(-/- 10% or <1) (+/- 10 mV) (n/a)

Container: Lab or ARCADIS Container (Type & Size)

Constituents

Container (Type & Size)

No. of bottles

Preservative

YOA-Benzene

40ml

Remarks: Yellow tint water

 TUBING DIAMETER VOLUMES. (In Millillers per Foot)
 WELL CASING DIAMETER VOLUMES. (In Gallous per Foot)

 $0.25^{\circ} = 9.65$ $0.5^{\circ} = 38.61$ $1.0^{\circ} = 0.04$ $2^{\circ} = 0.16$ $3^{\circ} = 0.37$ $4^{\circ} = 0.65$ $6^{\circ} = 0.146$
 $0.375^{\circ} = 21.72$ $0.75^{\circ} = 86.87$ $3.5^{\circ} = 0.26$ $3.5^{\circ} = 0.50$ $5^{\circ} = 1.04$ $8^{\circ} = 2.02$

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Stabalization Criteria:

(+/- 0.1

SU)

(+/-3%)

¹ - Low flow purging, use length of tubing.

² - Low-flow use tubing vol.below.

³ - Low flow use Tubing Volume (gal/ft) (x) Pump intake Depth (ft)

⁴ - Stabalization criteria must be met for 3 consecutive readings (~3-5 minutes between readings).

| ARCADIS | WATER SAMPLING LOG | Page | of |
|-----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Project No Site Name Site Location Site/Well No. Weather LACO3185. LACO3185. LACO3185. MUSSING MW-35 | Sample Personnel Sample ID Duplicate ID Start pump Start sampling | DS, AG IMW - 3S 130S Stop p | 120215 ump 1350 ampling 1350 |
| | EVACUATION DATA | · | |
| Description of Measuring Point (MP) 1 Depth to Water before/after (ft) 4.5 | North-end top of well casing North-end top of well casing | MP Elevation (ft) | |
| Water Column in Well 1 (ft) | Evacuation Vol./Rate | \ | alL |
| Volume per foot in Well 2 | Pump Intake Depth (| ft) | <i>J</i> |
| Total Volume in Well 3 | Evacuation Method | Peristall | 1C PUMP |
| Time Volume pH Spec. Cond (mS/cm or as/cm) | (%) (NTU) | DIVV | Appearance (Clarity, Color, Odor) |
| 1310 7.24 8.441 | 21.3 9.37 13.6 - | 149.9 7.75 120.0 = 100 | |
| 1320 7.25 7.914 | 21.30.49 12.4 | 91.58.02 | |
| 1325 7.237,898 | 21.30.49 12.9 | 86.48.10 | |
| 330 7.25 7.878 | 21.30.50 11.0 - | 83.28.20 | |
| 1335 7.277,874 | | 82.9 8.31 | |
| 1340 36017.23 7.868 | 213 0.47 1 10.4 - | 81.8 8.40 | |
| | | | |
| | | | |
| Stabalization Criteria: (+/- 0.1 (+/- 3 %) | (+/- 3 %) (+/- 10%) (+/- 10% or <1) (| ÷/- 10 mV) (n/a) | (n/a) |
| su) 1 – Low flow purging, use length of tubing. 2 – 4 – Stabalization criteria must be met for 3 consecutive | Low-flow use tubing vol.below. ³ – Low flow use readings (~3-5 minutes between readings). | Tubing Volume (gal/ft) (x) Pu | mp Intake Depth (ft) |
| | CONTAINER DESCRIPTION | • | |
| Container: Lab 🔯 or ARCADIS 🗍 Constituents | Container (Type & Size) | No. of bottles | Preservative |
| VOA-Benzene | 40m1 | 3 | None |
| VOA - Borgene | 40ml | 3 | None |
| | | | |
| | | | |
| | | | |
| 16 id ala | | | The administration of the control of |
| Remarks: TOO BANK | - (FB120215) a | t 1350 | |

 TUBING DIAMETER VOLUMES. (In Milliliters per Foot)
 WELL CASING DIAMETER VOLUMES. (In Gallons per Foot)

 0.25" = 9.65
 0.5" = 38.61
 1.0" = 0.04
 2" = 0.16
 3" = 0.37
 4" = 0.65
 6" = 1.46

 0.375" = 21.72
 0.75" = 86.8?
 1.5" = 0.09
 2.5" = 0.26
 3.5" = 0.50
 5" = 1.04
 8" = 2.66

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| | | Date | 120215 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|---------------------|-----------------------------------------|
| Project No LA003185. 2015 | Sample Personnel | DS. AG | |
| Site Name - thintsman | Sample ID | MW-3D | |
| Site Location Hintsman | Duplicate ID | FB 120215 | |
| Site/Well No. MW -3D | Start pump | 1.350 Stop | pump 1435 |
| Weather | Start sampling | | sampling 1435 |
| Tr Ctttlet | 7 | | 1900 |
| EVACUATION DATA | | | |
| Description of Measuring Point (MP) North-end top of well casing MP Elevation (ft) | | | |
| Depth to Water before/after 7,55 / 7,50 Casing Diameter (in) 4" | | | |
| | | | - 1 / |
| Water Column in Well (ft) | Evacuation Vol./Rate | | |
| Volume per foot in Well ² | Pump Intake Deptl | h (ft) | |
| Total Volume in Well 3 Evacuation Method Henstaltic Homp | | | |
| Time Volume pH Spec. Cond Temp I | OO Turbidity | ORP Other | Appearance |
| (S.U.) (mS/cm or (T)°F; (mg/L)) | (%) (NTU) | (mA) DIM | (Clarity, Color, Odor) |
| 1355 7.9 20.3 9 20.6 0.36 | 24.7 | -69.97.50 | |
| 7.24 20.086 20.6 0.2 | 1 21.4 | -80.7 7.56 | |
| 1405 7.17 19.002 20.50.10 | 10.9 | -85.27.Sd | |
| 1410 7.19 19.849 20.4 0.15 | 5 IS.2 | -83.07.50 | |
| 1415 7.2419.747 20.4 O.1 | 3 11.4 | -70.7 7.50 | |
| 1420 7.24 19.655 20.3 0.13 | 3 10.7 | 1-727756 | |
| 1425 360122519 602 20.3 10.12 | 8.27 | -70.81756 | |
| 1123. 2011.0020.00 | | 700,00 | |
| | 1 1 | | |
| | | | |
| Stabalization Criteria: (÷/- 0.1 (+/- 3 %) (+/- 3 %) (+/- 3 %) | /- 10%) (10% or <1 | 1) (÷/-10 mV) (n/a) | (n/a) |
| su) 1 - Low-flow use tubing vol.below. 3 - Low flow use Tubing Volume (gal/ft) (x) Pump Intake Depth (ft) | | | |
| - Edwinds parging, use rengin of tabling Edwinds use tabling volume (gastly (s) 1 and make bepar (n) - Stabalization criteria must be met for 3 consecutive readings (~3-5 minutes between readings). | | | |
| CONTAINER DESCRIPTION | | | |
| Container: Lab or ARCADIS Containe | r (Type & Size) | No. of bottles | Preservative |
| 1/00 12 01000100 | ml | 3 | Λίολο |
| 101-101-010 | 2711 | | |
| VOH - Genzelle | m | | NOIR |
| | | | |
| | | | |
| | | | |
| | | | *************************************** |
| Remarks: Faulomant Blank (EB120215) at 1435 | | | |
| Remarks: Equipment Blank (E13120215) at 1435 | | | |
| TURING DIAMETER VOLUMES (In Milliliters per Foot) WELL CASING DIAMETER VOLUMES (In Gailons per Foot) | | | |

0.25" = 9.65 0.57 = 3R 61 6" = 1.46 1.5" = 0.00 2.5" = 0.46 0.375" = 21.72 0.75" = 86.87

| ¥4. | 700 | æ, | 1. | - 144 | : | |
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| 777 | | | 1 7 | ·* | ÷ | 20 |

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| Luže_ | | |

| | , | Date | 120315 |
|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Project No LA003185.2015 | _ Sample Personnel 🛓 | JS, AG | |
| Site Name HUNTSMAN | Sample ID | MW-65 | |
| Site Location HUNTSMAN | _ Duplicate ID | | |
| Site/Well No. MW-6S | Start pump | 0821 Stop | pump 980. 5 |
| Weather 35°F | Start sampling | 0885_ Stop | sampling 0905 |
| EVAC | CUATION DATA | | |
| Description of Measuring Point (MP) North-end top | of well casing | MP Elevation (ft) | |
| Depth to Water before/after | 2 Casing Diameter (i | 11 | |
| Water Column in Well 1 (ft) | Evacuation Vol./Ra | . 3 . 6 | alL |
| Volume per foot in Well ² | Pump Intake Depth | | |
| Total Volume in Well 3 | Evacuation Method | 0 0 110 | c pump |
| Time Volume pH Spec. Cond Temp | DO - Turbidity | ORP Cther | Appearence |
| (gailor L) (S.U.) (pp.Sizp) or (C)F) (mg.L |) 1961 (NTU) | (MA) | (Clarity, Color, Oder) |
| 0825 7.06 19 602 21.4 0.6 | 0 1 18.8 | | ellow tint water |
| 0825 7.00 9.451 21.8 0.2 | 3 135 | -55.8 8.93 | 211000 HTH WAIC |
| 10 10 10 10 10 10 10 10 10 10 10 10 10 1 | 2 2 2 | -72 \ Q 22 | |
| 1000 300 10 850 21 0 0 1 | 3 10.8 | 62 5 0 57 | |
| 0016 30016 731 21 00 1 | 1 1 1 2 | -60 3 0 33 | |
| 0850 7.09 18.648.22 1.0.10 | 7 124 | -93.8 9.96 | |
| 0855 3 7.07 18 532 22.2.0.0 | | 99 1 10.26 | |
| 0000 0 1.0118,532 22.200 | 9 1 21. 1 | 99.1 10.20 | |
| | | | |
| | | | |
| Stabalization Criteria: (=-0.1 (-/-3 %) (=-3 %) (-/-3 %) | +/- 1(9 ₀) (10 ₉ or <1) | (+:-10 mV) (n/a) | (IV.3) |
| Sun - Low flow purging, use length of tubing. - Stabalization criteria must be met for 3 consecutive readings (~3-5 mint | g vol.below. 3 – Low flow us ites between readings). | se Tubing Volume (gal/ft) (x) | Pump Intake Depth (ft.) |
| CONTAL Container: Lab or ARCADIS | NER DESCRIPTION | <u>N</u> | |
| | er (Type & Size) | No. of bottles | Preservative |
| VOA-Benzene 40m | 1 | 3_ | Nona, |
| | | | |
| | AMARIA AMARI | | |
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| , | | | AND THE PROPERTY OF THE PARTY O |
| Remarks: | | | |
| | | * · · · - # # · · · · · · · · · · · · · · | |
| | VELL CASING DIAMETER | | |
| 0.25" = 9.65 0.375" = 21.72 0.75" = 86.8T | $1.0^{\circ} = 0.04$ $.5^{\circ} = 0.00$ $2.5^{\circ} = 0.26$ | | #" = 0.65 6" = 1 = 1 " = 2.65 |

| A | Ñ | y and | Δ | n | | - |
|-------|-----|-------|---|-----|---|-----|
| , 400 | : 1 | ٠. | , | 3.7 | 3 | - 2 |

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| | Page | of | 1 |

| Project No Site Name Site Location Site/Well No. Weather LACO 3185. 20 HUNTSMAN HUNTSMAN MW-COD 42°F | Sample Personnel Sample ID Duplicate ID Start pump Start sampling EVACUATION DATA | ~~~ | pump 0955 sampling 0955 |
|--------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|----------------------------------|--------------------------------------|
| Description of Measuring Point (MP) | | MP Elevation (ft) | |
| Description of Measuring Point (MP) 1 Depth to Water before/after (ft) 8.3 Water Column in Well (ft) | Casing Diameter Evacuation Vol./F | (in) 411 | |
| Volume per foot in Well ² | Pump Intake Dept | | |
| Total Volume in Well 3 | Evacuation Metho | | CPUMP |
| | | + | |
| Time Volume pH Spec. Cond (st. 1) (mS em or | Temp DO Turbidity | ORP * Other (mV) | Appearance (Clarity, Color, Odor) |
| 0915 7.30 21.929 | 21.5 0.29 15.0 | 70.0 8.36 | |
| 0920 7.29 21,912 | 21.4 0.19 1 19.1 | -74.0 8.30 | |
| 0925 7.31 21.896 | 21.5 0.15 13.4 | -76.7 8.36 | |
| 0930 7.30 21,895 | 21.5 0.13 11.5 | -78.2 8.36 | |
| 0935 7.31 21.854 | 21.6 0.12 10.8 | -79.9 8.36 | |
| 0940 7.31 21.846 | 21.50.11 13.8 | -81.2 8.36 | |
| 0945 3 7.31 21.788 | 21.5 0.12 11.1 | 82.1 8.36 | |
| | | | |
| | | | |
| | | | |
| Stabalization Criteria: (±/- 0.1 (±/- 3 %) su) | (-1-3%) t=/-10%) (-10% or 3 | i) (÷/- 10 mV) (n/a) | (n/a) |
| | Low-flow use tubing vol.below. $^{-2}$ – Low flow readings (~3-5 minutes between readings). | use Tubing Volume (gal/ft) (x) I | Pump Intake Depth (ft) |
| | CONTAINER DESCRIPTION | <u>ON</u> | |
| Container: Lab or ARCADIS | Container (Town & Sine) | No of bossins | D |
| Constituents | Container (Type & Size) | No. of bottles | Preservative |
| VOA - BO13010 | 40m/ | 3 | None |
| VOA-Bevisene | 40ml | 3 | Nano |
| | | | |
| | | | |
| | | | |
| | | | |
| Remarks: Fed Bauk | (FB120315) 0 | tt 0955 | |

 WELL CASING DIAMETER VOLUMES (In Gallons per Foot)

 1.0" = 0.04
 2" = 0.16
 3" = 0.37
 4" = 0.65

 1.5" = 0.09
 2.5" = 0.26
 3.5" = 0.50
 5" = 1.04
 8" = 2.66

 $6^{\circ} = 1.46$

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| | 3.6 | C | يتستم | نوريخ | ě | | |

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| Page | of | 1 |

| Project No Site Name Site Locat Site/Well Weather | tion Hu | 03185.e ntsman ntsman 1-95 | 2015 | Sample Duplic Start p | ate 1D | DS, + MW- 0958 1030 | | pump sampling | 1040 1040 |
|---------------------------------------------------------------|---------------------------------------------------------------------------------|-------------------------------------|---------------------|-----------------------------|------------------------------------------------------------------|------------------------------|------------------------|---------------------------|--------------|
| Depth to (ft) Water Co Volume p | on of Measurin Water before Solumn in Well Over foot in Well Solume in Well | 7.9 | | Casing Evacue Pump | N DATA casing Diameter ation Vol./R Intake Dept ation Metho | (in) Late h (ft) | evation (ft) 4" 300mg | gIL hc fon | 1P |
| Time | Volume pH | | Temp 4 | DO - | Turbidity (NTU) | ORP 2 | Other DTW | Appears (Clarity, Cole | |
| 1000 5 1030 | 7.0 7.1 7.1 | 19 18,369 13 18,370 | 22.40.9 122.70.2 | 3 | 13.1 | -94.9 -1057 | 7.93 7.93 7.02 | | |
| 5 1040 1045 | 7.0 7.0 | 3 18,381 | 22.90.1 | 5 | 12.3 | -113.1 -115.1 | 7.93 7.93 | | |
| 1030 | 3 7.0 | Xo 18,377 Xo 18,388 | 22.9 0.1 | 2 | 15.8 | -117.0 | 7.93 7.93 | | |
| Stabalization (| Criteria: (+:- | 0.1 (-,-3%) | (3%) | 1 (t ⁰ ·0) | 110% or < |) (+/- 10 mV) | ın/a) | (n:a |) |
| - Stabalizatio | urging, use length of | net for 3 consecutive RCADIS S | CONTA Contain | utes between | readings). | <u> </u> | of bottles | | rvative |
| | | | | | | | | | |

● # m. .

| 8. | 30 | ,- | 23, | ge. | id Y | w |
|----|----|----|-----|-----|---------|---|
| 13 | 14 | ŧ | | | ŧ | 4 |
| | | ٦. | 1 3 | 2.5 | - 7 | |

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| rage | OI | <u> </u> |

| | | Date | 120315 | | | |
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| Project No LACO 2 185. 2015 | Sample Personnel | DS AG | | | | |
| Site Name Huntsman | Sample ID | MW-S | | | | |
| Site Location Huntsman | Duplicate ID | EB120315 | | | | |
| Site/Well No. MW-S | Start pump | IOSZ Stop | oump <u>1135</u> | | | |
| Weather | Start sampling | 1125 Stop | sampling U3S | | | |
| | | | | | | |
| EVAC | UATION DATA | | | | | |
| Description of Measuring Point (MP) North-end top | of well casing | MP Elevation (ft) | | | | |
| Depth to Water before/after (ft) 6.86 / 8.20 | Casing Diameter (in | n) 4" | | | | |
| Water Column in Well 1 (ft) | Evacuation Vol./Rat | | | | | |
| Volume per foot in Well ² | Pump Intake Depth | (ft) | | | | |
| Total Volume in Well 5 | Evacuation Method | A .: | Pump | | | |
| Time Volume pH Spec. Cond Temp | DO 2 Turbidity | ORP Other | Appearance | | | |
| (gallor L) (S.U.) (mS em or (T) F; (fig.1) | (Per INTL) | (mV) DIN | (Clarity, Color, Odor) | | | |
| u3(cm)) | 1 126 | | | | | |
| 1055 676 20.817 23.6 0.57 | 136 | -57.5 7.08 | | | | |
| 100 6.78 20,821 23.6 0.2 | 1 72.8 | -12.8 7.29 | | | | |
| 1105 6.81 20,795 23.8 0.16 | 55.6 | -19.4 7.41 | | | | |
| 1110 6.77 20,708 23.9 0.12 | 33.2 | -84.4 7.68 | | | | |
| 1115 6.90 20.532 23.8 0.10 | | -86.7 7.83 | | | | |
| 1120 6.60 20,224 23.6 0.08 | 3 11.8 | -105.0 8.00 | | | | |
| 1125 6.51 20,203 23.6 0.08 | 17.3 | -150.2 8.20 | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| Stabalization Criteria: $(-/-0.1)$ $(-/-3)$ $(-/-3)$ $(-/-3)$ $(-/-3)$ $(-/-3)$ | 7-10%e) 110%e or ≤1) | (=/- 10 mV) (n/a) | (n.'a) | | | |
| Low flow purging, use length of tubing Low-flow use tubing | vol.below Low flow us | e Tubing Volume (gal/fi) (x) F | ump intake Depth (ft) | | | |
| - Stabalization criteria must be met for 3 consecutive readings (~3-5 minut | tes between readings). | | | | | |
| | NER DESCRIPTION | <u>¥</u> | | | | |
| Container: Lab or ARCADIS Containe | er (Type & Size) | No. of bottles | Preservative | | | |
| | | 2 | Alara | | | |
| VOA - Benzene 40m | 1 | | Ivone | | | |
| VOA - Benzone 40 n | nl | | None | | | |
| | | | | | | |
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| and the second s | | | | | | |
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| | and the state of t | | and the second s | | | |
| Remarks: EQUIPMENT Blank (EB120315) at 1140 | | | | | | |
| | | | | | | |
| V - V - V - V - V - V - V - V - V - V - | | OLUMES (In Gallons per F | | | | |
| 0.25" = 9.65 0.5 " = 38.61 0.375 " = 21.72 0.75 " = 86.8 ° 1.3 | | | = 0.65 6" = 1.46 = 2.66 | | | |
| C. Users displant AppDats(Lycal)Microsoft Windows Temporary Internet Files Content Cuttook SKAL) | | | | | | |

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| | | | Da | ate 120415 |
|-----------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------|-----------------------------------------|--------------------------------------|
| Project No LA003185, 2015 | Sample P | ersonnel | DS, AG | |
| Site Name Hyntsman | Sample I | D | mw-8 | |
| Site Location HUYITSMAN | Duplicate | e ID | PD 0000 12 | 0415 |
| Site/Well No. MU-8 | Start pun | np _(| 0815 St | ор ритр <u>0855</u> |
| W'eather | Start sam | ipling <u>(</u> | 08.50 St | op sampling 0855 |
| , | EVACUATION | DATA | | |
| • | | | MDTL 3 4 | · . |
| Description of Measuring Point (MP) North-er Depth to Water before/after | id top of well ca | ising | MP Elevation (f | 1) |
| (ft) $6 \times 3 / 8$ | Q Casing D | Diameter (in |) 4 ¹¹ | |
| Water Column in Well (ft) | | on Vol./Rate | 2 | nall |
| Volume per foot in Well ² | Pump Int | take Depth (| ft) | O |
| Total Volume in Well : | • | on Method | Peristo | iltic Pomp |
| | | | | 7 |
| Time Volume pH Spec. Cond Temp | DO - | Turbidity | ORP Other | Appearance (Clarity, Color, Odor) |
| earlor L1 (S.U.) (mS/cm or (**O*F1) | (10g L) (701 | 13101 | 01. | - |
| 0820 7.27 8,828 23.7 | 0.37 | 13.6 | | yellow tint water |
| 0825 7.33 8,306 23.6 | 0.22 | 13.5 | 94.7 7.25 | |
| 0 830 7.32 8,264 23.7 | 0.18 | | 100.4 7.53 | |
| 0835 7.32 8,266 23.9 | 0.14 | | 100.2 7.85 | |
| | 0.14 | 13.7 | 111.8 8.24 | |
| 0845 7.33 8,271 23.9 | 0.11 | | 115.3 8.50 | |
| 0850 3 7.32 8,270 24.0 | 0.11 | 12.5 | -118.48.91 | |
| | | | | |
| | | | | |
| Stabalization Criteria: (=/-9.1 (±3%) (=-3%) | 17/- 10° oi | : 10° o er =1) (| -/- 10 mV) (n/a) | (n/a) |
| su) | | | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | |
| Low flow purging, use length of tubing. Stabalization criteria must be met for 3 consecutive readings (~3) | | | Tubing Volume (gal/ft) | (x) Pump intake Depth (ft) |
| CO | NTAINER DES | CRIPTION | | |
| Container: Lab 🛛 or ARCADIS 🗌 | | | | |
| Constituents Co | ntainer (Type & | : Size) | No. of bottle | |
| VOA-PATT Well | YOM! | | 3 | None |
| VOA-PAH FO | <u> </u> | | | |
| VOA-PAH FB | | | | |
| VOA-PAH EB | | | | |
| VOA - Benzene well | | | | |
| VOTI- BENZENE PB | | ***************** | <u></u> | |
| 120415 | | | 120415 | |
| Remarks: 100 Oup (FD (ED (CO)) (| | EBlank | (FOODAGOUS |) at 0855. |
| Equipment Blank (EB canique | | 900. | _ | |
| TUBING DIAMETER VOLUMES, (In Milliflers per Foot) | WELL CASING | | OLUMES (In Gallons r | er Foot) 4" = 0.65 6" = 1.45 |

| Project No |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Description of Measuring Point (MP) North-end top of well casing MP Elevation (ft) Depth to Water before/after (ft) |
| Depth to Water before/after (ft) |
| Time |
| Time Volume pH Spec. Cond Temp DO (NTU) OR Other Appearance (Clarity. Color. Odor) OPIS 7.15 10.349 22.9 0.58 1 14.8 -105.0 10.35 Sheen, Strong OPIS 1.15 10.448 22.8 0.24 16.8 -111.1 10.48 hyd vocal from OS OPIS 7.15 10.480 22.8 0.17 14.1 -117.7 10.62 OPIS 7.15 10.407 22.9 0.15 14.1 -117.7 10.62 OPIS 7.15 10.407 22.9 0.15 14.1 -122.9 10.72 OPIS 7.15 10.407 22.9 0.15 14.3 -130.6 10.85 OPIS 7.15 10.166 23.2 0.08 12.0 -141.0 10.96 OPIS 11.0 10.96 OPIS 12.0 -141.0 10.96 OPIS 12.0 |
| (S.U.) (mS/cm or C)F (mg/l) (%) (NTU) (mV) DTIN (Clarity, Color, Odor) |
| 0915 7.15 10,549 22.9 0.58 1 14.8 -105.0 10.35 Sheen, Strong O920 7.15 10,648 22.8 0.24 16.8 -111.1 10.48 hydrocaliton of O925 7.15 10,480 22.8 0.17 14.1 -117.7 10.62 O930 7.15 10,407 22.9 0.15 11.7 -122.9 10.72 O935 7.15 10,292 23.1 0.12 14.3 -130.6 10.85 OQ40 7.15 10,166 23.2 0.08 12.0 -141.6 10.96 OQ4S 3 7.15 10,165 23.3 0.08 1 Q.78 -152.8 11.05 |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ |
| OQ2O 7.15 10,407 22.9 0.15 11.7 -122.9 10.72 OQ3S 7.15 10,292 23.1 0.12 14.3 -130.6 10.85 OQ4O 7.15 10,166 23.2 0.08 12.0 -141.6 10.96 OQ4S 3 7.15 10,165 23.3 0.08 1 Q.78 -152.8 11.05 Stabelization Criteria: (+/-0.1 (+/-3%) (+/-3%) (+/-10%) (-/-10% or <1) (+/-10 mV) (n/a) (n/a) |
| 09.35 7.15 10, 292 23.1 0.12 14.3 -130.6 10.85 00.40 7.15 10, 166 23.2 0.08 12.0 -141.6 10.96 00.45 3 7.15 10, 165 23.3 0.08 9.78 -152.8 11.05 00.78 152.8 11.05 |
| 0Q40 7.15 10,166 23.2 0.08 12.0 - 141.6 10,96 0Q45 3 7.15 10,165 23.3 0.08 Q.78 -152.8 11.05 Q.78 -152.8 11.05 |
| OQUS 3 7.15 10, 165 23.3 0.08 |
| Stabalization Criteria: (+/- 0.1 (+/- 3 %) (+/- 3 %) (-/- 10%) (-/- 10% or <1) (+/- 10 mV) (n/a) (n/a) |
| |
| |
| |
| |
| |
| 1 – Low flow purging, use length of tubing. 2 – Low-flow use tubing vol.below. 3 – Low flow use Tubing Volume (gal/ft) (x) Pump Imake Depth (ft) 4 – Stabalization criteria must be met for 3 consecutive readings (~3-5 minutes between readings). |
| CONTAINER DESCRIPTION |
| Container: Lab 🛛 or ARCADIS 🗌 Constituents Container (Type & Size) No. of bottles Preservative |
| Von - Benzene 40ml 3 None, |
| |
| |
| |
| |
| |
| |
| Remarks: |

TUBING DIAMETER VOLUMES. (In Milliliters per Foot)

O.25" = 9.65

O.5" = 38.61

O.5" = 0.09

O.5" = 0.09 TUBING DIAMETER VOLUMES. (in Milliliters per Foot)
0.25" = 9.65
0.375" = 21.72
0.75" = 86.87 6" = 1.46



Appendix C

Laboratory Analytical Reports



August 17, 2015

Tim Ratchford ARCADIS U.S., Inc. 10352 Plaza Americana Drive Baton Rouge, LA 70816 10450 Stancliff Rd. Suite 210 Houston, TX 77099 T: +1 281 530 5656 F: +1 281 530 5887 www.alsglobal.com

Work Order: HS15060423

Laboratory Results for: Brickland NM Semi Annual Sampling Huntsman

Dear Tim,

ALS Environmental received 3 sample(s) on Jun 09, 2015 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: Dane.Wacasey
Dane J. Wacasey

Page 1 of 15

ALS Group USA, Corp

Date:

17-Aug-15

Client:

ARCADIS U.S., Inc.

| Project: Work Order: | Brickland NM Semi Annua HS15060423 | al Sampling Huntsn | nan | | SAMPLE SUMI | MARY |
|-------------------------|---------------------------------------|--------------------|-------|-------------------|-------------------|------|
| Lab Samp ID | Client Sample ID | Matrix | TagNo | Collection Date | Date Received | Hold |
| HS15060423-01 | MW-10 | Water | | 08-Jun-2015 14:20 | 09-Jun-2015 09:35 | |
| HS15060423-02 | EB060815 | Water | | 08-Jun-2015 14:40 | 09-Jun-2015 09:35 | |
| HS15060423-03 | FB060815 | Water | | 08-Jun-2015 15:00 | 09-Jun-2015 09:35 | |

ALS Group USA, Corp

Date: 17-Aug-15

Client:

ARCADIS U.S., Inc.

CASE NARRATIVE

Project:

Brickland NM Semi Annual Sampling Huntsman

Work Order: HS15060423

Work Order Comments

• This report was revised August 17, 2015 in order to report non-detects as a <PQL value.

GCMS Volatiles by Method SW8260

Batch ID: R256157

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

'ient:

ARCADIS U.S., Inc.

ANALYTICAL REPORT

Project:

Brickland NM Semi Annual Sampling Huntsman

WorkOrder:HS15060423

Sample ID:

MW-10

Lab ID:HS15060423-01

Collection Date:

08-Jun-2015 14:20

Matrix:Water

| ANALYSES | RESULT QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|-----------------------------|---------------|-----------------|-------|--------------------|-------------------|
| VOLATILES - SW8260C | Method:SW8260 | | | | Analyst: PC |
| Benzene | 23 | 5.0 | ug/L | 1 | 15-Jun-2015 13:16 |
| Surr: 1,2-Dichloroethane-d4 | 99.6 | 70-125 | %REC | 1 | 15-Jun-2015 13:16 |
| Surr: 4-Bromofluorobenzene | 98.0 | 72-125 | %REC | 1 | 15-Jun-2015 13:16 |
| Surr: Dibromofluoromethane | 101 | 71-125 | %REC | 1 | 15-Jun-2015 13:16 |
| Surr: Toluene-d8 | 98.8 | 75-125 | %REC | 1 | 15-Jun-2015 13:16 |

lient:

ARCADIS U.S., Inc.

08-Jun-2015 14:40

ANALYTICAL REPORT

Project:

Brickland NM Semi Annual Sampling Huntsman

WorkOrder:HS15060423

Sample ID: Collection Date: EB060815

Lab ID:HS15060423-02

Matrix:Water

| ANALYSES | RESULT QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|-----------------------------|---------------|-----------------|-------|--------------------|-------------------|
| VOLATILES - SW8260C | Method:SW8260 | | | | Analyst: PC |
| Benzene | < 5.0 | 5.0 | ug/L | 1 | 15-Jun-2015 14:50 |
| Surr: 1,2-Dichloroethane-d4 | 98.7 | 70-125 | %REC | 1 | 15-Jun-2015 14:50 |
| Surr: 4-Bromofluorobenzene | 96.1 | 72-125 | %REC | 1 | 15-Jun-2015 14:50 |
| Surr: Dibromofluoromethane | 102 | 71-125 | %REC | 1 | 15-Jun-2015 14:50 |
| Surr: Toluene-d8 | 99.0 | 75-125 | %REC | 1 | 15-Jun-2015 14:50 |

ote: See Qualifiers Page for a list of qualifiers and their explanation.

`lient:

ARCADIS U.S., Inc.

ANALYTICAL REPORT

Project:

Brickland NM Semi Annual Sampling Huntsman

WorkOrder:HS15060423

Sample ID:

FB060815

Lab ID:HS15060423-03

Collection Date:

08-Jun-2015 15:00

Matrix:Water

| ANALYSES | RESULT QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|-----------------------------|---------------|-----------------|-------|--------------------|-------------------|
| VOLATILES - SW8260C | Method:SW8260 | | | | Analyst: PC |
| Benzene | < 5.0 | 5.0 | ug/L | 1 | 15-Jun-2015 15:14 |
| Surr: 1,2-Dichloroethane-d4 | 95.1 | 70-125 | %REC | 1 | 15-Jun-2015 15:14 |
| Surr: 4-Bromofluorobenzene | 93.5 | 72-125 | %REC | 1 | 15-Jun-2015 15:14 |
| Surr: Dibromofluoromethane | 99.7 | 71-125 | %REC | 1 | 15-Jun-2015 15:14 |
| Surr: Toluene-d8 | 98.7 | 75-125 | %REC | 1 | 15-Jun-2015 15:14 |

ALS Group USA, Corp

Date: 17-Aug-15

Client:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual Sampling Huntsman

DATES REPORT

WorkOrder: HS15060423

| Sample ID | Client Sam | p ID Collection Date | TCLP Date | Prep Date | Analysis Date | DF |
|-----------------------|------------------|--------------------------------|-----------|-----------|-------------------|----|
| Batch ID R | 256157 | Test Name: VOLATILES - SW8260C | | Matrix | : Water | |
| HS15060423-0 | 01 MW -10 | 08 Jun 2015 14:20 | | | 15 Jun 2015 13:16 | 1 |
| HS150 6 0423-0 | 02 EB060815 | 08 Jun 2015 14:40 | | | 15 Jun 2015 14:50 | 1 |
| HS15060423-0 | 03 FB060815 | 08 Jun 2015 15:00 | | | 15 Jun 2015 15:14 | 1 |

QC BATCH REPORT

Client: ARCADIS U.S., Inc.

Project: Brickland NM Semi Annual Sampling Huntsman

WorkOrder: HS15060423

| Batch ID: R256157 | | Instrument: | VOA7 | | Metho | od: SW826 | 0 | | |
|-----------------------------|----------------|--------------|---------|------------------|---------|------------------|------------------|------------------|--|
| MBLK Sample ID: | VBLKW-150615 | | Units: | ug/L | Ana | alysis Date: | 15-Jun-2015 | 5 11:41 | |
| Client ID: | 1 | Run ID: VOA7 | _256157 | SeqNo: 3 | 3319458 | PrepDate: | | DF: 1 | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | RPC %RPD Limi | |
| Benzene | < 5.0 | 5.0 | | | | | | | |
| Surr: 1,2-Dichloroethane-d4 | 47.16 | 0 | 50 | 0 | 94.3 | 70 - 125 | | | |
| Surr. 4-Bromofluorobenzene | 46.87 | 0 | 50 | 0 | 93.7 | 72 - 125 | | | |
| Surr. Dibromofluoromethane | 50.16 | 0 | 50 | 0 | 100 | 71 - 125 | | | |
| Surr: Toluene-d8 | 50.02 | 0 | 50 | 0 | 100 | 75 - 125 | | | |
| LCS Sample ID: | VLCSW-150615 | | Units: | ug/L | Ana | alysis Date: | 15-Jun-2015 | 14:27 | |
| Client ID: | ĺ | Run ID: VOA7 | _256157 | SeqNo: 3 | 319603 | PrepDate: | | DF: 1 | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | RPD %RPD Limi | |
| Benzene | 51.54 | 5.0 | 50 | 0 | 103 | 7 3 - 121 | | | |
| Surr. 1,2-Dichloroethane-d4 | 52.24 | 0 | 50 | 0 | 104 | 70 - 125 | | | |
| Surr: 4-Bromofluorobenzene | 52.09 | 0 | 50 | 0 | 104 | 72 - 125 | | | |
| Surr. Dibromofluoromethane | 51.47 | 0 | 50 | 0 | 103 | 71 - 125 | | | |
| Surr. Toluene-d8 | 49.4 | 0 | 50 | 0 | 98.8 | 75 - 125 | | | |
| MS Sample ID: | HS15060464-01N | ıs | Units: | ug/L | Ana | alysis Date: | 15-Jun-2015 | 13:39 | |
| Client ID: | ı | Run ID: VOA7 | _256157 | SeqNo: 3 | 319600 | PrepDate: | | DF: 1 | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | RPD %RPD Limi | |
| Benzene | 49.18 | 5.0 | 50 | 0 | 98.4 | 73 - 121 | | | |
| Surr. 1,2-Dichloroethane-d4 | 50.28 | 0 | 50 | 0 | 101 | 70 - 125 | | | |
| Surr. 4-Bromofluorobenzene | 51.47 | 0 | 50 | 0 | 103 | 72 - 125 | | | |
| Surr. Dibromofluoromethane | 51.25 | 0 | 50 | 0 | 103 | 71 - 125 | | | |
| Surr: Toluene-d8 | 49.06 | 0 | 50 | 0 | 98.1 | 75 - 125 | | | |

QC BATCH REPORT

Client:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual Sampling Huntsman

WorkOrder: HS15060423

Batch ID: R256157 Instrument: VOA7 Method: SW8260

| MSD | Sample ID: | HS15060464-01MSD | | Units: | ug/L | Ana | ılysis Date: | 15-Jun-2015 | 14:03 | |
|----------------------|------------|------------------|------|---------|------------------|--------|------------------|------------------|-------------|-----------------|
| Client ID: | | Run ID: | VOA7 | _256157 | SeqNo: 3 | 319601 | PrepDate: | | DF: | 1 |
| Analyte | | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | R %RPD L | RPD imit Qua |
| Benzene | | 49.16 | 5.0 | 50 | 0 | 98.3 | 73 - 121 | 49.18 | 0.0569 | 20 |
| Surr: 1,2-Dichloroet | hane-d4 | 53.84 | 0 | 50 | 0 | 108 | 70 - 125 | 50.28 | 6.84 | 20 |
| Surr: 4-Bromofluoro | benzene | 52.42 | 0 | 50 | 0 | 105 | 72 - 125 | 51.47 | 1.82 | 20 |
| Surr: Dibromofluoro | methane | 52.46 | 0 | 50 | 0 | 105 | 71 - 125 | 51.25 | 2.33 | 20 |
| Surr: Toluene-d8 | | 48.66 | 0 | 50 | 0 | 97.3 | 75 - 125 | 49.06 | 0.833 | 20 |

SDL TRRP

Texas Risk Reduction Program

Date: 17-Aug-15

ARCADIS U.S., Inc. Client:

QUALIFIERS, ACRONYMS, UNITS Brickland NM Semi Annual Sampling Huntsman Project:

WorkOrder: HS15060423

| Qualifier | Description |
|------------|---------------------------------------------------------------------------|
| | Value exceeds Regulatory Limit |
| 9 | Not accredited |
| 3 | Analyte detected in the associated Method Blank above the Reporting Limit |
| E | Value above quantitation range |
| н | Analyzed outside of Holding Time |
| j | Analyte detected below quantitation limit |
| М | Manually integrated, see raw data for justification |
| n | Not offered for accreditation |
| ND | Not Detected at the Reporting Limit |
| 0 | Sample amount is > 4 times amount spiked |
| P | Dual Column results percent difference > 40% |
| R | RPD above laboratory control limit |
| S | Spike Recovery outside laboratory control limits |
| U | Analyzed but not detected above the MDL/SDL |
| Acronym | Description |
| ocs | Detectability Check Study |
| DUP | Method Duplicate |
| .cs | Laboratory Control Sample |
| LCSD | Laboratory Control Sample Duplicate |
| MBLK | Method Blank |
| MDL | Method Detection Limit |
| JQL | Method Quantitation Limit |
| MS | Matrix Spike |
| ASD | Matrix Spike Duplicate |
| | Post Digestion Spike |
| PDS | - · · · · · · · · · · · · · · · · · · · |
| PDS PQL | Practical Quantitaion Limit |
| | Practical Quantitaion Limit Serial Dilution |
| PQL | |

CERTIFICATIONS, ACCREDITATIONS & LICENSES

Date: 17-Aug-15

| Agency | Number | Expire Date |
|-----------------|---------------------|-------------|
| Arkansas | 15-024-0 | 27-Mar-2016 |
| California | 2919 | 31-Jul-2016 |
| Dept of Defense | L2231 Rev 3-20-2014 | 22-Dec-2015 |
| Illinois | 003622 | 09-May-2016 |
| Kansas | E-10352 2014-2015 | 31-Aug-2015 |
| Kentucky | KY 2015-2016 | 30-Apr-2016 |
| Louisiana | 03087 2015/2016 | 30-Jun-2016 |
| North Carolina | 624 - 2015 | 31-Dec-2015 |
| Oklahoma | 2014-128 | 31-Aug-2015 |
| Texas | T104704231-15-15 | 30-Apr-2016 |

Date:

17-Aug-15

Client:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual Sampling Huntsman

SAMPLE TRACKING

Work Order:

HS15060423

| Lab Samp ID | Client Sample ID | Action | Date | Person | New Location |
|---------------|------------------|--------|---------------------|--------|--------------|
| HS15060423-01 | MW-10 | Login | 6/9/2015 8:05:06 PM | CGG | VW-3 |
| HS15060423-02 | EB060815 | Login | 6/9/2015 8:05:06 PM | CGG | VW-3 |
| HS15060423-03 | FB060815 | Login | 6/9/2015 8:05:06 PM | CGG | VW-3 |

Sample Receipt Checklist Date/Time Received: 09-Jun-2015 09:35 Client Name: Arcadis-Baton Rouge Work Order: HS15060423 Received by: **TTW** Checklist completed by: Reviewed by: Corey Grandits Dane J. Wacasey 9-Jun-2015 10-Jun-2015 eSignature Date eSignature Date Matrices: Carrier name: **ALS Courier** Water Shipping container/cooler in good condition? Yes 🔽 No Not Present Custody seals intact on shipping container/cooler? Yes No Not Present Custody seals intact on sample bottles? Yes No Not Present Chain of custody present? No Yes Chain of custody signed when relinquished and received? Yes No Chain of custody agrees with sample labels? Yes 🔽 No Samples in proper container/bottle? Yes No Sample containers intact? Yes 🗸 No Sufficient sample volume for indicated test? Yes No All samples received within holding time? Yes No Container/Temp Blank temperature in compliance? Yes 🗸 No Temperature(s)/Thermometer(s): 2.2C/2.5C c/uc Cooler(s)/Kit(s): Sm Red 06/09/2015 20:20 Date/Time sample(s) sent to storage: Water - VOA vials have zero headspace? No VOA vials submitted Yes 🗸 No N/A ✓ Water - pH acceptable upon receipt? Yes No pH adjusted? No N/A Yes pH adjusted by: Login Notes: Person Contacted: **Client Contacted:** Date Contacted: Contacted By: 0 Regarding: Comments: Corrective Action:

Cincinnati, OH +1 513 733 5336

Everett, WA Holland, MI +1 425 356 2600 +1 616 399 6070

Fort Coffins, CO +1 970 490 1511

Chain J Custody Form

Bare 1 of 1

Page _____of ___ COC ID: 128175 HS15060423

ARCADIS U.S., Inc.

Brickland NM Semi Annual GW Sampling

Environmental ALS Project Manager: **Project Information Customer Information** A 8260 penzene (unpreserved) Brickland Refinery Huntsman Purchasé Order **Project Name** B 8270 - PAH Work Order **Project Number** ARCADIS U.S., Inc. ARCADIS U.S., Inc. С Company Name Bill To Company D Garett Ferguson Send Report To Invoice Attn 211 N Florence Street, Suite 202 211 N Florence Street, Suite 202 Address Address G El Paso, TX 79901 City/State/Zip El Paso, TX 79901 City/State/Zip (915) 533-9025 Н (915) 533-3902 Phone Phone (915) 533-9045 Fax Fax Garett.Ferguson@arcadis-us.com e-Mail Address e-Mail Address Hold-# Bottles C No. Sample Description Date Time Matrix Pres. Α B 1 3 5 7 8 9 10 Results Due Date: Shipment Method Required Turnaround Time: (Check Box) Sampler(s) Please Print & Şign Other X Std 10 WK days 5 WK Days 2 WK Days 24 Hout Notes: Received by: QC Package: (Check One Box Below) Relinquished by: Level 2 Std QC TRRP Chillist TRF:P Level 4 Logged by (Laboratory): Date: Time: Checked by (Laberatory): Level 3 Std QC/Row da Level 4 SW846/CLP Other/EDD 8-4°C Preservative Key: 1-HCI 2-HNO, 3-H,SO, 4-NaOH 5-Na₂S₂O₃ 6-NaHSO 9-5035

Note: 1. Any changes must be made in writing once samples and COC form have been submitted to ALS Environmental.

2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.

3. The Chain of Custody is a local document All information must be -

Copyright 2011 by ALS Environmental.

| | MUR4. |
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| 2 Your Internal Billing Reference | FedEx Envelope* FedEx Pak* FedEx FedEx Tube |
| 3 To Recipient's CLIENT SERVICES Phone 281 530-5656 | 6 Special Handling and Delivery Signature Options SATURDAY Delivery NOT evaluable for Foots Standard Orembox, Fects ZDay A.M. or Feder Express Sever. |
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| Houston; Texas 77099 Tel. +1 281 530 5856 | STORY SEAL Sea Browling |
| Pax. +1 281 530 5887 Company | 6/2/15 |
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T: +1 281 530 5656 F: +1 281 530 5887

www.alsglobal.com

Houston, TX 77099

10450 Stancliff Rd. Suite 210

August 17, 2015

Tim Ratchford ARCADIS U.S., Inc. 10352 Plaza Americana Drive Baton Rouge, LA 70816

Work Order: HS15060476

Laboratory Results for: Brickland NM Semi Annual Sampling Huntsman

Dear Tim,

ALS Environmental received 8 sample(s) on Jun 10, 2015 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: Dane.Wacasey

Dane J. Wacasey

Date:

SAMPLE SUMMARY

17-Aug-15

ARCADIS U.S., Inc. **Client:**

Brickland NM Semi Annual Sampling Huntsman Project:

| Work Order: | HS15060476 | | | | | |
|---------------|----------------------|--------|-------|-------------------|-------------------|------|
| Lab Samp ID | Client Sample ID | Matrix | TagNo | Collection Date | Date Received | Hold |
| HS15060476-01 | MW-8 | Water | | 09-Jun-2015 09:20 | 10-Jun-2015 09:12 | |
| HS15060476-02 | FD060915 | Water | | 09-Jun-2015 00:00 | 10-Jun-2015 09:12 | |
| HS15060476-03 | EB060915 | Water | | 09-Jun-2015 09:50 | 10-Jun-2015 09:12 | |
| HS15060476-04 | FB060915 | Water | | 09-Jun-2015 09:40 | 10-Jun-2015 09:12 | |
| HS15060476-05 | MW-11 | Water | | 09-Jun-2015 10:55 | 10-Jun-2015 09:12 | |
| HS15060476-06 | MW-5 | Water | | 09-Jun-2015 13:15 | 10-Jun-2015 09:12 | |
| HS15060476-07 | MW-17 | Water | | 09-Jun-2015 14:25 | 10-Jun-2015 09:12 | |
| HS15060476-08 | Trip Blank-052215-67 | Water | | 09-Jun-2015 00:00 | 10-Jun-2015 09:12 | v |

ALS Group USA, Corp

Client:

ARCADIS U.S., Inc.

CASE NARRATIVE

Date: 17-Aug-15

Project:

Brickland NM Semi Annual Sampling Huntsman

Work Order: HS15060476

Work Order Comments

• This report was revised August 17, 2015 in order to report non-detects as a <PQL value and report results in μg/L units.

GCMS Semivolatiles by Method SW8270

Batch ID: 94226

Sample ID: LCS-94226

• Insufficient sample received to perform MS/MSD. LCS/LCSD provided as batch quality control.

GCMS Volatiles by Method SW8260

Batch ID: R256129

Sample ID: HS15060320-02MS

• MS and MSD are for an unrelated sample

Batch ID: R256174,R256249

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

lient:

ARCADIS U.S., Inc.

Project: Brickland NM Semi Annual Sampling Huntsman

WorkOrder:HS15060476

ANALYTICAL REPORT

Lab ID:HS15060476-01

Matrix:Water

Sample ID: Collection Date:

09-Jun-2015 09:20

MW-8

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|--------------------------------------------|--------|---------------|-----------------|-------------|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LOW-LEVEL PAHS | | Method:SW8270 | | Prep:SW3510 | / 12-Jun-2015 | 12-Jun-2015 15:1 |
| Acenaphthene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:09 |
| Acenaphthylene | 0.24 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:09 |
| Anthracene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:09 |
| Benz(a)anthracene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:09 |
| Benzo(a)pyrene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:09 |
| Benzo(b)fluoranthene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:09 |
| Benzo(g,h,i)perylene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:09 |
| Benzo(k)fluoranthene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:09 |
| Chrysene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:09 |
| Dibenz(a,h)anthracene < 0 Fluoranthene < 0 | | | 0.20 | ug/L | 1 | 12-Jun-2015 15:09 |
| Fluoranthene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:09 |
| Fluorene | | | 0.20 | ug/L | 1 | 12-Jun-2015 15:09 |
| Indeno(1,2,3-cd)pyrene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:09 |
| Naphthalene | 0.62 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:09 |
| Phenanthrene | 0.36 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:09 |
| vrene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:09 |
| urr: 2-Fluorobiphenyl | 69.1 | | 40-125 | %REC | 1 | 12-Jun-2015 15:09 |
| Surr: 4-Terphenyl-d14 | 84.1 | | 40-135 | %REC | 1 | 12-Jun-2015 15:09 |
| Surr: Nitrobenzene-d5 | 55.5 | | 41-120 | %REC | 1 | 12-Jun-2015 15:09 |
| LOW LEVEL VOLATILES BY SW | 8260C | Method:SW8260 | | | | Analyst: AKF |
| Benzene | 5,100 | | 100 | ug/L | 100 | 16-Jun-2015 14:37 |
| Surr: 1,2-Dichloroethane-d4 | 114 | | 71-125 | %REC | 100 | 16-Jun-2015 14:37 |
| Surr: 4-Bromofluorobenzene | 98.9 | | 70-125 | %REC | 100 | 16-Jun-2015 14:37 |
| Surr: Dibromofluoromethane | 113 | | 74-125 | %REC | 100 | 16-Jun-2015 14:37 |
| Surr: Toluene-d8 | 112 | | 75-125 | %REC | 100 | 16-Jun-2015 14:37 |

`lient: ARCADIS U.S., Inc.

Project: Brickland NM Semi Annual Sampling Huntsman

Sample ID: FD060915

Collection Date: 09-Jun-2015 00:00

ANALYTICAL REPORT

WorkOrder:HS15060476 Lab ID:HS15060476-02

Matrix:Water

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|------------------------|--------|---------------|-----------------|-------------|--------------------|-------------------|
| LOW-LEVEL PAHS | | Method:SW8270 | | Prep:SW3510 | / 12-Jun-2015 | Analyst: LG |
| Acenaphthene | 0.23 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:28 |
| Acenaphthylene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:28 |
| Anthracene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:28 |
| Benz(a)anthracene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:28 |
| Benzo(a)pyrene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:28 |
| Benzo(b)fluoranthene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:28 |
| Benzo(g,h,i)perylene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:28 |
| Benzo(k)fluoranthene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:28 |
| Chrysene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:28 |
| Dibenz(a,h)anthracene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:28 |
| Fluoranthene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:28 |
| Fluorene | 0.33 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:28 |
| Indeno(1,2,3-cd)pyrene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:28 |
| Naphthalene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:28 |
| Phenanthrene | 0.30 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:28 |
| yrene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:28 |
| лт: 2-Fluorobiphenyl | 77.8 | | 40-125 | %REC | 1 | 12-Jun-2015 15:28 |
| Surr: 4-Terphenyl-d14 | 78.1 | | 40-135 | %REC | 1 | 12-Jun-2015 15:28 |
| Surr: Nitrobenzene-d5 | 62.2 | | 41-120 | %REC | 1 | 12-Jun-2015 15:28 |

ANALYTICAL REPORT

 ARCADIS U.S., Inc.

Brickland NM Semi Annual Sampling Huntsman

WorkOrder:HS15060476 Lab ID:HS15060476-03

Sample ID:

EB060915

Matrix:Water

Collection Date: 09-Jun-2015 09:50

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED | |
|------------------------|--------|---------------|-----------------|-------------|--------------------|-------------------|--|
| LOW-LEVEL PAHS | | Method:SW8270 | | Prep:SW3510 | / 12-Jun-2015 | Analyst: LG | |
| Acenaphthene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:47 | |
| Acenaphthylene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:47 | |
| Anthracene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:47 | |
| Benz(a)anthracene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:47 | |
| Benzo(a)pyrene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:47 | |
| Benzo(b)fluoranthene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:47 | |
| Benzo(g,h,i)perylene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:47 | |
| Benzo(k)fluoranthene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:47 | |
| Chrysene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:47 | |
| Dibenz(a,h)anthracene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:47 | |
| Fluoranthene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:47 | |
| Fluorene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:47 | |
| Indeno(1,2,3-cd)pyrene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:47 | |
| Naphthalene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:47 | |
| Phenanthrene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:47 | |
| Pyrene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 15:47 | |
| urr: 2-Fluorobiphenyl | 48.7 | | 40-125 | %REC | 1 | 12-Jun-2015 15:47 | |
| Surr: 4-Terphenyl-d14 | 81.1 | | 40-135 | %REC | 1 | 12-Jun-2015 15:47 | |
| Surr: Nitrobenzene-d5 | 56.7 | | 41-120 | %REC | 1 | 12-Jun-2015 15:47 | |

lient:

ARCADIS U.S., Inc.

ANALYTICAL REPORT

Project: Sample ID: Brickland NM Semi Annual Sampling Huntsman

WorkOrder:HS15060476 Lab ID:HS15060476-04

FB060915

Collection Date:

09-Jun-2015 09:40

Matrix:Water

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|------------------------|--------|---------------|-----------------|-------------|--------------------|-------------------|
| LOW-LEVEL PAHS | | Method:SW8270 | | Prep:SW3510 | / 12-Jun-2015 | Analyst: LG |
| Acenaphthene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 16:06 |
| Acenaphthylene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 16:06 |
| Anthracene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 16:06 |
| Benz(a)anthracene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 16:06 |
| Benzo(a)pyrene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 16:06 |
| Benzo(b)fluoranthene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 16:06 |
| Benzo(g,h,i)perylene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 16:06 |
| Benzo(k)fluoranthene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 16:06 |
| Chrysene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 16:06 |
| Dibenz(a,h)anthracene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 16:06 |
| Fluoranthene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 16:06 |
| Fluorene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 16:06 |
| Indeno(1,2,3-cd)pyrene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 16:06 |
| Naphthalene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 16:06 |
| Phenanthrene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 16:06 |
| rene | < 0.20 | | 0.20 | ug/L | 1 | 12-Jun-2015 16:06 |
| лт: 2-Fluorobiphenyl | 66.5 | | 40-125 | %REC | 1 | 12-Jun-2015 16:06 |
| Surr: 4-Terphenyl-d14 | 86.3 | | 40-135 | %REC | 1 | 12-Jun-2015 16:06 |
| Surr: Nitrobenzene-d5 | 71.4 | | 41-120 | %REC | 1 | 12-Jun-2015 16:06 |

`lient:

ARCADIS U.S., Inc.

ANALYTICAL REPORT WorkOrder:HS15060476

~roject: Sample ID: Brickland NM Semi Annual Sampling Huntsman

Lab ID:HS15060476-05

MW-11

Collection Date:

09-Jun-2015 10:55

Matrix:Water

| ANALYSES | RESULT Q | UAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|-----------------------------|----------|---------------|-----------------|-------|--------------------|-------------------|
| LOW LEVEL VOLATILES BY SWI | 8260C N | Method:SW8260 | | | | Analyst: KMB |
| Benzene | 1.3 | | 1.0 | ug/L | 1 | 13-Jun-2015 17:56 |
| Surr: 1,2-Dichloroethane-d4 | 107 | | 71-125 | %REC | 1 | 13-Jun-2015 17:56 |
| Surr: 4-Bromofluorobenzene | 102 | | 70-125 | %REC | 1 | 13-Jun-2015 17:56 |
| Surr: Dibromofluoromethane | 111 | | 74-125 | %REC | 1 | 13-Jun-2015 17:56 |
| Surr: Toluene-d8 | 112 | | 75-125 | %REC | 1 | 13-Jun-2015 17:56 |

Surr: 4-Bromofluorobenzene

Surr. Dibromofluoromethane

Surr: Toluene-d8

Date: 17-Aug-15

15-Jun-2015 16:51

15-Jun-2015 16:51

15-Jun-2015 16:51

lient:

ARCADIS U.S., Inc.

09-Jun-2015 13:15

101

108

112

70-125

74-125

75-125

ANALYTICAL REPORT

~roject:

Brickland NM Semi Annual Sampling Huntsman

WorkOrder:HS15060476

Sample ID:

MW-5

Lab ID:HS15060476-06

Collection Date:

Matrix:Water

10

10

10

%REC

%REC

%REC

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION | DATE ANALYZED |
|-----------------------------|--------|---------------|-----------------|-------|----------|-------------------|
| LOW LEVEL VOLATILES BY SW | V8260C | Method:SW8260 | | | | Analyst: AKP |
| Benzene | 1,900 | | 10 | ug/L | 10 | 15-Jun-2015 16:51 |
| Surr: 1,2-Dichloroethane-d4 | 102 | | 71-125 | %REC | 10 | 15-Jun-2015 16:51 |

`lient:

ARCADIS U.S., Inc.

ANALYTICAL REPORT

Project:

Brickland NM Semi Annual Sampling Huntsman

WorkOrder:HS15060476

Sample ID:

MW-17

Lab ID:HS15060476-07

Collection Date:

09-Jun-2015 14:25

Matrix:Water

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|-----------------------------|--------|---------------|-----------------|-------|--------------------|-------------------|
| LOW LEVEL VOLATILES BY SW | V8260C | Method:SW8260 | | | | Analyst: AKP |
| Benzene | < 1.0 | | 1.0 | ug/L | 1 | 15-Jun-2015 20:46 |
| Surr: 1,2-Dichloroethane-d4 | 108 | | 71-125 | %REC | 1 | 15-Jun-2015 20:46 |
| Surr: 4-Bromofluorobenzene | 104 | | 70-125 | %REC | 1 | 15-Jun-2015 20:46 |
| Surr: Dibromofluoromethane | 107 | | 7 4 -125 | %REC | 1 | 15-Jun-2015 20:46 |
| Surr: Toluene-d8 | 114 | | 75-125 | %REC | 1 | 15-Jun-2015 20:46 |

Client:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual Sampling Huntsman

DATES REPORT

WorkOrder:

HS15060476

| Sample ID | 4 | Client Sam | p ID Collection Date | TCLP Date | Prep Date | Analysis Date | DF |
|-----------|---------|------------|--------------------------------|------------|-------------------|-------------------|-----|
| Batch ID | 94226 | | Test Name: LOW-LEVEL PAHS | | Matrix: V | Vater | |
| HS1506047 | 76-01 | MW-8 | 09 Jun 2015 09:20 | | 12 Jun 2015 10:36 | 12 Jun 2015 15:09 | 1 |
| HS1506047 | 76-02 | FD060915 | 09 Jun 2015 00:00 | | 12 Jun 2015 10:36 | 12 Jun 2015 15:28 | 1 |
| HS1506047 | 76-03 | EB060915 | 09 Jun 2015 09:50 | | 12 Jun 2015 10:36 | 12 Jun 2015 15:47 | 1 |
| HS1506047 | 76-04 | FB060915 | 09 Jun 2015 09:40 | | 12 Jun 2015 10:36 | 12 Jun 2015 16:06 | 1 |
| Batch ID | R256129 | 9 | Test Name: LOW LEVEL VOLATILES | BY SW8260C | Matrix: V | Vater | |
| HS1506047 | 76-05 | MW-11 | 09 Jun 2015 10:55 | | | 13 Jun 2015 17:56 | 1 |
| Batch ID | R256174 | 4 | Test Name: LOW LEVEL VOLATILES | BY SW8260C | Matrix: V | Vater | |
| HS1506047 | 76-06 | MW-5 | 09 Jun 2015 13:15 | | | 15 Jun 2015 16:51 | 10 |
| HS1506047 | 76-07 | MW-17 | 09 Jun 2015 14:25 | | | 15 Jun 2015 20:46 | 1 |
| Batch ID | R256249 | 9 | Test Name: LOW LEVEL VOLATILES | BY SW8260C | Matrix: V | Vater | |
| HS1506047 | 76-01 | MW-8 | 09 Jun 2015 09:20 | | | 16 Jun 2015 14:37 | 100 |

QC BATCH REPORT

Client: ARCADIS U.S., Inc.

Project: Brickland NM Semi Annual Sampling Huntsman

WorkOrder: HS15060476

Batch ID: 94226 Instrument: SV-7 Method: SW8270

| MBLK Sampl | le ID: MBLK-94226 | | Units: | ug/L | Ana | alysis Date: | 15-Jun-2015 | 15:45 | |
|------------------------|-------------------|---------------------|-----------------------------------------|------------------|-----------------------|------------------|------------------|-------|-----------------------------------------|
| Client ID: | R | tun ID: SV-7 | : SV-7_256178 | | SeqNo: 3320049 | | 12-Jun-2015 | |)F: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qua |
| Acenaphthene | < 0.10 | 0.10 | | | | | | | |
| Acenaphthylene | < 0.10 | 0.10 | | | | | | | |
| Anthracene | < 0.10 | 0.10 | | | | | | | |
| Benz(a)anthracene | < 0.10 | 0.10 | *************************************** | | | | | | |
| Benzo(a)pyrene | < 0.10 | 0.10 | | | | | | | |
| Benzo(b)fluoranthene | < 0.10 | 0.10 | | | | | | | |
| Benzo(g,h,i)perylene | < 0.10 | 0.10 | | | | | | | |
| Benzo(k)fluoranthene | < 0.10 | 0.10 | | | | | | | |
| Chrysene | < 0.10 | 0.10 | | | | | | | |
| Dibenz(a,h)anthracene | < 0.10 | 0.10 | | | | | | | |
| Fluoranthene | < 0.10 | 0.10 | | | | | | | |
| Fluorene | < 0.10 | 0.10 | | | | | | | |
| Indeno(1,2,3-cd)pyrene | < 0.10 | 0.10 | | | | | | | |
| Naphthalene | < 0.10 | 0.10 | | | | | | | |
| Phenanthrene | < 0.10 | 0.10 | | | | | | | |
| Pyrene | < 0.10 | 0.10 | | | | | | | *************************************** |
| Surr: 2-Fluorobiphenyl | 3.248 | 0.20 | 5 | 0 | 65.0 | 40 - 125 | | | |
| Surr: 4-Terphenyl-d14 | 4.121 | 0.20 | 5 | 0 | 82.4 | 40 - 135 | | | |
| Surr: Nitrobenzene-d5 | 3,653 | 0.20 | 5 | 0 | 73.1 | 41 - 120 | | | |

QC BATCH REPORT

Client: ARCADIS U.S., Inc.

Project: Brickland NM Semi Annual Sampling Huntsman

WorkOrder: HS15060476

Batch ID: 94226 Instrument: SV-7 Method: SW8270

| LCS S | Sample ID: | LCS-94226 | | Units: | ug/L | Ana | alysis Date: | 12-Jun-2015 | 13:12 | |
|-----------------------|------------|-----------|---------------------|---------|------------------|------|------------------|------------------|---------------------------------------|------------------|
| Client ID: | | Ru | Run ID: SV-7_256178 | | SeqNo: 3320 | | PrepDate: | 12-Jun-2015 | DF: 1 | |
| Analyte | | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qua |
| Acenaphthene | | 3.592 | 0.10 | 5 | 0 | 71.8 | 45 - 120 | | | · |
| Acenaphthylene | | 3.869 | 0.10 | 5 | 0 | 77.4 | 47 - 120 | | | |
| Anthracene | | 3.718 | 0.10 | 5 | 0 | 74.4 | 45 - 120 | | | |
| Benz(a)anthracene | | 3.747 | 0.10 | 5 | 0 | 74.9 | 40 - 120 | | -, | |
| Benzo(a)pyrene | | 4.126 | 0.10 | 5 | 0 | 82.5 | 45 - 120 | | | |
| Benzo(b)fluoranthene | | 4.26 | 0.10 | 5 | 0 | 85.2 | 50 - 120 | | | |
| Benzo(g,h,i)perylene | | 4.248 | 0.10 | 5 | 0 | 85.0 | 42 - 127 | | | |
| Benzo(k)fluoranthene | | 3.997 | 0.10 | 5 | 0 | 79.9 | 45 - 127 | | · · · · · · · · · · · · · · · · · · · | |
| Chrysene | | 3.799 | 0.10 | 5 | 0 | 76.0 | 43 - 120 | | | |
| Dibenz(a,h)anthracen | e | 4.261 | 0.10 | 5 | 0 | 85.2 | 45 - 125 | | | |
| Fluoranthene | | 3.875 | 0.10 | 5 | 0 | 77.5 | 45 - 125 | | | |
| Fluorene | | 3.743 | 0.10 | 5 | 0 | 74.9 | 49 - 120 | ······ | | |
| Indeno(1,2,3-cd)pyren | ie | 4.703 | 0.10 | 5 | 0 | 94.1 | 41 - 128 | | | |
| Naphthalene | | 3.715 | 0.10 | 5 | 0 | 74.3 | 45 - 120 | | | |
| Phenanthrene | | 3.724 | 0.10 | 5 | 0 | 74.5 | 45 - 121 | | | |
| Pyrene | | 3.98 | 0.10 | 5 | 0 | 79.6 | 40 - 130 | | | |
| Surr: 2-Fluorobipheny | 1 | 3.628 | 0.20 | 5 | 0 | 72.6 | 40 - 125 | | | |
| Surr: 4-Terphenyl-d14 | I | 3.644 | 0.20 | 5 | 0 | 72.9 | 40 - 135 | | , | |
| Surr: Nitrobenzene-d5 | ; | 3.757 | 0.20 | 5 | 0 | 75.1 | 41 - 120 | | | |

QC BATCH REPORT

Client:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual Sampling Huntsman

WorkOrder:

HS15060476

Batch ID: 94226 Instrument: SV-7 Method: SW8270

| LCSD | Sample ID: | LCSD-94226 | | | Units: | ug/L | ilysis Date: | te: 12-Jun-2015 13:31 | | | |
|---------------------|------------|------------|---------|-------|---------|------------------|--------------|-----------------------|------------------|-------------|----------------|
| Client ID: | | Result | Run ID: | SV-7_ | 256178 | SeqNo: 3320038 | | PrepDate: | 12-Jun-2015 | DF: 1 | |
| Analyte | | | | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | R %RPD L | PD imit Qua |
| Acenaphthene | | 3.779 | | 0.10 | 5 | 0 | 75.6 | 45 - 120 | 3.592 | 5.08 | 20 |
| Acenaphthylene | | 4.11 | | 0.10 | 5 | 0 | 82.2 | 47 - 120 | 3.869 | 6.05 | 20 |
| Anthracene | | 4.055 | | 0.10 | 5 | 0 | 81.1 | 45 - 120 | 3.718 | 8.66 | 20 |
| Benz(a)anthracene | | 4.252 | | 0.10 | 5 | 0 | 85.0 | 40 - 120 | 3.747 | 12.6 | 20 |
| Benzo(a)pyrene | | 4.318 | | 0.10 | 5 | 0 | 86.4 | 45 - 120 | 4.126 | 4.54 | 20 |
| Benzo(b)fluoranther | ne | 4.679 | | 0.10 | 5 | 0 | 93.6 | 50 - 120 | 4.26 | 9.37 | 20 |
| Benzo(g,h,i)perylen | e | 4.305 | | 0.10 | 5 | 0 | 86.1 | 42 - 127 | 4.248 | 1.34 | 20 |
| Benzo(k)fluoranther | ne | 3.945 | | 0.10 | 5 | 0 | 78.9 | 45 - 127 | 3.997 | 1.31 | 20 |
| Chrysene | | 4.044 | | 0.10 | 5 | 0 | 80.9 | 43 - 120 | 3.799 | 6.23 | 20 |
| Dibenz(a,h)anthrace | ene | 4.487 | | 0.10 | 5 | 0 | 89.7 | 45 - 125 | 4.261 | 5.17 | 20 |
| Fluoranthene | | 4.22 | | 0.10 | 5 | 0 | 84.4 | 45 - 125 | 3.875 | 8.52 | 20 |
| Fluorene | | 3.959 | | 0.10 | 5 | 0 | 79.2 | 49 - 120 | 3.743 | 5.62 | 20 |
| Indeno(1,2,3-cd)pyr | ene | 4.611 | | 0.10 | 5 | 0 | 92.2 | 41 - 128 | 4.703 | 1.97 | 20 |
| Naphthalene | · | 3.846 | | 0.10 | 5 | 0 | 76.9 | 45 - 120 | 3.715 | 3.48 | 20 |
| Phenanthrene | | 4.02 | | 0.10 | 5 | 0 | 80.4 | 45 - 121 | 3.724 | 7.66 | 20 |
| Pyrene | ···· | 4.349 | | 0.10 | 5 | 0 | 87.0 | 40 - 130 | 3.98 | 8.87 | 20 |
| Surr: 2-Fluorobiphe | nyl | 3.788 | | 0.20 | 5 | 0 | 75.8 | 40 - 125 | 3.628 | 4.31 | |
| Surr: 4-Terphenyl-d | 14 | 4.049 | | 0.20 | 5 | 0 | 81.0 | 40 - 135 | 3.644 | 10.5 | |
| Surr: Nitrobenzene- | d5 | 4.007 | | 0.20 | 5 | 0 | 80.1 | 41 - 120 | 3.757 | 6.44 | |

QC BATCH REPORT

Client: ARCADIS U.S., Inc.

Project: Brickland NM Semi Annual Sampling Huntsman

WorkOrder: HS15060476

Batch ID: R256129 Instrument: VOA4 Method: SW8260 Analysis Date: 13-Jun-2015 13:11 **MBLK** Sample ID: VBLKW-150613 Units: ug/L SeqNo: 3319331 Client ID: Run ID: VOA4_256129 PrepDate: SPK Ref RPD Control RPD Ref %REC %RPD Limit Qual Value Analyte Result **PQL** SPK Val Limit Value Benzene < 1.0 1.0 Surr: 1,2-Dichloroethane-d4 52.22 1.0 50 0 104 71 - 125 Surr: 4-Bromofluorobenzene 53.14 1.0 50 0 106 70 - 125 50 Surr: Dibromofluoromethane 54.91 10 0 110 74 - 125 50 75 - 125 Surr: Toluene-d8 58.96 1.0 0 118 Analysis Date: 13-Jun-2015 11:43 Sample ID: VLCSW-150613 LCS Units: ug/L SeqNo: 3319330 DF: 1 Client ID: Run ID: VOA4_256129 PrepDate: SPK Ref RPD Control RPD Ref **PQL** SPK Val Value %REC %RPD Limit Qual Result Limit Value Analyte 1.0 50 0 99.3 80 - 120 Benzene 49.67 52.13 1.0 50 0 104 71 - 125 Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene 53.42 1.0 50 0 107 70 - 125 1.0 50 0 113 74 - 125 Surr: Dibromofluoromethane 56.73 50 0 114 75 - 125 Surr: Toluene-d8 56.87 1.0 HS15060320-02MS Analysis Date: 13-Jun-2015 15:51 MS Sample ID: Units: ug/L Run ID: VOA4_256129 SeqNo: 3319336 PrepDate: Client ID: SPK Ref Control RPD Ref **RPD PQL** SPK Val %REC %RPD Limit Qual Analyte Result Value Limit Value s Benzene 32.27 1.0 50 0 64.5 80 - 120 52.91 1.0 50 0 106 71 - 125 Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene 52.74 1.0 50 0 105 70 - 125 55.93 1.0 50 0 112 74 - 125 Surr: Dibromofluoromethane

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Surr: Toluene-d8

56.12

50

1.0

0

112

75 - 125

QC BATCH REPORT

Client: ARCADIS U.S., Inc.

Project: Brickland NM Semi Annual Sampling Huntsman

WorkOrder: HS15060476

Batch ID: R256129 Instrument: VOA4 Method: SW8260

| MSD Sample ID: | HS15060320-02MSD | | Units: | ug/L | Ana | alysis Date: | 13-Jun-2015 | 16:16 | |
|-----------------------------|------------------|----------------|---------|------------------|--------|------------------|------------------|--------|------------------|
| Client ID: | Run IC |): VOA4 | _256129 | SeqNo: 3 | 319337 | PrepDate: | | DF: | 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD L | RPD imit Qual |
| Benzene | 27.32 | 1.0 | 50 | 0 | 54.6 | 80 - 120 | 32.27 | 16.6 | 20 |
| Surr: 1,2-Dichloroethane-d4 | 51.47 | 1.0 | 50 | 0 | 103 | 71 - 125 | 52.91 | 2.78 | 20 |
| Surr: 4-Bromofluorobenzene | 54.55 | 1.0 | 50 | 0 | 109 | 70 - 125 | 52.74 | 3.38 | 20 |
| Surr: Dibromofluoromethane | 55.69 | 1.0 | 50 | 0 | 111 | 74 - 125 | 55.93 | 0.432 | 20 |
| Surr: Toluene-d8 | 57.3 | 1.0 | 50 | 0 | 115 | 75 - 125 | 56.12 | 2.07 | 20 |

The following samples were analyzed in this batch: HS15060476-05

QC BATCH REPORT

Client:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual Sampling Huntsman

WorkOrder: HS15060476

Batch ID: R256174 VOA4 Method: SW8260 Instrument: MBLK Sample ID: VBLKW-150615 Units: ug/L Analysis Date: 15-Jun-2015 11:11 Client ID: Run ID: VOA4_256174 SeqNo: 3319937 PrepDate: DF: 1 **SPK Ref** Control RPD Ref RPD **PQL** SPK Val Value Analyte Result Value %REC Limit %RPD Limit Qual Benzene < 1.0 1.0 Surr. 1,2-Dichloroethane-d4 59.25 1.0 50 0 119 71 - 125 53.94 Surr: 4-Bromofluorobenzene 1.0 50 0 108 70 - 125 Surr: Dibromofluoromethane 61.16 1.0 50 Ó 74 - 125 122 Surr: Toluene-d8 60.9 1.0 50 0 122 75 - 125 LCS Sample ID: VLCSW-150615 Units: ug/L Analysis Date: 15-Jun-2015 10:20 Client ID: Run ID: VOA4_256174 SeqNo: 3319936 PrepDate: **DF: 1** SPK Ref RPD Ref RPD Control SPK Val Analyte Result **PQL** Value %REC Limit Value %RPD Limit Qual 0 Benzene 52.08 1.0 50 104 80 - 120 Surr. 1,2-Dichloroethane-d4 53.01 1.0 50 0 106 71 - 125 Surr: 4-Bromofluorobenzene 54.39 50 0 1.0 109 70 - 125 56.21 Surr: Dibromofluoromethane 1.0 50 0 112 74 - 125 Surr: Toluene-d8 57.44 1.0 50 0 115 75 - 125 MS Sample ID: HS15060131-07MS Units: ug/L Analysis Date: 15-Jun-2015 12:53 Client ID: Run ID: VOA4_256174 SeqNo: 3319941 PrepDate: DF: 25 SPK Ref **RPD Ref** Control **RPD PQL** SPK Val %REC Analyte Result Value %RPD Limit Qual Limit Value Benzene 1279 25 1250 0 80 - 120 102 25 Surr. 1,2-Dichloroethane-d4 1282 1250 0 103 71 - 125 Surr: 4-Bromofluorobenzene 1356 25 1250 0 108 70 - 125 Surr: Dibromofluoromethane 1375 25 1250 0 110 74 - 125 Surr: Toluene-d8 1411 25 1250 0 113 75 - 125

Client:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual Sampling Huntsman

QC BATCH REPORT

WorkOrder:

HS15060476

| Batch ID: R256174 | | Instrument: | VOA4 | | Metho | od: SW826 | 0 | | |
|----------------------------|------------------------------|--------------|---------|------------------|--------|------------------|------------------|----------------|---------------|
| MSD Samp | le ID: HS15060131-07N | ASD | Units: | ug/L | Ana | ılysis Date: | 15-Jun-2015 | 13:19 | |
| Client ID: | ŀ | Run ID: VOA4 | _256174 | SeqNo: 3 | 319942 | PrepDate: | | DF: 2 | 5 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | RF %RPD Lin | PD mit Qua |
| Benzene | 1281 | 25 | 1250 | 0 | 102 | 80 - 120 | 1279 | 0.136 | 20 |
| Surr: 1,2-Dichloroethane-d | 14 1307 | 25 | 1250 | 0 | 105 | 71 - 125 | 1282 | 1.89 | 20 |
| Surr: 4-Bromofluorobenzei | ne 1346 | 25 | 1250 | 0 | 108 | 70 - 125 | 1356 | 0.739 | 20 |
| Surr: Dibromofluorometha | ne 1393 | 25 | 1250 | 0 | 111 | 74 - 125 | 1375 | 1.31 | 20 |
| Surr: Toluene-d8 | 1416 | 25 | 1250 | 0 | 113 | 75 - 125 | 1411 | 0.338 | 20 |

QC BATCH REPORT

Client:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual Sampling Huntsman

WorkOrder:

HS15060476

| Batch ID: R256249 | | nstrument: | VOA4 | | Metho | od: SW826 | 0 | |
|-----------------------------|-----------------|-------------|---------|------------------|--------|------------------|------------------|-----------------------------------------|
| MBLK Sample ID: | VBLKW-150616 | | Units: | ug/L | Ana | alysis Date: | 16-Jun-2015 | i 11:11 |
| Client ID: | Ru | in ID: VOA4 | _256249 | SeqNo: 3 | 321528 | PrepDate: | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | RPD %RPD Limit Qual |
| Benzene | < 1.0 | 1.0 | | | | | , | |
| Surr: 1,2-Dichloroethane-d4 | 57.65 | 1.0 | 50 | 0 | 115 | 71 - 125 | | |
| Surr: 4-Bromofluorobenzene | 43.09 | 1.0 | 50 | 0 | 86.2 | 70 - 125 | | |
| Surr: Dibromofluoromethane | 57.27 | 1.0 | 50 | 0 | 115 | 74 - 125 | | |
| Surr: Toluene-d8 | 49.36 | 1.0 | 50 | 0 | 98.7 | 75 - 125 | | |
| LCS Sample ID: | VLCSW-150616 | | Units: | ug/L | Ana | alysis Date: | 16-Jun-2015 | 10:20 |
| Client ID: | Ru | in ID: VOA4 | _256249 | SeqNo: 3 | 321527 | PrepDate: | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | RPD %RPD Limit Qual |
| Benzene | 51.55 | 1.0 | 50 | 0 | 103 | 80 - 120 | | |
| Surr: 1,2-Dichloroethane-d4 | 50.91 | 1.0 | 50 | 0 | 102 | 71 - 125 | | |
| Surr: 4-Bromofluorobenzene | 51.2 | 1.0 | 50 | 0 | 102 | 70 - 125 | | |
| Surr: Dibromofluoromethane | 54.48 | 1.0 | 50 | 0 | 109 | 74 - 125 | | .,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, |
| Surr: Toluene-d8 | 54 | 1.0 | 50 | 0 | 108 | 75 - 125 | | |
| MS Sample ID: | HS15060131-05MS | ; | Units: | ug/L | Ana | alysis Date: | 16-Jun-2015 | 12:03 |
| Client ID: | Ru | in ID: VOA4 | _256249 | SeqNo: 3 | 321530 | PrepDate: | | DF: 25 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | RPD %RPD Limit Qual |
| Benzene | 1245 | 25 | 1250 | 189.1 | 84.5 | 80 - 120 | | |
| Surr: 1,2-Dichloroethane-d4 | 1418 | 25 | 1250 | 0 | 113 | 71 - 125 | | |
| Surr: 4-Bromofluorobenzene | 1290 | 25 | 1250 | 0 | 103 | 70 - 125 | | |
| Surr: Dibromofluoromethane | 1487 | 25 | 1250 | 0 | 119 | 74 - 125 | | * |
| Surr: Toluene-d8 | 1368 | 25 | 1250 | 0 | 109 | 75 - 125 | | |

QC BATCH REPORT

Client:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual Sampling Huntsman

WorkOrder:

HS15060476

Batch ID: R256249 Instrument: VOA4 Method: SW8260

| MSD Sa | ample ID: | HS15060131-05MSD | | Units: | ug/L | Ana | ılysis Date: | 16-Jun-2015 | 12:29 | |
|------------------------|-----------|------------------|--------|---------|------------------|--------|------------------|------------------|------------------|---|
| Client ID: | | Run ID | : VOA4 | _256249 | SeqNo: 3 | 321531 | PrepDate: | | DF: 25 | |
| Analyte | | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | RPE %RPD Limi | _ |
| Benzene | | 1380 | 25 | 1250 | 189.1 | 95.3 | 80 - 120 | 1245 | 10.3 2 | 0 |
| Surr: 1,2-Dichloroetha | ne-d4 | 1422 | 25 | 1250 | 0 | 114 | 71 - 125 | 1418 | 0.291 2 | o |
| Surr: 4-Bromofluorobe | nzene | 1316 | 25 | 1250 | 0 | 105 | 70 - 125 | 1290 | 1.99 2 | 0 |
| Surr: Dibromofluorome | thane | 1429 | 25 | 1250 | 0 | 114 | 74 - 125 | 1487 | 3.94 2 | 0 |
| Surr: Toluene-d8 | | 1506 | 25 | 1250 | 0 | 120 | 75 - 125 | 1368 | 9.58 2 | 0 |

The following samples were anayzed in this batch: HS15060476-01

ALS Group USA, Corp

Client: ARCA

ARCADIS U.S., Inc.

Micrograms per Liter

µg/L

Project: Brickland NM Semi Annual Sampling Huntsman

WorkOrder: HS15060476

QUALIFIERS, ACRONYMS, UNITS

Date: 17-Aug-15

| Qualifier | Description |
|---------------|---------------------------------------------------------------------------|
| • | Value exceeds Regulatory Limit |
| a | Not accredited |
| В | Analyte detected in the associated Method Blank above the Reporting Limit |
| E | Value above quantitation range |
| н | Analyzed outside of Holding Time |
| J | Analyte detected below quantitation limit |
| М | Manually integrated, see raw data for justification |
| n | Not offered for accreditation |
| ND | Not Detected at the Reporting Limit |
| 0 | Sample amount is > 4 times amount spiked |
| Р | Dual Column results percent difference > 40% |
| R | RPD above laboratory control limit |
| S | Spike Recovery outside laboratory control limits |
| U | Analyzed but not detected above the MDL/SDL |
| Acronym | Description |
| DCS | Detectability Check Study |
| DUP | Method Duplicate |
| LCS | Laboratory Control Sample |
| LCSD | Laboratory Control Sample Duplicate |
| MBLK | Method Blank |
| MDL | Method Detection Limit |
| MQL | Method Quantitation Limit |
| MS | Matrix Spike |
| MSD | Matrix Spike Duplicate |
| PDS | Post Digestion Spike |
| PQL | Practical Quantitaion Limit |
| SD | Serial Dilution |
| SDL | Sample Detection Limit |
| TRRP | Texas Risk Reduction Program |
| Unit Reported | Description |

CERTIFICATIONS, ACCREDITATIONS & LICENSES

Date: 17-Aug-15

| Agency | Number | Expire Date |
|-----------------|---------------------|-------------|
| Arkansas | 15-024-0 | 27-Mar-2016 |
| California | 2919 | 31-Jul-2016 |
| Dept of Defense | L2231 Rev 3-20-2014 | 22-Dec-2015 |
| Illinois | 003622 | 09-May-2016 |
| Kansas | E-10352 2014-2015 | 31-Aug-2015 |
| Kentucky | KY 2015-2016 | 30-Apr-2016 |
| Louisiana | 03087 2015/2016 | 30-Jun-2016 |
| North Carolina | 624 - 2015 | 31-Dec-2015 |
| Oklahoma | 2014-128 | 31-Aug-2015 |
| Texas | T104704231-15-15 | 30-Apr-2016 |

Date:

17-Aug-15

Client:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual Sampling Huntsman

SAMPLE TRACKING

Work Order:

HS15060476

| Lab Samp ID | Client Sample ID | Action | Date | Person | New Location |
|---------------|----------------------|--------|----------------------|--------|--------------|
| HS15060476-01 | MW-8 | Login | 6/10/2015 8:16:21 PM | внн | 8C |
| HS15060476-01 | MW-8 | Login | 6/10/2015 8:16:21 PM | внн | VW-3 |
| HS15060476-02 | FD060915 | Login | 6/10/2015 8:16:21 PM | BHH | 8C |
| HS15060476-03 | EB060915 | Login | 6/10/2015 8:16:21 PM | внн | 8C |
| HS15060476-04 | FB060915 | Login | 6/10/2015 8:16:21 PM | внн | 8C |
| HS15060476-05 | MW-11 | Login | 6/10/2015 8:16:21 PM | ВНН | VW-3 |
| HS15060476-06 | MW-5 | Login | 6/10/2015 8:16:21 PM | внн | VW-3 |
| HS15060476-07 | MW-17 | Login | 6/10/2015 8:16:21 PM | внн | VW-3 |
| HS15060476-08 | Trip Blank-052215-67 | Login | 6/10/2015 8:23:11 PM | внн | VW-3 |
| | | | | | |

ALS Group USA, Corp

Date: 17-Aug-15

| | | | | | | Sample F | Receipt Checklist |
|-------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|--------------------|-----------------------------------------|------------------------------------------|-------------------------|---------------------|
| Client Name: Work Order: | Arcadis-E HS15060 | aton Rouge 476 | | | /Time Received: | 10-Jun-2 LOT | 015 09:12 |
| Checklist com | pleted by: | Baudelio Hernandez eSignature | 10-Jun-201 Date | Reviewed by: | Dane J. W eSignature | acasey | 12-Jun-2015 Date |
| Matrices: | ₩at | <u>er</u> | | Carrier name: | <u>FedEx</u> | | |
| Custody seals Custody seals Chain of custo Chain of custo Chain of custo Samples in pro Sample contai Sufficient sam All samples re | intact on si intact on si ody present' ody signed v ody agrees v oper contain iners intact' inple volume | when relinquished and reco with sample labels? ner/bottle? | eived? | Yes | NO N | Not Prese Not Prese | ent 📙 |
| Temperature(s | • | eter(s): | | 1.7c / 2.0c c/uc | | | IR#4 |
| Cooler(s)/Kit(s | • | | | 23879 | | | |
| Date/Time san | | - | | 06/10/2015 20:20 | | No Modericle | |
| Water - PH acc pH adjusted? pH adjusted by | ceptable up | ero headspace? on receipt? | | Yes Yes Yes | No | No VOA vials s N/A V | |
| Login Notes: | | | | | | | |
| Client Contact | ed: | | Date Contacted: | | Person Co | ntacted: | |
| Contacted By: | 0 | | Regarding: | | | | |
| Comments: | | | | | | | |
| Corrective Acti | ion: | · · · · · · · · · · · · · · · · · · · | | | | | |



Cincinnati, OH +1 513 733 5336

Fort Collins, CO +1 970 490 1511

Chain of Custody Form

HS15060476

ARCADIS U.S., Inc. Reickland Refinery Huntsman

Everett, WA +1 425 356 2600

Holland, MI +1 616 399 6070

| | ~L3) | | | | | C | DC ID: 1 | 58T 1 | 4 | | | | ыс | NIBRIO IN | | | | | |
|----------------------------------------|----------------------------|------------|-------|----------------------------------|----------------|--------------|---------------|---------------------------|----------------|-----------------------|------|---------------|-----------------|----------------------|---------------|---------------------------|---------|-----------|----------------|
| Enviro | nmental | | | | | | S Project I | Manager: | (A) | | 1" | m=:#:, d: | | | | | | | 1 20 |
| Date Several or respective specific to | Customer Information | | | 6 1 2 4 2 5 2 7 1 1 1 4 4 | | t Informat | | | 7.E.H | Tan Communication | | | | | | | | | |
| Purchase Order | | | : Pr | roject Nar | ne Bricklan | d Refinery I | luntsman | | 347 | 0 Benz | | preser | ved) | | | | | | |
| Work Order | | | Proj | ect Numb | ér | | | | | B 8270 - PAH | | | | | | | | | |
| Company Name | ARCADIS U.S., Inc. | | ВШТ | To Compa | ny ARCAD | IS U.S., Inc | • | | G | | | | | | | | | | |
| Send Report To | Garet Ferguson | | | Invoice A | tn | | | | Ď | | | | | | | | | | |
| Address | 211 N Florence Street, Su | ite 202 | | 211 N Florence Street, Suite 202 | | | | | | | | | | | | | | | |
| City/State/Zip | El Paso, TX 79901 | | Ci | ty/State/2 | D El Paso | , TX 79901 | | | G | | | | | | | | | | |
| Phone | (915) 533-3902 | | | Pho | ne (915) 5 | 33-9025 | | | н | | | | | | | | | | |
| Fax | | | | F | ax (915) 5 | 33-9045 | | | 1 | | | - | | | | | | | |
| e-Mail Address | Garet.Ferguson@arcadis | -us.com | e-N | fail Addre | SS | | | | J | | | | | | | | | | |
| No. | Sample Description | | Dat | te ` ' ' | Time | Matrix | Pres. | # Bottles | A | .∞ B ″: | C | D | , E | F | G | H | 的場 | J | Hold |
| i M | N-8 | | 000 | 915 | 020 | W | None | 5 | X | Х | | | | | | | | | |
| ² FDC | 6091S | | | λ, | | | | 2 | | X | | | | | | | | | |
| 3 EBO | 60915 | | | (| 2950 | | | 2 | | X | | | | | | | | | |
| 4 FBC | 60915 | | | | 7940 | | | 2 | | X | | | | | | | | | |
| 5 MI | | | | | -055 | | | 3 | X | | | | | | | | | | |
| 6 MW | | | | ı | 315 | | | 3 | X | | | | | 1 | | | | | |
| 7 MW | | | V | | 425 | V | 1 | 3 | X | | | | | | | | | | |
| 8 | | | | | ∞ | ^ / | | | | | | | | | | | | | |
| 9 | | | | | On | DV | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | |
| Sampler(s) Please | herrez/No | | | Shipment | EX_ | 1.38 t.C. v | uired Turnaro | THE TALL THE THE PARTY OF |] 5 WK | CONTRACT OF THE PARTY | | | [] ₂ | | <u>.</u> H | lesults (| Due Da | te: | |
| Relinquished by | herrez' | 1000IS | Time: | 30 | Received by: | | | | Notes: | | T | For 17 and 27 | - 10 F | | | and stalled to the second | econdos | Mary Care | envener er fra |
| Relinquished by: | | Date: | Time: | | received by (L | | - 67g | ilZp/ | Coc | ler ID | Cool | Temp | XI L | Päckage evel 2 S | : (Chec | k One B | | Nr 04m | List |
| Logged by (Laborator | y): | Date: | Time: | | Checked by (La | borg(ory): | | | \$29% 30005 | | 116 | 100 | | evel 3 S evel 4 S | td QC/R | | TR | RP Lev | el 4 |
| Preservative Key | 1-HCI 2-HNO ₃ 3 | -H₂SO₄ 4-N | aOH 5 | -Na₂S₂O₃ | 6-NaHSC | 7-Oth | er 8-4°C | 9-5035 | () Y | | | | To be server | ther/ED | | | | | • . |

ote: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.

2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.

3. The Chain of Custody is a legal decrease.

Copyright 2011 by ALS Environmental.

ALS

ALS Environmental

10450 StancHff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887 CUSTODY SEAL

6/m/

THE 8079 3077 3498

XH SGRA

WED - 10 JUN 10:30A PRIORITY OVERNIGHT

77099 TX-US IAH



August 17, 2015

Tim Ratchford ARCADIS U.S., Inc. 10352 Plaza Americana Drive Baton Rouge, LA 70816 10450 Stancliff Rd. Suite 210 Houston, TX 77099 T: +1 281 530 5656 F: +1 281 530 5887 www.alsglobal.com

Work Order: HS15060509

Laboratory Results for: Brickland NM Semi Annual Sampling Huntsman

Dear Tim,

ALS Environmental received 9 sample(s) on Jun 11, 2015 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: Dane.Wacasey
Dane J. Wacasey

Date:

17-Aug-15

Client:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual Sampling Huntsman

SAMPLE SUMMARY

Work Order: HS15060509

| Lab Samp ID | Client Sample ID | Matrix | TagNo | Collection Date | Date Received | Hold |
|---------------|------------------|----------------|-------|-------------------|-------------------|-------------------------|
| HS15060509-01 | MW-3S | Water | | 10-Jun-2015 08:50 | 11-Jun-2015 08:15 | |
| HS15060509-02 | MW-3D | Water | | 10-Jun-2015 09:50 | 11-Jun-2015 08:15 | |
| HS15060509-03 | MW-9S | Water | | 10-Jun-2015 10:45 | 11-Jun-2015 08:15 | |
| HS15060509-04 | MW-6S | W a ter | | 10-Jun-2015 12:45 | 11-Jun-2015 08:15 | |
| HS15060509-05 | FD061015 | Water | | 10-Jun-2015 00:00 | 11-Jun-2015 08:15 | |
| HS15060509-06 | MW-6D | Water | | 10-Jun-2015 13:40 | 11-Jun-2015 08:15 | |
| HS15060509-07 | FB061015 | Water | | 10-Jun-2015 13:55 | 11-Jun-2015 08:15 | |
| HS15060509-08 | EB061015 | Water | | 10-Jun-2015 14:00 | 11-Jun-2015 08:15 | |
| HS15060509-09 | TB-052215-66 | Water | | 10-Jun-2015 15:00 | 11-Jun-2015 08:15 | $\overline{\mathbf{A}}$ |

Date: 17-Aug-15 **ALS Group USA, Corp**

ARCADIS U.S., Inc. **CASE NARRATIVE Client:**

Brickland NM Semi Annual Sampling Huntsman **Project:**

Work Order: HS15060509

Work Order Comments

• This report was revised August 17, 2015 in order to report non-detects as a <PQL value and report results in µg/L units.

GCMS Volatiles by Method SW8260

Batch ID: R256129

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

`lient:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual Sampling Huntsman

Sample ID:

MW-3S

Collection Date: 10-Jun-2015 08:50

ANALYTICAL REPORT

WorkOrder:HS15060509 Lab ID:HS15060509-01

Matrix:Water

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|-----------------------------|--------|---------------|-----------------|-------|--------------------|-------------------|
| LOW LEVEL VOLATILES BY SW | /8260C | Method:SW8260 | | | | Analyst: KMB |
| Benzene | < 1.0 | | 1.0 | ug/L | 1 | 13-Jun-2015 19:12 |
| Surr: 1,2-Dichloroethane-d4 | 104 | | 71-125 | %REC | 1 | 13-Jun-2015 19:12 |
| Surr: 4-Bromofluorobenzene | 103 | | 70-125 | %REC | 1 | 13-Jun-2015 19:12 |
| Surr: Dibromofluoromethane | 113 | | 74-125 | %REC | 1 | 13-Jun-2015 19:12 |
| Surr: Toluene-d8 | 113 | | 75-125 | %REC | 1 | 13-Jun-2015 19:12 |

13-Jun-2015 20:53

`lient: Project: ARCADIS U.S., Inc.

10-Jun-2015 09:50

115

Brickland NM Semi Annual Sampling Huntsman

WorkOrder:HS15060509

Sample ID:

Collection Date:

Surr: Toluene-d8

MW-3D

Lab ID:HS15060509-02

ANALYTICAL REPORT

Matrix:Water

%REC

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|-----------------------------|--------|---------------|-----------------|-------|--------------------|-------------------|
| LOW LEVEL VOLATILES BY SW | /8260C | Method:SW8260 | | | | Analyst: KMB |
| Benzene | < 1.0 | | 1.0 | ug/L | 1 | 13-Jun-2015 20:53 |
| Surr: 1,2-Dichloroethane-d4 | 106 | | 71-125 | %REC | 1 | 13-Jun-2015 20:53 |
| Surr: 4-Bromofluorobenzene | 103 | | 70-125 | %REC | 1 | 13-Jun-2015 20:53 |
| Surr: Dibromofluoromethane | 111 | | 74-125 | %REC | 1 | 13-Jun-2015 20:53 |

75-125

lient:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual Sampling Huntsman

MW-9S

Sample ID: Collection Date:

10-Jun-2015 10:45

ANALYTICAL REPORT

WorkOrder:HS15060509 Lab ID:HS15060509-03

Matrix:Water

| ANALYSES | RESULT Q | UAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|-----------------------------|----------|--------------|-----------------|-------|--------------------|-------------------|
| LOW LEVEL VOLATILES BY SW | 8260C N | ethod:SW8260 | | | | Analyst: KMB |
| Benzene | < 1.0 | | 1.0 | ug/L | 1 | 13-Jun-2015 21:18 |
| Surr. 1,2-Dichloroethane-d4 | 103 | | 71-125 | %REC | 1 | 13-Jun-2015 21:18 |
| Surr: 4-Bromofluorobenzene | 105 | | 70-125 | %REC | 1 | 13-Jun-2015 21:18 |
| Surr: Dibromofluoromethane | 113 | | 74-125 | %REC | 1 | 13-Jun-2015 21:18 |
| Surr: Toluene-d8 | 113 | | 75-125 | %REC | 1 | 13-Jun-2015 21:18 |

lient: ARCADIS U.S., Inc.

Project: Brickland NM Semi Annual Sampling Huntsman

Sample ID: MW-6S

Collection Date: 10-Jun-2015 12:45

ANALYTICAL REPORT

WorkOrder:HS15060509 Lab ID:HS15060509-04

Matrix:Water

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|-----------------------------|--------|---------------|-----------------|-------|--------------------|-------------------|
| LOW LEVEL VOLATILES BY SW | 8260C | Method:SW8260 | | | | Analyst: KMB |
| Benzene | < 1.0 | | 1.0 | ug/L | 1 | 13-Jun-2015 22:09 |
| Surr: 1,2-Dichloroethane-d4 | 108 | | 71-125 | %REC | 1 | 13-Jun-2015 22:09 |
| Surr: 4-Bromofluorobenzene | 103 | | 70-125 | %REC | 1 | 13-Jun-2015 22:09 |
| Surr: Dibromofluoromethane | 113 | | 74-125 | %REC | 1 | 13-Jun-2015 22:09 |
| Surr: Toluene-d8 | 119 | | 75-125 | %REC | 1 | 13-Jun-2015 22:09 |

ient: Project: ARCADIS U.S., Inc.

Brickland NM Semi Annual Sampling Huntsman

Sample ID:

FD061015

Collection Date:

10-Jun-2015 00:00

ANALYTICAL REPORT

WorkOrder:HS15060509 Lab ID:HS15060509-05

Matrix:Water

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|-----------------------------|--------|---------------|-----------------|-------|--------------------|-------------------|
| LOW LEVEL VOLATILES BY SW | /8260C | Method:SW8260 | | | | Analyst: KMB |
| Benzene | < 1.0 | | 1.0 | ug/L | 1 | 13-Jun-2015 22:35 |
| Surr: 1,2-Dichloroethane-d4 | 103 | | 71-125 | %REC | 1 | 13-Jun-2015 22:35 |
| Surr: 4-Bromofluorobenzene | 102 | | 70-125 | %REC | 1 | 13-Jun-2015 22:35 |
| Surr: Dibromofluoromethane | 113 | | 7 4 -125 | %REC | 1 | 13-Jun-2015 22:35 |
| Surr: Toluene-d8 | 112 | | 75-125 | %REC | 1 | 13-Jun-2015 22:35 |

lient:

ARCADIS U.S., Inc.

Project: Sample ID: Brickland NM Semi Annual Sampling Huntsman

MW-6D

Collection Date:

10-Jun-2015 13:40

ANALYTICAL REPORT

WorkOrder:HS15060509 Lab ID:HS15060509-06

Matrix:Water

| ANALYSES | RESULT QUA | L | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|-----------------------------|--------------------|------------|-----------------|-------|--------------------|-------------------|
| LOW LEVEL VOLATILES BY SW | /8260C M et | hod:SW8260 | | | | Analyst: KMB |
| Benzene | < 1.0 | | 1.0 | ug/L | 1 | 13-Jun-2015 21:44 |
| Surr. 1,2-Dichloroethane-d4 | 107 | | 71-125 | %REC | 1 | 13-Jun-2015 21:44 |
| Surr: 4-Bromofluorobenzene | 105 | | 70-125 | %REC | 1 | 13-Jun-2015 21:44 |
| Surr: Dibromofluoromethane | 109 | | 74-125 | %REC | 1 | 13-Jun-2015 21:44 |
| Surr: Toluene-d8 | 117 | | 75-125 | %REC | 1 | 13-Jun-2015 21:44 |
| | | | | | | |

`lient:

ARCADIS U.S., Inc.

رroject:

Brickland NM Semi Annual Sampling Huntsman

FB061015

Sample ID: Collection Date:

10-Jun-2015 13:55

ANALYTICAL REPORT

WorkOrder:HS15060509 Lab ID:HS15060509-07

Matrix:Water

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|-----------------------------|--------|---------------|-----------------|-------|--------------------|-------------------|
| LOW LEVEL VOLATILES BY SW | /8260C | Method:SW8260 | | | | Analyst: KMB |
| Benzene | < 1.0 | | 1.0 | ug/L | 1 | 13-Jun-2015 20:02 |
| Surr: 1,2-Dichloroethane-d4 | 105 | | 71-125 | %REC | 1 | 13-Jun-2015 20:02 |
| Surr: 4-Bromofluorobenzene | 105 | | 70-125 | %REC | 1 | 13-Jun-2015 20:02 |
| Surr: Dibromofluoromethane | 110 | | 74-125 | %REC | 1 | 13-Jun-2015 20:02 |
| Surr: Toluene-d8 | 116 | | 75-125 | %REC | 1 | 13-Jun-2015 20:02 |

`lient:

ARCADIS U.S., Inc.

ANALYTICAL REPORT

roject:

Brickland NM Semi Annual Sampling Huntsman

WorkOrder:HS15060509

Sample ID:

EB061015

Lab ID:HS15060509-08

Collection Date:

10-Jun-2015 14:00

Matrix:Water

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|-----------------------------|--------|---------------|-----------------|-------|--------------------|-------------------|
| LOW LEVEL VOLATILES BY SW | /8260C | Method:SW8260 | | | | Analyst: KMB |
| Benzene | < 1.0 | | 1.0 | ug/L | 1 | 13-Jun-2015 20:28 |
| Surr: 1,2-Dichloroethane-d4 | 104 | | 71-125 | %REC | 1 | 13-Jun-2015 20:28 |
| Surr: 4-Bromofluorobenzene | 106 | | 70-125 | %REC | 1 | 13-Jun-2015 20:28 |
| Surr: Dibromofluoromethane | 111 | | 74-125 | %REC | 1 | 13-Jun-2015 20:28 |
| Surr: Toluene-d8 | 116 | | 75-125 | %REC | 1 | 13-Jun-2015 20:28 |

Client:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual Sampling Huntsman

DATES REPORT

WorkOrder: HS15060509

| Sample ID | Client San | p ID | Collection Date | TCLP Date | Prep Date | Analysis Date | DF |
|-------------|-------------|-----------|----------------------|--------------|-----------|-------------------|----|
| Batch ID R | 256129 | Test Name | : LOW LEVEL VOLATILE | S BY SW8260C | Matri | ix: Water | |
| HS15060509- | 01 MW-3S | | 10 Jun 2015 08:50 | | | 13 Jun 2015 19:12 | 1 |
| HS15060509- | 02 MW-3D | | 10 Jun 2015 09:50 | | | 13 Jun 2015 20:53 | 1 |
| HS15060509- | 03 MW-9S | | 10 Jun 2015 10:45 | | • | 13 Jun 2015 21:18 | 1 |
| HS15060509- | 04 MW-6S | | 10 Jun 2015 12:45 | | | 13 Jun 2015 22:09 | 1 |
| HS15060509- | 05 FD061015 | | 10 Jun 2015 00:00 | | | 13 Jun 2015 22:35 | 1 |
| HS15060509- | -06 MW-6D | | 10 Jun 2015 13:40 | | | 13 Jun 2015 21:44 | 1 |
| HS15060509- | 07 FB061015 | | 10 Jun 2015 13:55 | | | 13 Jun 2015 20:02 | 1 |
| HS15060509- | 08 EB061015 | | 10 Jun 2015 14:00 | | | 13 Jun 2015 20:28 | 1 |

QC BATCH REPORT

Client: ARCADIS U.S., Inc.

Project: Brickland NM Semi Annual Sampling Huntsman

WorkOrder: HS15060509

Batch ID: R256129 Instrument: VOA4 Method: SW8260 **MBLK** Sample ID: VBLKW-150613 Units: ug/L Analysis Date: 13-Jun-2015 13:11 Client ID: Run ID: VOA4_256129 SeqNo: 3319331 PrepDate: **DF: 1** RPD Ref SPK Ref Control **RPD** %RPD Limit Qual Analyte Result PQL SPK Val Value %REC Limit Value Benzene < 1.0 1.0 Surr. 1,2-Dichloroethane-d4 52.22 1.0 50 0 104 71 - 125 53.14 50 0 106 70 - 125 Surr. 4-Bromofluorobenzene 1.0 Surr. Dibromofluoromethane 54.91 1.0 50 0 110 74 - 125 Surr. Toluene-d8 58.96 1.0 50 0 118 75 - 125 LCS Sample ID: VLCSW-150613 Units: ug/L Analysis Date: 13-Jun-2015 11:43 Client ID: Run ID: VOA4 256129 SeqNo: 3319330 PrepDate: SPK Ref RPD Ref Control PQL SPK Val %REC %RPD Limit Qual Value Limit Analyte Result Value Benzene 49.67 1.0 50 0 99.3 80 - 120 52.13 1.0 50 104 71 - 125 Surr. 1,2-Dichloroethane-d4 0 53.42 50 0 70 - 125 Surr. 4-Bromofluorobenzene 1.0 107 Surr. Dibromofluoromethane 56.73 1.0 50 0 113 74 - 125 Surr. Toluene-d8 56.87 1.0 50 0 114 75 - 125 MS Sample ID: HS15060320-02MS Units: ug/L Analysis Date: 13-Jun-2015 15:51 Client ID: Run ID: VOA4_256129 SeqNo: 3319336 PrepDate: SPK Ref Control RPD Ref **RPD PQL** SPK Val %REC %RPD Limit Qual Analyte Result Value Limit Value Benzene 32.27 1.0 50 0 64.5 80 - 120 S 52.91 1.0 50 0 106 Surr. 1,2-Dichloroethane-d4 71 - 125 Surr. 4-Bromofluorobenzene 52.74 1.0 50 n 105 70 - 125 Surr: Dibromofluoromethane 55.93 1.0 50 0 112 74 - 125

Note: See Qualifiers Page for a list of qualifiers and their explanation.

56.12

1.0

50

0

112

75 - 125

Surr: Toluene-d8

QC BATCH REPORT

Client:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual Sampling Huntsman

WorkOrder:

HS15060509

Batch ID: R256129 Instrument: VOA4 Method: SW8260

| MSD | Sample ID: | HS15060320-02MSD | | Units: (| ug/L | Ana | ilysis Date: | 13-Jun-2015 | 16:16 | | |
|----------------------|---------------|-----------------------------------------|--------|-------------|------------------|------------------------|------------------|------------------------------|--------------|---------------|-----|
| Client ID: | | Run ID | : VOA4 | _256129 | SeqNo: 3 | 319337 | PrepDate: | | DF: 1 | l | |
| Analyte | | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | | R %RPD Li | PD imit Qu | ıal |
| Benzene | | 27.32 | 1.0 | 50 | 0 | 54.6 | 80 - 120 | 32.27 | 16.6 | 20 | |
| Surr: 1,2-Dichloroet | thane-d4 | 51.47 | 1.0 | 50 | 0 | 103 | 71 - 125 | 52.91 | 2.78 | 20 | _ |
| Surr: 4-Bromofluoro | benzene | 54.55 | 1.0 | 50 | 0 | 109 | 70 - 125 | 52.74 | 3.38 | 20 | |
| Surr: Dibromofluoro | methane | 55.69 | 1.0 | 50 | 0 | 111 | 74 - 125 | 55.93 | 0.432 | 20 | |
| Surr: Toluene-d8 | | 57.3 | 1.0 | 50 | 0 | 115 | 75 - 125 | 56.12 | 2.07 | 20 | |
| he following sample | s were anayze | d in this batch: HS1506050 HS1506050 | | HS15060509- | | IS1506050 IS1506050 | | HS15060509-0 HS15060509-0 | | | |

Client: ARCADIS U.S., Inc.

QUALIFIERS, ACRONYMS, UNITS Brickland NM Semi Annual Sampling Huntsman Project:

WorkOrder: HS15060509

| Qualifier | Description |
|-----------|---------------------------------------------------------------------------|
| • | Value exceeds Regulatory Limit |
| а | Not accredited |
| В | Analyte detected in the associated Method Blank above the Reporting Limit |
| E | Value above quantitation range |
| н | Analyzed outside of Holding Time |
| J | Analyte detected below quantitation limit |
| М | Manually integrated, see raw data for justification |
| n | Not offered for accreditation |
| ND | Not Detected at the Reporting Limit |
| 0 | Sample amount is > 4 times amount spiked |
| ₽ | Dual Column results percent difference > 40% |
| R | RPD above laboratory control limit |
| s | Spike Recovery outside laboratory control limits |
| U | Analyzed but not detected above the MDL/SDL |
| Acronym | Description |
| DCS | Detectability Check Study |
| DUP | Method Duplicate |
| LCS | Laboratory Control Sample |
| | |

| DUP | Method Duplicate |
|------|-------------------------------------|
| LCS | Laboratory Control Sample |
| LCSD | Laboratory Control Sample Duplicate |
| MBLK | Method Blank |
| MDL | Method Detection Limit |
| MQL | Method Quantitation Limit |
| MS | Matrix Spike |
| MSD | Matrix Spike Duplicate |
| PDS | Post Digestion Spike |
| PQL | Practical Quantitaion Limit |
| SD | Serial Dilution |
| SDL | Sample Detection Limit |

Texas Risk Reduction Program

Unit Reported Description μg/L Micrograms per Liter

TRRP

CERTIFICATIONS, ACCREDITATIONS & LICENSES

Date: 17-Aug-15

| Agency | Number | Expire Date |
|-----------------|---------------------|-------------|
| Arkansas | 15-024-0 | 27-Mar-2016 |
| California | 2919 | 31-Jul-2016 |
| Dept of Defense | L2231 Rev 3-20-2014 | 22-Dec-2015 |
| Illinois | 003622 | 09-May-2016 |
| Kansas | E-10352 2014-2015 | 31-Aug-2015 |
| Kentucky | KY 2015-2016 | 30-Apr-2016 |
| Louisiana | 03087 2015/2016 | 30-Jun-2016 |
| North Carolina | 624 - 2015 | 31-Dec-2015 |
| Oklahoma | 2014-128 | 31-Aug-2015 |
| Texas | T104704231-15-15 | 30-Apr-2016 |

Date:

17-Aug-15

Client:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual Sampling Huntsman

SAMPLE TRACKING

Work Order: HS15060509

| Lab Samp ID | Client Sample ID | Action | Date | Person | New Location |
|---------------|------------------|--------|----------------------|--------|--------------|
| HS15060509-01 | MW-3S | Login | 6/11/2015 1:53:20 PM | CGG | VW-3 |
| HS15060509-02 | MW-3D | Login | 6/11/2015 1:53:20 PM | CGG | VW-3 |
| HS15060509-03 | MW-9S | Login | 6/11/2015 1:53:20 PM | CGG | VW-3 |
| HS15060509-04 | MW-6S | Login | 6/11/2015 1:53:20 PM | CGG | VW-3 |
| HS15060509-05 | FD061015 | Login | 6/11/2015 1:53:20 PM | CGG | VW-3 |
| HS15060509-06 | MW-6D | Login | 6/11/2015 1:53:20 PM | CGG | VW-3 |
| HS15060509-07 | FB061015 | Login | 6/11/2015 1:53:20 PM | CGG | VW-3 |
| HS15060509-08 | EB061015 | Login | 6/11/2015 1:53:20 PM | CGG | VW-3 |
| HS15060509-09 | TB-052215-66 | Login | 6/11/2015 1:53:20 PM | CGG | VW-3 |

| | | | | | | Sample Re | eceipt Checklist |
|-------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|--------------------|---------------|---------------------------------------|-----------------------------------|---------------------|
| Client Name: Work Order: | Arcadis-B HS15060 | aton Rouge 509 | | - | /Time Received: | 11-Jun-20 LOT | <u>15 08:15</u> |
| Checklist com | pleted by: | Corey Grandits eSignature | 11-Jun-201 Date | Reviewed by: | Dane J. Wo | acasey | 15-Jun-2015 Date |
| Matrices: | 2432 | 27 | | Carrier name: | FedEx Pric | ority Overnight | |
| Custody seals Custody seals Chain of custo Chain of custo Chain of custo Samples in pro Sample contai Sufficient sam All samples re | s intact on she intact on she intact on say ody present? Ody signed woody agrees wooper contain iners intact? The volume seceived within p Blank tens): | when relinquished and receivith sample labels? her/bottle? for indicated test? n holding time? herature in compliance? heter(s): | eived? | Yes | No | Not Present Not Present | · <u> </u> |
| Water - pH acc pH adjusted? pH adjusted by | ceptable upo | ero headspace? on receipt? B no sample time on any v | í ale | Yes Yes Yes | No No No No No No No No | No VOA vials su N/A 🗸 N/A 🗸 | bmitted |
| Login Notes: Client Contact | | o no sample une on any v | Date Contacted: | | Person Cor | ntacted: | |
| Contacted By: Comments: Corrective Act | . 0 | | Regarding: | | | | |



Cincinnati, OH +1 513 733 5336

Chain or Custody Form

W۷

Fort Collins, CO +1 970 490 1511 Everett, WA +1 425 356 2600 Holland, MI +1 616 399 6070 coc ID: 115755

| Environmental | | | | \.\`Al | S Project N | /anager: | | | | | | | | | | 1.00 April |
|----------------------------------------|---------------------------------------------------------------|-----------------------------------------------------|--------------------|------------------------|-------------------|-----------|----------|---------------|--------------------------|------------|--------------------|---------------|----------------------------------------------|-------------|----------|-------------|
| Customer Information | | | Projec | t Informat | | | | . 20 | | | | ł | | | | |
| Purchase Order: AT662166.2013.MOB02 AG | | Project Nam | ft(| Londillo . | ttuntsm | an | | dfil Metals | -119 | _22_ | W | 30 | ngo: | e ((| איקוונ | 3.) |
| Work Order | | Project Numbe | r ∧⊤002 | -AT002100:2013:MOB02AG | | | B wo | Isture % - A | 6 8 | 3270 | 3- | PAH | $\widecheck{+}$ | | | |
| Company Name | ARCADIS U.S., Inc. | Bill To Compan | ARCAI | DIS . | | | A COLUMN | LP Centings | • | 16 | | | | | | |
| Send Report To | Garrett Ferguson | Invoice Att | n Accou | nts Payable | | | D | | | | | | | | | |
| Address | 401 East Main Street, Suite 400 | Äddres | 630 PI | aza Drive, S | uite 600 | | E F | | | | | | <u>.</u> | | | |
| City/State/Zip | El Paso, TX 79901 | City/State/Zi | Highla | nds Ranch | | | G | | | | | | | | | |
| Phone | (915) 533-3902 | Phon | (303) 4 | 71-3699 | | | H | | | | | | | | | |
| Fax | | Fa | × | | | | à | | | | | | | | | |
| e-Mail Address | Garett.Ferguson@arcadis-us.com | e-Mail Addres | 8 | | | | 0 | | | | | | | | | |
| No. | Sample Description | Date | Time | Matrix | Pres. | # Bottles | Α | В С | D | . F | F; | G | H | 15 | U H | old |
| 1 MW | -35 | 061015 | 850 | N | None | 3_ | X | | | | | | | | | |
| 2 MW | - 3D | 061015 0 | 950 | M | None | 3_ | X | | | | - : | | | | | |
| 3 MW | -93 | | 045 | W | None | _ | X | | | | | | | | | |
| Section Services | 20- | 061015 1 | | N | None | 3 | X | | | | | | | | | |
| C#130 | 061015 | 061015 | | W | None | | X | | | | : | | | | | |
| 255 March | -QD | 061015 17 | 340 | W | None | 3 | X | | | | | | | | | |
| 150877 | (I)OIS | 061015 | | N | None | | X | | | | | | | | | |
| 1.08.07 | OWIOIS . | 061015 | | W | None | 3 | X | | | | - 1 | | | | | |
| 9 | | Stable | | | | | | | | | | $\perp \perp$ | | <u> </u> | | |
| 10 | | | | | | | | | | | . : | | | - | | |
| Sampler(s) Please I | | Shipment I | , | | ulred Turnaro | | | X | ## _ | | | Re | sults Du | e Date: | | |
| And Cit | | Time: 1500 _ R | eceived by: | X | Sty 10 May deve | <u> </u> | Notes: | Deys (| WKDey | • D | 4 Hour | | er et en | | | 3 70, 110 |
| Relinquished by: | theries 6/10/15 | Time: R | ereixed by Ila | toores (A: | | 0-11-13 | Cool | Day TAT For | ults, 10 l oler, Temp | QC P | inal ackage: | Check | One Box | (Below) | ndii - e | |
| Logged by (Laborator | y) Date: | Time: | hecked by (La | Koratopy | 7//- U | | त्रपृष | 27 0 , | TB.C | | evel 2 S | td QC/R | tow da | | ChkList | |
| Preservative Key: | 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-N | aOH 5-Na ₂ S ₂ O ₃ | 6-NaHSO | 4 7-Othe | er 8-4°C | 9-5035 | | | | l learned | evel 4 S UbeaED | | JLP | | | |

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.

2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse

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ALS Enuironmental
10:50 Stancliff Rd., Suite 210
10:50 Stancliff Rd., Suite 210
Houston, Teas 77:099
Houston, Tel, ±1, 281, 530, 5866
Tel, ±1, 281, 530, 5887

CUSTODY SEAL

THU — 11 JUN 10:30A PRIORITY OVERNIGHT

XH SGRA

77099 TX-US IAH



September 21, 2015

Tim Ratchford ARCADIS U.S., Inc. 10352 Plaza Americana Drive Baton Rouge, LA 70816 10450 Stancliff Rd. Suite 210 Houston, TX 77099 T: +1 281 530 5656 F: +1 281 530 5887 www.alsglobal.com

Work Order: HS15090638

Laboratory Results for: Brickhland NM Semi Annual GW Sampling

Dear Tim,

ALS Environmental received 7 sample(s) on Sep 15, 2015 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: Dayna Fisher Dane J. Wacasey

Date:

21-Sep-15

ARCADIS U.S., Inc. Client:

| Project: Work Order: | Brickhland NM Semi Ann HS15090638 | nual GW Sampling | | | SAMPLE SUMI | MARY |
|-------------------------|--------------------------------------|------------------|-------|-------------------|-------------------|------|
| Lab Samp ID | Client Sample ID | Matrix | TagNo | Collection Date | Date Received | Hold |
| HS15090638-01 | MW-17 | Water | | 14-Sep-2015 09:55 | 15-Sep-2015 08:50 | |
| HS15090638-02 | MW-11 | Water | | 14-Sep-2015 10:50 | 15-Sep-2015 08:50 | |
| HS15090638-03 | FD091415 | Water | | 14-Sep-2015 00:00 | 15-Sep-2015 08:50 | |
| HS15090638-04 | MW-3S | Water | | 14-Sep-2015 13:30 | 15-Sep-2015 08:50 | |
| HS15090638-05 | FB091415 | Water | | 14-Sep-2015 13:40 | 15-Sep-2015 08:50 | |
| HS15090638-06 | MW-3D | Water | | 14-Sep-2015 14:15 | 15-Sep-2015 08:50 | |
| HS15090638-07 | EB091415 | Water | | 14-Sep-2015 14:25 | 15-Sep-2015 08:50 | |

ALS Group USA, Corp

Date: 21-Sep-15

CASE NARRATIVE

ARCADIS U.S., Inc. **Client:**

Brickhland NM Semi Annual GW Sampling **Project:**

Work Order: HS15090638

GCMS Volatiles by Method SW8260

Batch ID: R261387

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Batch ID: R261391

Sample ID: MW-17 (HS15090638-01)
• The MS/MSD recovery was below the lower control limit for Benzene.

lient:

ARCADIS U.S., Inc.

Project:

Brickhland NM Semi Annual GW Sampling

Sample ID:

MW-17

Collection Date:

14-Sep-2015 09:55

ANALYTICAL REPORT

WorkOrder:HS15090638 Lab ID:HS15090638-01

Matrix:Water

| ANALYSES RESULT | | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|-----------------------------|--------|---------------|-----------------|-------|--------------------|-------------------|
| LOW LEVEL VOLATILES BY SW | /8260C | Method:SW8260 | | | | Analyst: AKP |
| Benzene | < 1.0 | | 1.0 | ug/L | 1 | 17-Sep-2015 14:25 |
| Surr: 1,2-Dichloroethane-d4 | 97.8 | | 71-125 | %REC | 1 | 17-Sep-2015 14:25 |
| Surr: 4-Bromofluorobenzene | 99.5 | | 70-125 | %REC | 1 | 17-Sep-2015 14:25 |
| Surr: Dibromofluoromethane | 110 | | 7 4 -125 | %REC | 1 | 17-Sep-2015 14:25 |
| Surr: Toluene-d8 | 101 | | 75-125 | %REC | 1 | 17-Sep-2015 14:25 |

lient:

ARCADIS U.S., Inc.

Project:

Brickhland NM Semi Annual GW Sampling

Sample ID:

MW-11

Collection Date:

14-Sep-2015 10:50

ANALYTICAL REPORT

WorkOrder:HS15090638 Lab ID:HS15090638-02

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|-----------------------------|--------|---------------|-----------------|-------|--------------------|-------------------|
| LOW LEVEL VOLATILES BY SW | /8260C | Method:SW8260 | | | | Analyst: AKP |
| Benzene | < 1.0 | | 1.0 | ug/L | 1 | 17-Sep-2015 17:04 |
| Surr: 1,2-Dichloroethane-d4 | 93.8 | | 71-125 | %REC | 1 | 17-Sep-2015 17:04 |
| Surr: 4-Bromofluorobenzene | 102 | | 70-125 | %REC | 1 | 17-Sep-2015 17:04 |
| Surr: Dibromofluoromethane | 107 | | 7 4 -125 | %REC | 1 | 17-Sep-2015 17:04 |
| Surr: Toluene-d8 | 101 | | 75-125 | %REC | 1 | 17-Sep-2015 17:04 |

lient:

ARCADIS U.S., Inc.

roject:

Brickhland NM Semi Annual GW Sampling

Sample ID: Collection Date: FD091415

14-Sep-2015 00:00

ANALYTICAL REPORT

WorkOrder:HS15090638 Lab ID:HS15090638-03

| ANALYSES | RESULT QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|-----------------------------|----------------------|-----------------|-------|--------------------|-------------------|
| LOW LEVEL VOLATILES BY SW | /8260C Method:SW8260 | | | | Analyst: AKP |
| Benzene | < 1.0 | 1.0 | ug/L | 1 | 17-Sep-2015 17:30 |
| Surr: 1,2-Dichloroethane-d4 | 96.6 | 71-125 | %REC | 1 | 17-Sep-2015 17:30 |
| Surr: 4-Bromofluorobenzene | 101 | 70-125 | %REC | 1 | 17-Sep-2015 17:30 |
| Surr: Dibromofluoromethane | 107 | 74-125 | %REC | 1 | 17-Sep-2015 17:30 |
| Surr: Toluene-d8 | 101 | 75-125 | %REC | 1 | 17-Sep-2015 17:30 |

Date: 21-Sep-15

lient:

ARCADIS U.S., Inc.

WorkOrder:HS15090638

Project: Sample ID: Brickhland NM Semi Annual GW Sampling

Lab ID:HS15090638-04

ANALYTICAL REPORT

MW-3S

Collection Date:

14-Sep-2015 13:30

| ANALYSES | RESULT QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|----------------------------------------------|-------------|-----------------|-------|--------------------|-------------------|
| LOW LEVEL VOLATILES BY SW8260C Method:SW8260 | | | | | Analyst: AKP |
| Benzene | < 1.0 | 1.0 | ug/L | 1 | 17-Sep-2015 17:56 |
| Surr: 1,2-Dichloroethane-d4 | 95.6 | 71-125 | %REC | 1 | 17-Sep-2015 17:56 |
| Surr: 4-Bromofluorobenzene | 98.9 | 70-125 | %REC | 1 | 17-Sep-2015 17:56 |
| Surr: Dibromofluoromethane | 105 | 74-125 | %REC | 1 | 17-Sep-2015 17:56 |
| Surr: Toluene-d8 | 101 | 75-125 | %REC | 1 | 17-Sep-2015 17:56 |

Date: 21-Sep-15

lient:

ARCADIS U.S., Inc.

WorkOrder:HS15090638

roject:

Brickhland NM Semi Annual GW Sampling

ANALYTICAL REPORT

Sample ID:

FB091415

Lab ID:HS15090638-05

Collection Date:

14-Sep-2015 13:40

| ANALYSES | RESULT QUAL | REPORT Limit | UNITS | DILUTION FACTOR | DATE ANALYZED |
|-----------------------------|---------------------|-----------------|-------|--------------------|-------------------|
| LOW LEVEL VOLATILES BY SW | 8260C Method:SW8260 | | | | Analyst: AKP |
| Benzene | < 1.0 | 1.0 | ug/L | 1 | 17-Sep-2015 13:24 |
| Surr: 1,2-Dichloroethane-d4 | 107 | 71-125 | %REC | 1 | 17-Sep-2015 13:24 |
| Surr: 4-Bromofluorobenzene | 93.6 | 70-125 | %REC | 1 | 17-Sep-2015 13:24 |
| Surr: Dibromofluoromethane | 103 | 74-125 | %REC | 1 | 17-Sep-2015 13:24 |
| Surr: Toluene-d8 | 106 | 75-125 | %REC | 1 | 17-Sep-2015 13:24 |

Date: 21-Sep-15

`lient:

ARCADIS U.S., Inc.

Project:

Brickhland NM Semi Annual GW Sampling

Sample ID:
Collection Date:

MW-3D

14-Sep-2015 14:15

ANALYTICAL REPORT

WorkOrder:HS15090638 Lab ID:HS15090638-06

| ANALYSES | RESULT QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|-----------------------------|----------------------|-----------------|-------|--------------------|-------------------|
| LOW LEVEL VOLATILES BY SW | 8260C Method:SW82 | 60 | | | Analyst: AKP |
| Benzene | < 1.0 | 1.0 | ug/L | 1 | 17-Sep-2015 18:22 |
| Surr: 1,2-Dichloroethane-d4 | 95 . <i>0</i> | 71-125 | %REC | 1 | 17-Sep-2015 18:22 |
| Surr: 4-Bromofluorobenzene | 100 | 70-125 | %REC | 1 | 17-Sep-2015 18:22 |
| Surr. Dibromofluoromethane | 107 | 7 4 -125 | %REC | 1 | 17-Sep-2015 18:22 |
| Surr: Toluene-d8 | 101 | 75-125 | %REC | 1 | 17-Sep-2015 18:22 |

lient:

ARCADIS U.S., Inc.

roject:

Brickhland NM Semi Annual GW Sampling

Sample ID: Collection Date: EB091415

14-Sep-2015 14:25

ANALYTICAL REPORT

WorkOrder:HS15090638 Lab ID:HS15090638-07

| ANALYSES | RESULT QUAL | | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|--------------------------------|-------------|---------------|-----------------|-------|--------------------|-------------------|
| LOW LEVEL VOLATILES BY SW8260C | | Method:SW8260 | | | | Analyst: AKP |
| Benzene | < 1.0 | | 1.0 | ug/L | 1 | 17-Sep-2015 13:50 |
| Surr: 1,2-Dichloroethane-d4 | 108 | | 71-125 | %REC | 1 | 17-Sep-2015 13:50 |
| Surr: 4-Bromofluorobenzene | 97.3 | | 70-125 | %REC | 1 | 17-Sep-2015 13:50 |
| Surr: Dibromofluoromethane | 106 | | 74-125 | %REC | 1 | 17-Sep-2015 13:50 |
| Surr: Toluene-d8 | 109 | | 75-125 | %REC | 1 | 17-Sep-2015 13:50 |

Date: 21-Sep-15

Client:

ARCADIS U.S., Inc.

Project:

Brickhland NM Semi Annual GW Sampling

DATES REPORT

WorkOrder: HS15090638

| Sample ID | Client Sam | p ID Collection Date | TCLP Date | Prep Date | Analysis Date | DF |
|---------------|-------------------|-------------------------------|---------------|-----------|-------------------|----|
| Batch ID R261 | 387 | Test Name: LOW LEVEL VOLATILE | ES BY SW8260C | Matrix | c: Water | |
| HS15090638-05 | F B 091415 | 14 Sep 2015 13:40 | | | 17 Sep 2015 13:24 | 1 |
| HS15090638-07 | EB091415 | 14 Sep 2015 14:25 | | | 17 Sep 2015 13:50 | 1 |
| Batch ID R261 | 391 | Test Name: LOW LEVEL VOLATILE | S BY SW8260C | Matrix | c: Water | |
| HS15090638-01 | MW-17 | 14 Sep 2015 09:55 | | | 17 Sep 2015 14:25 | 1 |
| HS15090638-02 | MW-11 | 14 Sep 2015 10:50 | | | 17 Sep 2015 17:04 | 1 |
| HS15090638-03 | FD091415 | 14 Sep 2015 00:00 | | | 17 Sep 2015 17:30 | 1 |
| HS15090638-04 | MW-3S | 14 Sep 2015 13:30 | | | 17 Sep 2015 17:56 | 1 |
| HS15090638-06 | MW-3D | 14 Sep 2015 14:15 | | | 17 Sep 2015 18:22 | 1 |

Client:

ARCADIS U.S., Inc.

Project:

Brickhland NM Semi Annual GW Sampling

WorkOrder:

Surr: Toluene-d8

HS15090638

| Batch ID: R261387 | | instrument: | VOA4 | | Metho | od: SW 826 | 0 | |
|-----------------------------|--------------------------|-------------|------------------|------------------|------------------|-------------------|----------------------------------------|-----------------------|
| MBLK Sample | ID: VBLKW-150916 | 3 | Units: | ug/L | An | alysis Date: | 17-Sep-201 | 5 12:04 |
| Client ID: | | Run ID: VOA | \4_261387 | SeqNo: 3 | 342 6 644 | PrepDate: | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | RPD %RPD Limit Qua |
| Benzene | < 1.0 | 1.0 | | | | | | |
| Surr. 1,2-Dichloroethane-d4 | 49.83 | 1.0 | 50 | 0 | 99.7 | 71 - 125 | | • |
| Surr: 4-Bromofluorobenzene | 46.23 | 1.0 | 50 | 0 | 92.5 | 70 - 125 | | |
| Surr: Dibromofluoromethane | . 48.15 | 1.0 | 50 | 0 | 96.3 | 74 - 125 | | |
| Surr: Toluene-d8 | 51.34 | 1.0 | 50 | 0 | 103 | 75 - 125 | | |
| LCS Sample | ID: VLCSW-140916 | ; | Units: | ug/L | Ana | alysis Date: | 17-Sep-201 | 5 10:43 |
| Client ID: | | Run ID: VOA | 4_261387 | SeqNo: 3 | 3426642 | PrepDate: | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | RPD %RPD Limit Qua |
| Benzene | 50.84 | 1.0 | 50 | 0 | 102 | 80 - 120 | ······································ | |
| Surr: 1,2-Dichloroethane-d4 | 52.45 | 1.0 | 50 | 0 | 105 | 71 - 125 | | |
| Surr: 4-Bromofluorobenzene | 50.07 | 1.0 | 50 | 0 | 100 | 70 - 125 | | |
| Surr: Dibromofluoromethane | 52.05 | 1.0 | 50 | 0 | 104 | 74 - 125 | | |
| Surr: Toluene-d8 | 52.81 | 1.0 | 50 | 0 | 106 | 75 - 125 | | |
| MS Sample | ID: HS15090709-01 | MS | Units: | ug/L | Ana | alysis Date: | 17-Sep-201 | 5 14:43 |
| Client ID: | | Run ID: VOA | 4_261387 | SeqNo: 3 | 3426650 | PrepDate: | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | RPD %RPD Limit Qua |
| Benzene | 51.6 | 1.0 | 50 | 0 | 103 | 80 - 120 | | |
| Surr: 1,2-Dichloroethane-d4 | 52.2 | 1.0 | 50 | 0 | 104 | 71 - 125 | | |
| Surr: 4-Bromofluorobenzene | 49.41 | 1.0 | 50 | 0 | 98.8 | 70 - 125 | | |
| Surr. Dibromofluoromethane | 53.11 | 1.0 | 50 | 0 | 106 | 74 - 125 | | |
| | | | | | | | | |

51.89

1.0

50

0

104

75 - 125

Client:

ARCADIS U.S., Inc.

Project:

Brickhland NM Semi Annual GW Sampling

WorkOrder:

HS15090638

Batch ID: R261387 Instrument: VOA4 Method: SW8260

| MSD | Sample ID: | HS15090709-01 MS D | | Units: | ug/L | Ana | ilysis Date: | 17-Sep-2015 | 15:11 | |
|----------------------|------------|---------------------------|------|---------|------------------|--------|------------------|------------------|--------|------------------|
| Client ID: | | Run ID | VOA4 | _261387 | SeqNo: 3 | 426651 | PrepDate: | | DF: | 1 |
| Analyte | | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD L | RPD .imit Qua |
| Benzene | | 52.23 | 1.0 | 50 | 0 | 104 | 80 - 120 | 51.6 | 1.23 | 20 |
| Surr. 1,2-Dichloroet | hane-d4 | 52.65 | 1.0 | 50 | 0 | 105 | 71 - 125 | 52.2 | 0.857 | 20 |
| Surr: 4-Bromofluoro | benzene | 49.93 | 1.0 | 50 | 0 | 99.9 | 70 - 125 | 49.41 | 1.03 | 20 |
| Surr: Dibromofluoro | methane | 51.88 | 1.0 | 50 | 0 | 104 | 74 - 125 | 53.11 | 2.35 | 20 |
| Surr: Toluene-d8 | | 52.31 | 1.0 | 50 | 0 | 105 | 75 - 125 | 51.89 | 0.81 | 20 |

The following samples were analyzed in this batch: HS15090638-05 HS15090638-07

Client: ARCADIS U.S., Inc.

Project: Brickhland NM Semi Annual GW Sampling

WorkOrder: HS15090638

Batch ID: R261391 Instrument: VOA2 Method: SW8260

| MBLK Sample ID: VBLKW-150917 Units: ug/L Analyte Client ID: Run ID: VOA2_261391 SeqNo: 3426768 SPK Ref SPK Ref Value %REC Benzene < 1.0 1.0 Surr: 1,2-Dichloroethane-d4 47.66 1.0 50 0 95.3 Surr: 4-Bromofluorobenzene 49.79 1.0 50 0 99.6 Surr: Dibromofluoromethane 53.75 1.0 50 0 108 | Alysis Date: 17-Sep-2015 13:59 PrepDate: DF: 1 Control RPD Ref RPD Limit Value %RPD Limit Qual 71 - 125 70 - 125 74 - 125 75 - 125 Alysis Date: 17-Sep-2015 13:07 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Analyte Result PQL SPK Val SPK Ref Value %REC Benzene < 1.0 1.0 | Control RPD Ref RPD Limit Qual 71 - 125 70 - 125 74 - 125 75 - 125 |
| Analyte Result PQL SPK Val Value %REC Benzene < 1.0 1.0 | Limit Value %RPD Limit Qual 71 - 125 70 - 125 74 - 125 75 - 125 |
| Surr. 1,2-Dichloroethane-d4 47.66 1.0 50 0 95.3 Surr. 4-Bromofluorobenzene 49.79 1.0 50 0 99.6 | 70 - 125 74 - 125 75 - 125 |
| Surr. 4-Bromofluorobenzene 49.79 1.0 50 0 99.6 | 70 - 125 74 - 125 75 - 125 |
| | 74 - 125 75 - 125 |
| Surr Dibromofluoromethane 53.75 1.0 50 0.108 | 75 - 125 |
| our single out of the second o | |
| Surr: Toluene-d8 50.59 1.0 50 0 101 | alysis Date: 17-Sep-2015 13:07 |
| LCS Sample ID: VLCSW-150917 Units: ug/L Ana | |
| Client ID: Run ID: VOA2_261391 SeqNo: 3426767 | PrepDate: DF: 1 |
| Analyte Result PQL SPK Val Value %REC | Control RPD Ref RPD Limit Value %RPD Limit Qual |
| Benzene 43.78 1.0 50 0 87.6 | 80 - 120 |
| Surr: 1,2-Dichloroethane-d4 47.17 1.0 50 0 94.3 | 71 - 125 |
| Surr. 4-Bromofluorobenzene 50.26 1.0 50 0 101 | 70 - 125 |
| Surr. Dibromofluoromethane 51.43 1.0 50 0 103 | 74 - 125 |
| Surr: Toluene-d8 48.95 1.0 50 0 97.9 | 75 - 125 |
| MS Sample ID: HS15090638-01MS Units: ug/L Ana | alysis Date: 17-Sep-2015 15:18 |
| Client ID: MW-17 Run ID: VOA2_261391 SeqNo: 3426771 | PrepDate: DF: 1 |
| SPK Ref Analyte Result PQL SPK Val Value %REC | Control RPD Ref RPD Limit Value %RPD Limit Qual |
| Benzene 38.26 1.0 50 0 76.5 | 80 - 120 |
| Surr. 1,2-Dichloroethane-d4 47.29 1.0 50 0 94.6 | 71 - 125 |
| Surr. 4-Bromofluorobenzene 51.1 1.0 50 0 102 | 70 - 125 |
| Surr. Dibromofluoromethane 49.99 1.0 50 0 100.0 | 74 - 125 |
| Surr: Toluene-d8 49.42 1.0 50 0 98.8 | 75 - 12 5 |

Client:

ARCADIS U.S., Inc.

Project:

Brickhland NM Semi Annual GW Sampling

HS15090638-06

WorkOrder:

HS15090638

Batch ID: R261391 Instrument: VOA2 Method: SW8260

| MSD Sample ID: | HS15090638-01MSD | | Units: | ug/L | Ana | alysis Date: | 17-Sep-2015 | 15:44 | | |
|-----------------------------|------------------|--------|---------|------------------|--------|------------------|-------------|-------|----------------|------|
| Client ID: MW-17 | Run ID | : VOA2 | _261391 | SeqNo: 3 | 426772 | PrepDate: | | DF: | .1 | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | | %RPD | RPD Limit (| Qual |
| Benzene | 36.99 | 1.0 | 50 | 0 | 74.0 | 80 - 120 | 38.26 | 3.30 | 6 20 | S |
| Surr: 1,2-Dichloroethane-d4 | 47.17 | 1.0 | 50 | 0 | 94.3 | 71 - 125 | 47.29 | 0.26 | 5 20 | |
| Surr: 4-Bromofluorobenzene | 50.75 | 1.0 | 50 | 0 | 102 | 70 - 125 | 51.1 | 0.69 | 2 20 | |
| Surr: Dibromofluoromethane | 51.15 | 1.0 | 50 | 0 | 102 | 74 - 125 | 49.99 | 2.2 | 9 20 | |
| Surr: Toluene-d8 | 49.38 | 1.0 | 50 | 0 | 98.8 | 75 - 125 | 49.42 | 0.076 | 5 20 | |

Client: ARCADIS U.S., Inc.

Project: Brickhland NM Semi Annual GW Sampling QUALIFIERS, ACRONYMS, UNITS

WorkOrder: HS15090638

| Qualifier | Description |
|-----------|---------------------------------------------------------------------------|
| + | Value exceeds Regulatory Limit |
| а | Not accredited |
| В | Analyte detected in the associated Method Blank above the Reporting Limit |
| E | Value above quantitation range |
| Н | Analyzed outside of Holding Time |
| J | Analyte detected below quantitation limit |
| М | Manually integrated, see raw data for justification |
| n | Not offered for accreditation |
| ND | Not Detected at the Reporting Limit |
| 0 | Sample amount is > 4 times amount spiked |
| P | Dual Column results percent difference > 40% |
| R | RPD above laboratory control limit |
| s | Spike Recovery outside laboratory control limits |
| U | Analyzed but not detected above the MDL/SDL |
| Acronym | Description |
| DCS | Detectability Check Study |
| DUP | Method Duplicate |
| LCS | Laboratory Control Sample |

Date: 21-Sep-15

| <u>Description</u> |
|-------------------------------------|
| Detectability Check Study |
| Method Duplicate |
| Laboratory Control Sample |
| Laboratory Control Sample Duplicate |
| Method Blank |
| Method Detection Limit |
| Method Quantitation Limit |
| Matrix Spike |
| Matrix Spike Duplicate |
| Post Digestion Spike |
| Practical Quantitaion Limit |
| Serial Dilution |
| Sample Detection Limit |
| Texas Risk Reduction Program |
| |

Unit Reported Description µg/L Micrograms per Liter

CERTIFICATIONS, ACCREDITATIONS & LICENSES

Date: 21-Sep-15

| Agency | Number | Expire Date |
|-----------------|---------------------|-------------|
| Arkansas | 15-024-0 | 27-Mar-2016 |
| California | 2919 | 31-Jul-2016 |
| Dept of Defense | L2231 Rev 3-20-2014 | 22-Dec-2015 |
| Illinois | 003622 | 09-May-2016 |
| Kansas | E-10352 2014-2015 | 30-Sep-2015 |
| Kentucky | KY 2015-2016 | 30-Apr-2016 |
| Louisiana | 03087 2015/2016 | 30-Jun-2016 |
| North Carolina | 624 - 2015 | 31-Dec-2015 |
| Oklahoma | 2015-047 | 31-Aug-2016 |
| Texas | T104704231-15-15 | 30-Apr-2016 |

Date:

21-Sep-15

Client: ARCADIS U.S., Inc.

Project: Brickhland NM Semi Annual GW Sampling

Work Order: HS15090638

SAMPLE TRACKING

| Lab Samp ID | Client Sample ID | Action | Date | Person | New Location |
|---------------|------------------|--------|----------------------|--------|--------------|
| HS15090638-01 | MW-17 | Login | 9/15/2015 7:14:15 PM | cgg | VW-3 |
| HS15090638-02 | MW-11 | Login | 9/15/2015 7:14:15 PM | CGG | VW-3 |
| HS15090638-03 | FD091415 | Login | 9/15/2015 7:14:15 PM | CGG | VW-3 |
| HS15090638-04 | MW-3S | Login | 9/15/2015 7:14:15 PM | CGG | VW-3 |
| HS15090638-05 | FB091415 | Login | 9/15/2015 7:14:15 PM | CGG | VW-3 |
| HS15090638-06 | MW-3D | Login | 9/15/2015 7:14:15 PM | CGG | VW-3 |
| HS15090638-07 | EB091415 | Login | 9/15/2015 7:14:15 PM | CGG | VW-3 |

Date: 21-Sep-15

Sample Receipt Checklist **ARCADIS-BATON ROUGE** 15-Sep-2015 08:50 Client Name: Date/Time Received: Work Order: HS15090638 Received by: **RPG** Reviewed by: Checklist completed by: Corey Grandits Dane J. Wacasey 17-Sep-2015 15-Sep-2015 eSignature Date eSignature Date Matrices: Water Carrier name: FedEx Priority Overnight Shipping container/cooler in good condition? Yes 🗸 Not Present No Custody seals intact on shipping container/cooler? Yes Nφ Not Present Custody seals intact on sample bottles? No Not Present Yes Chain of custody present? Yes No Chain of custody signed when relinquished and received? Yes No Chain of custody agrees with sample labels? Yes No Samples in proper container/bottle? Yes 🗸 No Sample containers intact? Yes 🔽 No N/A TX1005 solids received in hermetically sealed vials? Yes No Sufficient sample volume for indicated test? Yes No All samples received within holding time? Yes 🔽 No Container/Temp Blank temperature in compliance? Yes 🗸 No 2.7c / 2.6c uc/c IR1 Temperature(s)/Thermometer(s): Cooler(s)/Kit(s): Foam Date/Time sample(s) sent to storage: 09/15/2015 19:20 Yes No VOA vials submitted Water - VOA vials have zero headspace? No N/A Water - pH acceptable upon receipt? Yes No pH adjusted? N/A Yes No pH adjusted by: Samples MW-11 (vial 3 of 3) and EB091415 (vial 3 of 3) received with no date/time/ID on labels. All vials for sample ID MW-11 Login Notes: have headspace >6mm in diameter. Client Contacted: Date Contacted: Person Contacted: Contacted By: 0 Regarding: Comments: Corrective Action:



Cincinnati, OH +1 513 733 5336

Fort Collins, CO +1 970 490 1511

Chail Custody For

HS15090638

Everett, WA Holland, MI Page ___ +1 425 356 2600 +1 616 399 6070

coc ID: 131016

ARCADIS U.S., Inc. Brickhland NM Somi Annual CIM Complian

| Enviro | nmental | | | | 8 | | A | LS Project | Manager: | 23 | ١ | | | | | | | . # | 1 | |
|-----------------------|--------------------------|--------------------------------------|-------|---------------------------------------|---------|---------|--------------|---------------|---------------------------------------|-------|------------|---------|----------|--------|---------|---------|-------------|---------|-------------|------|
| | Customer Informatio | on | | | | Projec | t Informa | tion | | | | | | | | | terroriya o | | | |
| Purchase Order | LA003185 | | | Project N | ame | Brickhl | and NM Se | emi Annual G | W Samt | A | 8260_L | L_W (8: | 260 Ben | zene (| Unpre | s.)) | | | | |
| Work Order | | | Pro | oject Nun | nber | LA003 | 185 | | | В | 8270_P | AH_LV | | | | | | | | |
| Company Name | ARCADIS U.S., Inc. | | Bill | To Comp | bany | ARCA | DIS | | | c | | | | | | | | | | |
| Send Report To | Tim Ratchford | | | Invoice | Attn | Accou | nts Payable | • | | D | | | | | | | | | | |
| Address | 10352 Plaza American | na Drive | | Add | ress | 630 PI | aza Drive, | Suite 600 | | E F | | | | | | | *** | | | |
| City/State/Zip | Baton Rouge, LA 708 | 16 | c | ity/State | /Zip | Highla | nds Ranch | , CO 80129 | · · · · · · · · · · · · · · · · · · · | G | | | | | | | | | | |
| Phone | (225) 292-1004 | | | PI | one | (303) 4 | 471-3699 | | | н | | | | | | | | | | |
| Fax | <u> </u> | | | | Fax | | | | | 1 | | | | | | | | | | |
| e-Mail Address | | | e- | Mall Add | ress | | | | | J | | | | | | | | | | |
| No. | Sample Description | | De | ate | Tir | | Matrix | Pres. | # Bottles | A | В | C | D | E | F | G | H | . I | J | Hold |
| 1 Nu | N-17 | | 091 | 415 | 09 | 55 | \sim | None | 3 | X | | | | | | | | | | |
| 2 M | N-II | | | 1 | 105 | 50 | \sim | | 3 | X | ' | | | | | | | | | |
| 3 FD | 091415 | | | | | | W | | 3 | X | | | | | | | | | | |
| 4 MV | 1-35 | | | | 133 | 30 | W | | 3 | X | | | | | | | | | | |
| | 091415 | | | | 134 | Ю | 2 | | 3 | X | | | | | | | | | | |
| | 1-3D | | | 1 | 141 | 5 | 2 | | 3 | X | | | | | | | | | | |
| | 091415 | | | | 142 | 25 | W | | 3 | X | | | | | | | | | | |
| 8 | | | | Ma | , , , | | | | ر ا | | ni | | | | | | | | | |
| 9 | | | | | _ | | | | 101 | 11 | X | | | | | | | | | |
| 10 | | 1 1 | | | | | | | 1 | | 44 | - | | | | | | | | |
| Sampler(s) Please F | orint & Sign | with | | Shipme | | | Rec | julred Turnar | | | | | other | | | R | sults | Due Da | te: | |
| Relinquished by: | HipKO7 | 091415 | Time: | | Receive | | | | | Note: | s: | | | | | | | | | |
| Relinquished by: | VIII | Date: | Time: | · · · · · · · · · · · · · · · · · · · | Receive | Si M | boratory): C | 20115/15 | 08:20 | C | ooler ID M | | er lemp. | QC | Package | : (Chec | k One E | ox Belo | v)) | £2 |
| Logged by (Laborator) | n: | Date: | Time: | | | | boratory): | | | Ŧo | am | J. | | | Leve | STO | | | | |
| Preservative Key: | 1-HCl 2-HNO ₃ | 3-H ₂ SO ₄ 4-N | aOH | 5-Na ₂ S ₂ C |)3 6- | NaHSO, | , 7-Oth | er 8-4°C | 9-5035 | 2.22 | | 1-5 | | | her: | | | | | |

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.

2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.

3. The Chain of Custody is a legal document. All information must be completed accurately.

Copyright 2011 by ALS Environmental.



TRK/ 8079 3077 0157

TUE - 15 SEP 10:30A PRIORITY OVERNIGHT

XH SGRA Foam

77099 TX-US IAH



10450 Stancliff Rd. Suite 210 Houston, TX 77099 T: +1 281 530 5656 F: +1 281 530 5887 www.alsglobal.com

September 21, 2015

Tim Ratchford ARCADIS U.S., Inc. 10352 Plaza Americana Drive Baton Rouge, LA 70816

Work Order: HS15090700

Laboratory Results for: Brickland NM Semi Annual GW Sampling

Dear Tim,

ALS Environmental received 6 sample(s) on Sep 16, 2015 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: Dayna.Fisher Dane J. Wacasey

HS15090700-06

EB091515

Date:

15-Sep-2015 13:55 16-Sep-2015 13:05

21-Sep-15

| Client: Project: Work Order: | ARCADIS U.S., Inc. Brickland NM Semi Annu HS15090700 | al GW Sampling | | | SAMPLE SUMI | MARY |
|------------------------------------|------------------------------------------------------------|----------------|-------|-------------------|-------------------|------|
| Lab Samp ID | Client Sample ID | Matrix | TagNo | Collection Date | Date Received | Hold |
| HS15090700-01 | MW-6S | Water | | 15-Sep-2015 09:05 | 16-Sep-2015 13:05 | |
| HS15090700-02 | MW-6D | Water | | 15-Sep-2015 09:55 | 16-Sep-2015 13:05 | |
| HS15090700-03 | FB-091515 | Water | | 15-Sep-2015 10:00 | 16-Sep-2015 13:05 | |
| HS15090700-04 | MW-9S | Water | | 15-Sep-2015 10:45 | 16-Sep-2015 13:05 | |
| HS15090700-05 | MW-5 | Water | | 15-Sep-2015 13:40 | 16-Sep-2015 13:05 | П |

Water

Date: 21-Sep-15

CASE NARRATIVE

ARCADIS U.S., Inc. Client:

Brickland NM Semi Annual GW Sampling **Project:**

Work Order: HS15090700

GCMS Volatiles by Method SW8260

Batch ID: R261387

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Batch ID: R261391

Sample ID: **HS15090638-01**• MS/MSD is for an unrelated sample.

Date: 21-Sep-15

`lient:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual GW Sampling

Sample ID:

MW-6S

Collection Date: 15-Sep-2015 09:05

ANALYTICAL REPORT

WorkOrder:HS15090700 Lab ID:HS15090700-01

| ANALYSES | RESULT QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|-----------------------------|----------------------|-----------------|-------|--------------------|-------------------|
| LOW LEVEL VOLATILES BY SW | /8260C Method:SW8260 | | | | Analyst: AKP |
| Benzene | < 1.0 | 1.0 | ug/L | 1 | 17-Sep-2015 18:48 |
| Surr. 1,2-Dichloroethane-d4 | 96.0 | 71-125 | %REC | 1 | 17-Sep-2015 18:48 |
| Surr: 4-Bromofluorobenzene | 101 | 70-125 | %REC | 1 | 17-Sep-2015 18:48 |
| Surr. Dibromofluoromethane | 107 | 74-125 | %REC | 1 | 17-Sep-2015 18:48 |
| Surr: Toluene-d8 | 99.8 | 75-125 | %REC | 1 | 17-Sep-2015 18:48 |

Date: 21-Sep-15

`lient: roject: ARCADIS U.S., Inc.

Brickland NM Semi Annual GW Sampling

Collection Date:

Sample ID:

MW-6D 15-Sep-2015 09:55 **ANALYTICAL REPORT**

WorkOrder:HS15090700 Lab ID:HS15090700-02

| ANALYSES | RESULT QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|-----------------------------|----------------------|-----------------|-------|--------------------|-------------------|
| LOW LEVEL VOLATILES BY SW | /8260C Method:SW8260 | | | | Analyst: AKP |
| Benzene | < 1.0 | 1.0° | ug/L | 1 | 17-Sep-2015 19:14 |
| Surr. 1,2-Dichloroethane-d4 | 95.5 | 71-125 | %REC | 1 | 17-Sep-2015 19:14 |
| Surr. 4-Bromofluorobenzene | 99.8 | 70-125 | %REC | 1 | 17-Sep-2015 19:14 |
| Surr: Dibromofluoromethane | 107 | 74-125 | %REC | 1 | 17-Sep-2015 19:14 |
| Surr: Toluene-d8 | 99.8 | 75-125 | %REC | 1 | 17-Sep-2015 19:14 |

`lient:

ARCADIS U.S., Inc.

roject:

Brickland NM Semi Annual GW Sampling

Sample ID: Collection Date: FB-091515

15-Sep-2015 10:00

ANALYTICAL REPORT

WorkOrder:HS15090700 Lab ID:HS15090700-03

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|-----------------------------|--------|---------------|-----------------|-------|--------------------|-------------------|
| LOW LEVEL VOLATILES BY SW | '8260C | Method:SW8260 | | | | Analyst: AKP |
| Benzene | < 1.0 | | 1.0 | ug/L | 1 | 17-Sep-2015 15:38 |
| Surr: 1,2-Dichloroethane-d4 | 105 | | 71-125 | %REC | 1 | 17-Sep-2015 15:38 |
| Surr: 4-Bromofluorobenzene | 94.3 | | 70-125 | %REC | 1 | 17-Sep-2015 15:38 |
| Surr: Dibromofluoromethane | 101 | | 74-125 | %REC | 1 | 17-Sep-2015 15:38 |
| Surr: Toluene-d8 | 102 | | 75-125 | %REC | 1 | 17-Sep-2015 15:38 |

Date: 21-Sep-15

lient:

ARCADIS U.S., Inc.

15-Sep-2015 10:45

~roject:

Sample ID: **Collection Date:** MW-9S

Brickland NM Semi Annual GW Sampling

WorkOrder:HS15090700 Lab ID:HS15090700-04

ANALYTICAL REPORT

| ANALYSES | ANALYSES RESULT | | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|-----------------------------|-----------------|---------------|-----------------|-------|--------------------|-------------------|
| LOW LEVEL VOLATILES BY SW | /8260C | Method:SW8260 | | | | Analyst: AKP |
| Benzene | < 1.0 | | 1.0 | ug/L | 1 | 17-Sep-2015 19:39 |
| Surr: 1,2-Dichloroethane-d4 | 97.6 | | 71-125 | %REC | 1 | 17-Sep-2015 19:39 |
| Surr: 4-Bromofluorobenzene | 100 | | 70-125 | %REC | 1 | 17-Sep-2015 19:39 |
| Surr: Dibromofluoromethane | 108 | | 74-125 | %REC | 1 | 17-Sep-2015 19:39 |
| Surr: Toluene-d8 | 101 | | 75-125 | %REC | 1 | 17-Sep-2015 19:39 |

lient: roject: ARCADIS U.S., Inc.

Brickland NM Semi Annual GW Sampling

Collection Date:

Sample ID:

MW-5 15-Sep-2015 13:40 **ANALYTICAL REPORT**

WorkOrder:HS15090700 Lab ID:HS15090700-05

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|-----------------------------|--------|---------------|-----------------|-------|--------------------|-------------------|
| LOW LEVEL VOLATILES BY SW | 8260C | Method:SW8260 | | | | Analyst: AKP |
| Benzene | 73 | | 10 | ug/L | 10 | 17-Sep-2015 20:07 |
| Surr: 1,2-Dichloroethane-d4 | 96.3 | | 71-125 | %REC | 10 | 17-Sep-2015 20:07 |
| Surr: 4-Bromofluorobenzene | 99.0 | | 70-125 | %REC | 10 | 17-Sep-2015 20:07 |
| Surr: Dibromofluoromethane | 107 | | 74-125 | %REC | 10 | 17-Sep-2015 20:07 |
| Surr: Toluene-d8 | 102 | | 75-125 | %REC | 10 | 17-Sep-2015 20:07 |

Date: 21-Sep-15

`lient:

ARCADIS U.S., Inc.

~roject:

Brickland NM Semi Annual GW Sampling

Sample ID:

EB091515

Collection Date:

15-Sep-2015 13:55

ANALYTICAL REPORT

WorkOrder:HS15090700 Lab ID:HS15090700-06

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|-----------------------------|--------|---------------|-----------------|-------|--------------------|-------------------|
| LOW LEVEL VOLATILES BY SW | 8260C | Method:SW8260 | | | | Analyst: AKP |
| Benzene | < 1.0 | | 1.0 | ug/L | 1 | 17-Sep-2015 16:05 |
| Surr: 1,2-Dichloroethane-d4 | 106 | | 71-125 | %REC | 1 | 17-Sep-2015 16:05 |
| Surr: 4-Bromofluorobenzene | 93.9 | | 70-125 | %REC | 1 | 17-Sep-2015 16:05 |
| Surr: Dibromofluoromethane | 101 | | 74-125 | %REC | 1 | 17-Sep-2015 16:05 |
| Surr: Toluene-d8 | 104 | | 75-125 | %REC | 1 | 17-Sep-2015 16:05 |

Date: 21-Sep-15

Client:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual GW Sampling

DATES REPORT

WorkOrder: HS15090700

| Sample ID | Client Sam | ıp ID | Collection Date | TCLP Date | Prep Date | Analysis Date | DF |
|---------------|-------------|-----------|----------------------|--------------|-----------|-------------------|----|
| Batch ID R26 | 31387 | Test Name | : LOW LEVEL VOLATILE | S BY SW8260C | Matri | ix: Water | |
| HS15090700-03 | B FB-091515 | | 15 Sep 2015 10:00 | | | 17 Sep 2015 15:38 | 1 |
| HS15090700-06 | BB091515 | | 15 Sep 2015 13:55 | | | 17 Sep 2015 16:05 | 1 |
| Batch ID R26 | 61391 | Test Name | : LOW LEVEL VOLATILE | S BY SW8260C | Matri | x: Water | |
| HS15090700-01 | MW-6S | | 15 Sep 2015 09:05 | | | 17 Sep 2015 18:48 | 1 |
| HS15090700-02 | MW-6D | | 15 Sep 2015 09:55 | | | 17 Sep 2015 19:14 | 1 |
| HS15090700-04 | MW-9S | | 15 Sep 2015 10:45 | | | 17 Sep 2015 19:39 | 1 |
| HS15090700-05 | 5 MW-5 | | 15 Sep 2015 13:40 | | | 17 Sep 2015 20:07 | 10 |

Client:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual GW Sampling

WorkOrder:

HS15090700

QC BATCH REPORT

| Batch ID: R261387 | Instr | ument: | VOA4 | | Metho | od: SW8260 |) | |
|-----------------------------|-----------------|--------|---------|------------------|--------|------------------|------------------|------------------------|
| MBLK Sample ID: | VBLKW-150916 | | Units: | ug/L | Ana | alysis Date: | 17-Sep-201 | 5 12:04 |
| Client ID: | Run ID | : VOA4 | _261387 | SeqNo: 3 | 426644 | PrepDate: | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | RPD %RPD Limit Qual |
| Benzene | < 1.0 | 1.0 | | | | | | |
| Surr: 1,2-Dichloroethane-d4 | 49.83 | 1.0 | 50 | 0 | 99.7 | 71 - 125 | | |
| Surr: 4-Bromofluorobenzene | 46.23 | 1.0 | 50 | 0 | 92.5 | 70 - 125 | | |
| Surr: Dibromofluoromethane | 48.15 | 1.0 | 50 | 0 | 96.3 | 74 - 125 | | |
| Surr: Toluene-d8 | 51.34 | 1.0 | 50 | 0 | 103 | 75 - 125 | | |
| LCS Sample ID: | VLCSW-140916 | | Units: | ug/L | Ana | ilysis Date: | 17-Sep-201 | 5 10:43 |
| Client ID: | Run ID | : VOA4 | _261387 | SeqNo: 3 | 426642 | PrepDate: | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | RPD %RPD Limit Qual |
| Benzene | 50.84 | 1.0 | 50 | 0 | 102 | 80 - 120 | | |
| Surr: 1,2-Dichloroethane-d4 | 52.45 | 1.0 | 50 | 0 | 105 | 71 - 125 | | |
| Surr: 4-Bromofluorobenzene | 50.07 | 1.0 | 50 | 0 | 100 | 70 - 125 | | |
| Surr: Dibromofluoromethane | 52.05 | 1.0 | 50 | 0 | 104 | 74 - 125 | | • |
| Surr: Toluene-d8 | 52.81 | 1.0 | 50 | 0 | 106 | 75 - 125 | | |
| MS Sample ID: | HS15090709-01MS | | Units: | ug/L | Ana | lysis Date: | 17-Sep-2015 | 5 14:43 |
| Client ID: | Run ID | : VOA4 | _261387 | SeqNo: 3 | 426650 | PrepDate: | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | RPD %RPD Limit Qual |
| Benzene | 51.6 | 1.0 | 50 | 0 | 103 | 80 - 120 | | |
| Surr: 1,2-Dichloroethane-d4 | 52.2 | 1.0 | 50 | 0 | 104 | 71 - 125 | | |
| Surr: 4-Bromofluorobenzene | 49.41 | 1.0 | 50 | 0 | 98.8 | 70 - 125 | | |
| Surr. Dibromofluoromethane | 53.11 | 1.0 | 50 | 0 | 106 | 74 - 125 | **** | |
| Surr: Toluene-d8 | 51.89 | 1.0 | 50 | 0 | 104 | 75 - 125 | | |

Surr: 4-Bromofluorobenzene

Surr: Dibromofluoromethane

Surr: Toluene-d8

Date: 21-Sep-15

QC BATCH REPORT

Client:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual GW Sampling

WorkOrder:

HS15090700

| Batch ID: | R261387 | ins | VOA4 | Method: SW8260 | | | | | |
|-------------|------------------|------------------|---------|----------------|------------------|--------|------------------|--------------------------------------|--|
| MSD | Sample ID: | HS15090709-01MSD | | Units: | ug/L | Ana | alysis Date: | 17-Sep-2015 15:11 | |
| Client ID: | | Run | D: VOA4 | _261387 | SeqNo: 3 | 426651 | PrepDate: | DF: 1 | |
| Analyte | | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref RPD Value %RPD Limit Qual | |
| Benzene | 1.10VI. s. | 52.23 | 1.0 | 50 | 0 | 104 | 80 - 120 | 51.6 1.23 20 | |
| Surr: 1,2-D | ichloroethane-d4 | 52.65 | 1.0 | 50 | 0 | 105 | 71 - 125 | 52.2 0.857 20 | |

50

50

50

0

0

0

99.9

104

105

70 - 125

74 - 125

75 - 125

49.41

53.11

51.89

1.03 20

2.35 20

0.81 20

1.0

1.0

1.0

The following samples were anayzed in this batch: HS15090700-03 HS15090700-06

49.93

51.88

52.31

Client:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual GW Sampling

WorkOrder:

Surr: Toluene-d8

HS15090700

| Batch ID: R261391 | | | Instru | ment: | VOA2 | | Meth | od: SW826 | 0 | | |
|---------------------------|-----------------------|---------|---------|-------|---------|------------------|------------------|------------------|------------------|-------|------------------|
| MBLK Sam | ple ID: VBLKW | -150917 | | | Units: | ug/L | An | alysis Date: | 17-Sep-201 | 13:59 | |
| Client ID: | | | Run ID: | VOA2 | _261391 | SeqNo: | 3426768 | PrepDate: | | DF | ₹:1 |
| Analyte | | Result | | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qua |
| Benzene | | < 1.0 | | 1.0 | | • | · | | | | |
| Surr: 1,2-Dichloroethane | -d4 | 47.66 | | 1.0 | 50 | 0 | 95.3 | 71 - 125 | | | |
| Surr: 4-Bromofluorobenz | en e | 49.79 | | 1.0 | 50 | 0 | 99.6 | 70 - 125 | | | |
| Surr: Dibromofluorometh | ane | 53.75 | | 1.0 | 50 | 0 | 108 | 74 - 125 | | | |
| Surr: Toluene-d8 | | 50.59 | | 1.0 | 50 | 0 | 101 | 75 - 125 | | | |
| L CS Sam | ple ID: VLCSW | -150917 | | | Units: | ug/L | An | alysis Date: | 17-Sep-2015 | 13:07 | |
| Client ID: | | | Run ID: | VOA2 | _261391 | SeqNo: | 34267 6 7 | PrepDate: | | DF | :1 |
| Analyte | | Result | | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qua |
| Benzene | | 43.78 | | 1.0 | 50 | 0 | 87.6 | 80 - 120 | | | |
| Surr: 1,2-Dichloroethane | d4 | 47.17 | | 1.0 | 50 | 0 | 94.3 | 71 - 125 | | | ····· |
| Surr: 4-Bromofluorobenz | ene | 50.26 | | 1.0 | 50 | 0 | 101 | 70 - 125 | | | |
| Surr: Dibromofluorometh | ene | 51.43 | | 1.0 | 50 | 0 | 103 | 74 - 125 | | | |
| Surr: Toluene-d8 | | 48.95 | | 1.0 | 50 | 0 | 97.9 | 75 - 125 | | | |
| MS Sam | ple ID: HS1509 | 0638-01 | MS | | Units: | ug/L | Ana | alysis Date: | 17-Sep-2015 | 15:18 | |
| Client ID: | | | Run ID: | VOA2 | _261391 | SeqNo: | 3426771 | PrepDate: | | DF | : 1 |
| Analyte | | Result | | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qua |
| Benzene | | 38.26 | | 1.0 | 50 | 0 | 76.5 | 80 - 120 | | | |
| Surr: 1,2-Dichloroethane- | d4 | 47.29 | | 1.0 | 50 | 0 | 94.6 | 71 - 125 | | | |
| Surr: 4-Bromofluorobenze | ene | 51.1 | | 1.0 | 50 | 0 | 102 | 70 - 125 | | | |
| Surr: Dibromofluorometh | | 49.99 | | 1.0 | 50 | 0 | 100.0 | 74 - 125 | · | | |

1.0

49.42

50

98.8

75 - 125

Client:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual GW Sampling

WorkOrder:

HS15090700

Batch ID: R261391 Instrument: VOA2 Method: SW8260

| MSD | Sample ID: | HS15090638-01MSD | | Units: | ug/L | Ana | ilysis Date: | 17-Sep-2015 | 15:44 | | |
|-----------------------|------------|------------------|------|---------|------------------|--------|------------------|-------------|-------|----------------|------|
| Client ID: | | Run ID: | VOA2 | _261391 | SeqNo: 3 | 426772 | PrepDate: | | DF: | :1 | |
| Analyte | | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | | %RPD | RPD Limit (| Qual |
| Benzene | | 36.99 | 1.0 | 50 | 0 | 74.0 | 80 - 120 | 38.26 | 3.3 | 6 20 | 5 |
| Surr: 1,2-Dichloroeth | nane-d4 | 47.17 | 1.0 | 50 | 0 | 94.3 | 71 - 125 | 47.29 | 0.26 | 5 20 | |
| Surr: 4-Bromofluorol | benzene | 50.75 | 1.0 | 50 | 0 | 102 | 70 - 125 | 51.1 | 0.69 | 2 20 | |
| Surr: Dibromofluoror | methane | 51.15 | 1.0 | 50 | 0 | 102 | 74 - 125 | 49.99 | 2.2 | 9 20 | |
| Surr: Toluene-d8 | | 49.38 | 1.0 | 50 | 0 | 98.8 | 75 - 125 | 49.42 | 0.076 | 5 20 | |

Date: 21-Sep-15

Client:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual GW Sampling

WorkOrder:

HS15090700

Micrograms per Liter

µg/L

QUALIFIERS, ACRONYMS, UNITS

| Qualifier | Description |
|---------------|---------------------------------------------------------------------------|
| • | Value exceeds Regulatory Limit |
| a | Not accredited |
| В | Analyte detected in the associated Method Blank above the Reporting Limit |
| E | Value above quantitation range |
| Н | Analyzed outside of Holding Time |
| J | Analyte detected below quantitation limit |
| M | Manually integrated, see raw data for justification |
| n | Not offered for accreditation |
| ND | Not Detected at the Reporting Limit |
| 0 | Sample amount is > 4 times amount spiked |
| P | Dual Column results percent difference > 40% |
| R | RPD above laboratory control limit |
| S | Spike Recovery outside laboratory control limits |
| U | Analyzed but not detected above the MDL/SDL |
| Acronym | Description |
| DCS | Detectability Check Study |
| DUP | Method Duplicate |
| LCS | Laboratory Control Sample |
| LCSD | Laboratory Control Sample Duplicate |
| MBLK | Method Blank |
| MDL | Method Detection Limit |
| MQL | Method Quantitation Limit |
| MS | Matrix Spike |
| MSD | Matrix Spike Duplicate |
| PDS | Post Digestion Spike |
| PQL | Practical Quantitaion Limit |
| SD | Serial Dilution |
| SDL | Sample Detection Limit |
| TRRP | Texas Risk Reduction Program |
| Unit Reported | Description |

CERTIFICATIONS, ACCREDITATIONS & LICENSES

Date: 21-Sep-15

| Agency | Number | Expire Date |
|-----------------|---------------------|-------------|
| Arkansas | 15-024-0 | 27-Mar-2016 |
| California | 2919 | 31-Jul-2016 |
| Dept of Defense | L2231 Rev 3-20-2014 | 22-Dec-2015 |
| Illinois | 003622 | 09-May-2016 |
| Kansas | E-10352 2014-2015 | 30-Sep-2015 |
| Kentucky | KY 2015-2016 | 30-Apr-2016 |
| Louisiana | 03087 2015/2016 | 30-Jun-2016 |
| North Carolina | 624 - 2015 | 31-Dec-2015 |
| Oklahoma | 2015-047 | 31-Aug-2016 |
| Texas | T104704231-15-15 | 30-Apr-2016 |

Date:

SAMPLE TRACKING

21-Sep-15

Client:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual GW Sampling

Work Order: HS15090700

| Lab Samp ID | Client Sample ID | Action | Date | Person | New Location |
|---------------|------------------|--------|----------------------|--------|--------------|
| HS15090700-01 | MW-6S | Login | 9/16/2015 5:55:47 PM | СТС | VW-3 |
| HS15090700-02 | MW-6D | Login | 9/16/2015 5:58:28 PM | стс | VW-3 |
| HS15090700-03 | FB-091515 | Login | 9/16/2015 5:58:28 PM | стс | VW-3 |
| HS15090700-04 | MW-9S | Login | 9/16/2015 5:58:28 PM | стс | VW-3 |
| HS15090700-05 | MW-5 | Login | 9/16/2015 5:58:28 PM | стс | VW-3 |
| HS15090700-06 | EB091515 | Login | 9/16/2015 5:58:28 PM | СТС | VW-3 |

Date: 21-Sep-15

| | | | | | Sample Receipt Checklist |
|-------------------------|------------------------------------------------------------------------|---------------------|--------------------|-----------------|-----------------------------------|
| Client Name: ARCA | ADIS-BATON ROUGE | | Date/T | ime Received: | 16-Sep-2015 13:05 |
| Vork Order: HS15 | 090700 | | Receiv | ved by: | <u>RPG</u> |
| Checklist completed b | oy: Charity Carter eSignature | 16-Sep-2015 Date | Reviewed by: | eSignature | Date |
| Matrices: | Waters . | · | Carrier name: | <u>FedEx</u> | · |
| Shipping container/co | oler in good condition? | | Yes 🗸 | No 🗌 | Not Present |
| Custody seals intact of | on shipping container/cooler? | | Yes 🔽 | No 🔲 | Not Present |
| Custody seals intact of | on sample bottles? | | Yes 🔲 | No 🔲 | Not Present |
| Chain of custody pres | ent? | | Yes 🔽 | No 🔲 | _ |
| Chain of custody sign | ed when relinquished and receive | ed? | Yes 🔽 | No 🔲 | |
| Chain of custody agre | es with sample labels? | | Yes 🔲 | No 🔽 | |
| Samples in proper cor | ntainer/bottle? | | Yes 🔽 | No 🔲 | |
| Sample containers int | act? | | Yes 🔽 | No 🔲 | |
| TX1005 solids receive | ed in hermetically sealed vials? | | Yes 🔲 | No 🔲 | N/A 🗾 |
| Sufficient sample volu | me for indicated test? | , | Yes 🔽 | No 🔲 | |
| All samples received v | within holding time? | , | Yes 🔽 | No 🔲 | |
| Container/Temp Blank | temperature in compliance? | , | Yes 🔽 | No 🔲 | |
| Temperature(s)/Them | nometer(s): | 1- | 4.4c/14.3c u/c | | 6 |
| Cooler(s)/Kit(s): | | F | oam | | • |
| Date/Time sample(s) | sent to storage: | <u>o</u> : | 9/16/2015 17:51 | , . | |
| Water - VOA vials hav | e zero headspace? | <u> </u> | Yes | No 🗸 | No VOA vials submitted |
| Water - pH acceptable | e upon receipt? | , | Yes 🔲 | No 🔲 | N/A 🔽 |
| pH adjusted? | | , | Yes 🔲 | No 🗸 | N/A 🔲 |
| pH adjusted by: | | | | | |
| | ial headspace MW-6S 3 of 3, coo label time (13:40) vial 3 of 3 blar | | nple FB091515 on C | COC label FB091 | 515, time on COC (13:55) does not |
| Client Contacted: | D | ate Contacted: | | Person Con | ntacted: |
| Contacted By: | 0 R | egarding: | | | |
| Comments: | | | | | <u> </u> |
| Corrective Action: | | | | 27744700 | |



Cincinnati, OH +1 513 733 5336 Everett, WA

Fort Collins, CO

+1 970 490 1511 Holland, Mi

Page ____ of __

Chair Custody Form

HS15090700

ARCADIS U.S., Inc.

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Brickhland NM Semi Annual GW Sampling

+1 425 356 2600 +1 616 399 6070 coc ID: 131015

Environmental ALS Project Manager: **Project Information Customer Information Purchase Order Project Name** LA003185 Brickhland NM Semi Annual GVV Samr 8260 LL W (8260 Benzene (Unpres.)) Work Order Project Number LA003185 8270 PAH LVI Company Name **Bili To Company** C ARCADIS U.S., Inc. ARCADIS Send Report To Invoice Attn D Accounts Payable Tim Ratchford E 630 Plaza Drive, Suite 600 10352 Plaza Americana Drive Address Address G City/State/Zip City/State/Zip Highlands Ranch, CO 80129 Baton Rouge, LA 70816 Phone Phone (303) 471-3699 (225) 292-1004 Fax Fax e-Mail Address e-Mall Address Sample Description Matrix # Bottles Hold No. Date Pres. A MW-6S 5 10 Sampler(s) Please Print & Sign **Shipment Method** Required Turnaround Time: (Check Box) Results Due Date: (Cu Ju Cooler ID Relinquished by: QC Package: (Check One Box Below) Checked by (Laboratory): roam Logged by (Laboratory): Time: QC Level STD Other: Preservative Key: 1-HCl 2-HNO₃ 3-H2SO4 4-NaOH 5-Na,S,O, 6-NaHSO4 7-Other 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.

2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.

3. The Chain of Custody is a legal document. All information must be completed accurately.





10450 Stancliff Rd. Suite 210 Houston, TX 77099 T: +1 281 530 5656 F: +1 281 530 5887 www.alsglobal.com

September 25, 2015

Tim Ratchford ARCADIS U.S., Inc. 10352 Plaza Americana Drive Baton Rouge, LA 70816

Work Order: HS15090767

Laboratory Results for: Brickhland NM Semi Annual GW Sampling

Dear Tim,

ALS Environmental received 5 sample(s) on Sep 17, 2015 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: Dayna.Fisher Dane J. Wacasey

| ALS Group USA, Co | orp |
|-------------------|-----|
|-------------------|-----|

| Client: Project: Work Order: | ARCADIS U.S., Inc. Brickhland NM Semi Ann HS15090767 | ual GW Sampling | | | SAMPLE SUMI | MARY |
|------------------------------------|------------------------------------------------------------|-----------------|-------|-------------------|-------------------|------|
| Lab Samp ID | Client Sample ID | Matrix | TagNo | Collection Date | Date Received | Hold |
| HS15090767-01 | MW-8 | Water | | 16-Sep-2015 08:35 | 17-Sep-2015 08:34 | |
| HS15090767-02 | FD091615 | Water | | 16-Sep-2015 00:00 | 17-Sep-2015 08:34 | |
| HS15090767-03 | FB091615 | Water | | 16-Sep-2015 08:50 | 17-Sep-2015 08:34 | |
| HS15090767-04 | EB091615 | Water | | 16-Sep-2015 09:00 | 17-Sep-2015 08:34 | |
| HS15090767-05 | MW-10 | Water | | 16-Sep-2015 09:40 | 17-Sep-2015 08:34 | |

25-Sep-15

Date:

ALS Group USA, Corp

Date: 25-Sep-15

Client:

ARCADIS U.S., Inc.

CASE NARRATIVE

Project:

Brickhland NM Semi Annual GW Sampling

Work Order: HS15090767

GCMS Semivolatiles by Method SW8270

Batch ID: 97340

Sample ID: LCS-97340

• Insufficient sample received to perform MS/MSD. LCS/LCSD provided as batch quality control.

• The RPD between the LCS and LCSD was outside of the control limit for surrogate Nitrobenzene-d5.

GCMS Volatiles by Method SW8260

Batch ID: R261693

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

ANALYTICAL REPORT

lient:

ARCADIS U.S., Inc.

Brickhland NM Semi Annual GW Sampling

WorkOrder:HS15090767

Project: Sample ID:

MW-8

WorkOrder:HS15090767 Lab ID:HS15090767-01

Collection Date: 16-Sep-2015 08:35 Matrix:Water

DILUTION DATE REPORT **ANALYSES RESULT QUAL** UNITS **FACTOR ANALYZED** LIMIT **LOW-LEVEL PAHS - 8270D** Method:SW8270 Prep:SW3511 / 22-Sep-2015 Analyst: LG 0.463 Acenaphthene 0.101 ug/L 1 23-Sep-2015 17:02 Acenaphthylene 0.164 0.101 23-Sep-2015 17:02 ug/L 1 < 0.101 Anthracene 0.101 23-Sep-2015 17:02 ug/L Benz(a)anthracene < 0.101 0.101 ug/L 23-Sep-2015 17:02 < 0.101 Benzo(a)pyrene 0.101 23-Sep-2015 17:02 ug/L 1 < 0.101 Benzo(b)fluoranthene 0.101 ug/L 23-Sep-2015 17:02 Benzo(g,h,i)perylene < 0.101 0.101 ug/L 23-Sep-2015 17:02 Benzo(k)fluoranthene < 0.101 0.101 23-Sep-2015 17:02 ug/L < 0.101 Chrysene 0.101 ug/L 23-Sep-2015 17:02 < 0.101 Dibenz(a,h)anthracene 0.101 ug/L 23-Sep-2015 17:02 < 0.101 Fluoranthene 0.101 ug/L 23-Sep-2015 17:02 0.684 Fluorene 0.101 ug/L 23-Sep-2015 17:02 < 0.101 indeno(1,2,3-cd)pyrene 0.101 ug/L 23-Sep-2015 17:02 7.84 **Naphthalene** 0.101 ug/L 1 23-Sep-2015 17:02 0.572 Phenanthrene 0.101 ug/L 23-Sep-2015 17:02 ਾyrene < 0.101 0.101 ug/L 23-Sep-2015 17:02 urr: 2-Fluorobiphenyl 73.7 32-130 %REC 23-Sep-2015 17:02 Surr: 4-Terphenyl-d14 70.4 40-135 %REC 23-Sep-2015 17:02 1 Surr: Nitrobenzene-d5 118 45-142 %REC 1 23-Sep-2015 17:02 **LOW LEVEL VOLATILES BY SW8260C** Method:SW8260 Analyst: AKP 2,400 Benzene 100 100 22-Sep-2015 19:52 ug/L Surr. 1.2-Dichloroethane-d4 104 71-125 %REC 100 22-Sep-2015 19:52 Surr: 4-Bromofluorobenzene 97.8 70-125 %REC 22-Sep-2015 19:52 100 Surr: Dibromofluoromethane 105 74-125 %REC 100 22-Sep-2015 19:52 Surr: Toluene-d8 99.2 75-125 %REC 100 22-Sep-2015 19:52

ote: See Qualifiers Page for a list of qualifiers and their explanation.

lient:

ARCADIS U.S., Inc.

roject:

Brickhland NM Semi Annual GW Sampling

Sample ID:

FD091615

Collection Date:

16-Sep-2015 00:00

ANALYTICAL REPORT

WorkOrder:HS15090767 Lab ID:HS15090767-02

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|------------------------|---------------|------|-------------------|-------------|--------------------|-------------------|
| LOW-LEVEL PAHS - 8270D | Method:SW8270 | | | Prep:SW3511 | / 22-Sep-2015 | Analyst: LG |
| Acenaphthene | 0.455 | | 0.101 | ug/L | 1 | 23-Sep-2015 15:42 |
| Acenaphthylene | 0.189 | | 0.101 | ug/L | 1 | 23-Sep-2015 15:42 |
| Anthracene | < 0.101 | | 0.101 | ug/L | 1 | 23-Sep-2015 15:42 |
| Benz(a)anthracene | < 0.101 | | 0.10 1 | ug/L | 1 | 23-Sep-2015 15:42 |
| Benzo(a)pyrene | < 0.101 | | 0.101 | ug/L | 1 | 23-Sep-2015 15:42 |
| Benzo(b)fluoranthene | < 0.101 | | 0.101 | ug/L | 1 | 23-Sep-2015 15:42 |
| Benzo(g,h,i)perylene | < 0.101 | | 0.101 | ug/L | 1 | 23-Sep-2015 15:42 |
| Benzo(k)fluoranthene | < 0.101 | | 0.101 | ug/L | 1 | 23-Sep-2015 15:42 |
| Chrysene | < 0.101 | | 0.101 | ug/L | 1 | 23-Sep-2015 15:42 |
| Dibenz(a,h)anthracene | < 0.101 | | 0.101 | ug/L | 1 | 23-Sep-2015 15:42 |
| Fluoranthene | < 0.101 | | 0.101 | ug/L | 1 | 23-Sep-2015 15:42 |
| Fluorene | 0.682 | | 0.101 | ug/L | 1 | 23-Sep-2015 15:42 |
| indeno(1,2,3-cd)pyrene | < 0.101 | | 0.101 | ug/L | 1 | 23-Sep-2015 15:42 |
| Naphthalene | 8.85 | | 0.101 | ug/L | 1 | 23-Sep-2015 15:42 |
| Phenanthrene | 0.566 | | 0.101 | ug/L | 1 | 23-Sep-2015 15:42 |
| yrene | < 0.101 | | 0.101 | ug/L | 1 | 23-Sep-2015 15:42 |
| лт. 2-Fluorobiphenyl | 68.9 | | 32-130 | %REC | 1 | 23-Sep-2015 15:42 |
| Surr: 4-Terphenyl-d14 | 70.7 | | 40-135 | %REC | 1 | 23-Sep-2015 15:42 |
| Surr: Nitrobenzene-d5 | 111 | | 45-142 | %REC | 1 | 23-Sep-2015 15:42 |

ANALYTICAL REPORT

`lient:

ARCADIS U.S., Inc.

roject:

Sample ID:

FB091615

Collection Date: 16-Sep-2015 08:50

Brickhland NM Semi Annual GW Sampling

WorkOrder:HS15090767 Lab ID:HS15090767-03

| ANALYSES | RESULT QUAL | | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED | |
|-----------------------------|-------------|---------------|-----------------|-------------|--------------------|-------------------|--|
| LOW-LEVEL PAHS - 8270D | | Method:SW8270 | | Prep:SW3511 | / 22-Sep-2015 | Analyst: LG | |
| Acenaphthene | < 0.102 | | 0.102 | ug/L | 1 | 23-Sep-2015 16:02 | |
| Acenaphthylene | < 0.102 | | 0.102 | ug/L | 1 | 23-Sep-2015 16:02 | |
| Anthracene | < 0.102 | | 0.102 | ug/L | 1 | 23-Sep-2015 16:02 | |
| Benz(a)anthracene | < 0.102 | | 0.102 | ug/L | 1 | 23-Sep-2015 16:02 | |
| Benzo(a)pyrene | < 0.102 | | 0.102 | ug/L | 1 | 23-Sep-2015 16:02 | |
| Benzo(b)fluoranthene | < 0.102 | | 0.102 | ug/L | 1 | 23-Sep-2015 16:02 | |
| Benzo(g,h,i)perylene | < 0.102 | | 0.102 | ug/L | 1 | 23-Sep-2015 16:02 | |
| Benzo(k)fluoranthene | < 0.102 | | 0.102 | ug/L | 1 | 23-Sep-2015 16:02 | |
| Chrysene | < 0.102 | | 0.102 | ug/L | 1 | 23-Sep-2015 16:02 | |
| Dibenz(a,h)anthracene | < 0.102 | | 0.102 | ug/L | 1 | 23-Sep-2015 16:02 | |
| Fluoranthene | < 0.102 | | 0.102 | ug/L | 1 | 23-Sep-2015 16:02 | |
| Fluorene | < 0.102 | | 0.102 | ug/L | 1 | 23-Sep-2015 16:02 | |
| Indeno(1,2,3-cd)pyrene | < 0.102 | | 0.102 | ug/L | 1 | 23-Sep-2015 16:02 | |
| Naphthalene | < 0.102 | | 0.102 | ug/L | 1 | 23-Sep-2015 16:02 | |
| Phenanthrene | < 0.102 | | 0.102 | ug/L | 1 | 23-Sep-2015 16:02 | |
| yrene° | < 0.102 | | 0.102 | ug/L | 1 | 23-Sep-2015 16:02 | |
| лт: 2-Fluorobiphenyl | 80.2 | | 32-130 | %REC | 1 | 23-Sep-2015 16:02 | |
| Surr: 4-Terphenyl-d14 | 86.0 | | 40-135 | %REC | 1 | 23-Sep-2015 16:02 | |
| Surr: Nitrobenzene-d5 | 81.9 | | 45-142 | %REC | 1 | 23-Sep-2015 16:02 | |
| LOW LEVEL VOLATILES BY SW | 8260C | Method:SW8260 | | | | Analyst: AKP | |
| Benzene | < 1.0 | | 1.0 | ug/L | 1 | 22-Sep-2015 17:13 | |
| Surr: 1,2-Dichloroethane-d4 | 101 | | 71-125 | %REC | 1 | 22-Sep-2015 17:13 | |
| Surr: 4-Bromofluorobenzene | 100 | | 70-125 | %REC | 1 | 22-Sep-2015 17:13 | |
| Surr. Dibromofluoromethane | 104 | | 74-125 | %REC | 1 | 22-Sep-2015 17:13 | |
| Surr: Toluene-d8 | 100 | | 75-125 | %REC | 1 | 22-Sep-2015 17:13 | |

lient:

ARCADIS U.S., Inc.

roject: Brickhland N

Brickhland NM Semi Annual GW Sampling

Sample ID: Collection Date: EB091615

16-Sep-2015 09:00

ANALYTICAL REPORT

WorkOrder:HS15090767 Lab ID:HS15090767-04

| ANALYSES | S RESULT QUAL | | REPORT LIMIT | UNITS | DILUTION | DATE ANALYZED |
|-----------------------------|---------------|---------------|-----------------|-------------|---------------|-------------------|
| LOW-LEVEL PAHS - 8270D | | Method:SW8270 | | Prep:SW3511 | / 22-Sep-2015 | Analyst: LG |
| Acenaphthene | < 0.102 | | 0.102 | ug/L | 1 | 23-Sep-2015 16:21 |
| Acenaphthylene | < 0.102 | | 0.102 | ug/L | 1 | 23-Sep-2015 16:21 |
| Anthracene | < 0.102 | | 0.102 | ug/L | 1 | 23-Sep-2015 16:21 |
| Benz(a)anthracene | < 0.102 | | 0.102 | ug/L | 1 | 23-Sep-2015 16:21 |
| Benzo(a)pyrene | < 0.102 | | 0.102 | ug/L | 1 | 23-Sep-2015 16:21 |
| Benzo(b)fluoranthene | < 0.102 | | 0.102 | ug/L | 1 | 23-Sep-2015 16:21 |
| Benzo(g,h,i)perylene | < 0.102 | | 0.102 | ug/L | 1 | 23-Sep-2015 16:21 |
| Benzo(k)fluoranthene | < 0.102 | | 0.102 | ug/L | 1 | 23-Sep-2015 16:21 |
| Chrysene | < 0.102 | | 0.102 | ug/L | 1 | 23-Sep-2015 16:21 |
| Dibenz(a,h)anthracene | < 0.102 | | 0.102 | ug/L | 1 | 23-Sep-2015 16:21 |
| Fluoranthene | < 0.102 | | 0.102 | ug/L | 1 | 23-Sep-2015 16:21 |
| Fluorene | < 0.102 | | 0.102 | ug/L | 1 | 23-Sep-2015 16:21 |
| Indeno(1,2,3-cd)pyrene | < 0.102 | | 0.102 | ug/L | 1 | 23-Sep-2015 16:21 |
| Naphthalene | < 0.102 | | 0.102 | ug/L | 1 | 23-Sep-2015 16:21 |
| Phenanthrene | 0.109 | | 0.102 | ug/L | 1 | 23-Sep-2015 16:21 |
| √vrene | < 0.102 | | 0.102 | ug/L | 1 | 23-Sep-2015 16:21 |
| urr: 2-Fluorobiphenyl | 87.9 | | 32-130 | %REC | 1 | 23-Sep-2015 16:21 |
| Surr: 4-Terphenyl-d14 | 85.2 | | 40-135 | %REC | 1 | 23-Sep-2015 16:21 |
| Surr: Nitrobenzene-d5 | 77.9 | | 45-142 | %REC | 1 | 23-Sep-2015 16:21 |
| LOW LEVEL VOLATILES BY SW | 8260C | Method:SW8260 | | | | Analyst: AKP |
| Benzene | < 1.0 | | 1.0 | ug/L | 1 | 22-Sep-2015 17:38 |
| Surr: 1,2-Dichloroethane-d4 | 102 | | 71-125 | %REC | 1 | 22-Sep-2015 17:38 |
| Surr: 4-Bromofluorobenzene | 98.8 | | 70-125 | %REC | 1 | 22-Sep-2015 17:38 |
| Surr: Dibromofluoromethane | 106 | | 74-125 | %REC | 1 | 22-Sep-2015 17:38 |
| Surr: Toluene-d8 | 99.9 | | 75-125 | %REC | 1 | 22-Sep-2015 17:38 |

ALS Group USA, Corp

Date: 25-Sep-15

`lient:

ARCADIS U.S., Inc.

₽roject:

Brickhland NM Semi Annual GW Sampling

Sample ID:

MW-10

Collection Date:

16-Sep-2015 09:40

ANALYTICAL REPORT

WorkOrder:HS15090767 Lab ID:HS15090767-05

| ANALYSES | RESULT QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|-----------------------------|----------------------|-----------------|-------|--------------------|-------------------|
| LOW LEVEL VOLATILES BY SW | /8260C Method:SW8260 | | | | Analyst: AKP |
| Benzene | < 1.0 | 1.0 | ug/L | 1 | 22-Sep-2015 19:24 |
| Surr. 1,2-Dichloroethane-d4 | 104 | 71-125 | %REC | 1 | 22-Sep-2015 19:24 |
| Surr: 4-Bromofluorobenzene | 101 | 70-125 | %REC | 1 | 22-Sep-2015 19:24 |
| Surr: Dibromofluoromethane | 104 | 74-125 | %REC | 1 | 22-Sep-2015 19:24 |
| Surr: Toluene-d8 | 100 | 75-12 5 | %REC | 1 | 22-Sep-2015 19:24 |

WEIGHT LOG

ient:

ARCADIS U.S., Inc.

. roject:

Brickhland NM Semi Annual GW Sampling

WorkOrder: HS15090767

| Batch ID: 97340 | Method | : LOW-LE | VEL PAHS - | 8270D | Prep: 3511_PAH | |
|-----------------|-----------|------------------|-----------------|----------------|----------------|--|
| SamplD | Container | Sample Wt/Vol | Final Volume | Prep Factor | | |
| HS15090767-01 | 1 | 32.83 | 2 (mL) | 0.06092 | | |
| HS15090767-02 | 1 | 32.57 | 2 (mL) | 0.06141 | | |
| HS15090767-03 | 1 | 32.35 | 2 (mL) | 0.06182 | | |
| HS15090767-04 | 1 | 32.35 | 2 (mL) | 0.06182 | | |

DATES REPORT

ALS Group USA, Corp

Client:

ARCADIS U.S., Inc.

Project:

Brickhland NM Semi Annual GW Sampling

WorkOrder: HS15090767

| Sample ID | | Client San | np ID | Collection Date | TCLP Date | Prep Date | Analysis Date | DF |
|-----------|-------|------------|-------------|------------------------|--------------|-------------------|-------------------|-----|
| Batch ID | 97340 | | Test Name : | LOW-LEVEL PAHS - 82 | 270D | Matrix: V | Vater | |
| HS1509076 | 67-01 | MW-8 | | 16 Sep 2015 08:35 | | 22 Sep 2015 09:39 | 23 Sep 2015 17:02 | 1 |
| 181509076 | 67-02 | FD091615 | | 16 Sep 2015 00:00 | | 22 Sep 2015 09:39 | 23 Sep 2015 15:42 | 1 |
| HS1509076 | 67-03 | FB091615 | | 16 Sep 2015 08:50 | | 22 Sep 2015 09:39 | 23 Sep 2015 16:02 | 1 |
| HS1509076 | 67-04 | EB091615 | | 16 Sep 2015 09:00 | | 22 Sep 2015 09:39 | 23 Sep 2015 16:21 | 1 |
| Batch ID | R2616 | 93 | Test Name : | LOW LEVEL VOLATILE | S BY SW8260C | Matrix: V | Vater | |
| 151509076 | 67-01 | MW-8 | | 16 Sep 2015 08:35 | | | 22 Sep 2015 19:52 | 100 |
| 181509076 | 67-03 | FB091615 | | 16 Sep 2015 08:50 | | | 22 Sep 2015 17:13 | 1 |
| 181509076 | 67-04 | EB091615 | | 16 Sep 2015 09:00 | | | 22 Sep 2015 17:38 | 1 |
| HS1509076 | 67-05 | MW-10 | | 16 Sep 2015 09:40 | | | 22 Sep 2015 19:24 | 1 |

QC BATCH REPORT

Client:

ARCADIS U.S., Inc.

Project:

Brickhland NM Semi Annual GW Sampling

WorkOrder:

HS15090767

Batch ID: 97340 Instrument: SV-8 Method: SW8270

| MBLK | Sample ID: | MBLK-97340 | | Units: | ug/L | Ana | alysis Date: | 23-Sep-2015 | 14:56 | |
|----------------------|-------------|------------|---------------------|---------|------------------|---------|------------------|------------------|-----------------------------------------|------------------|
| Client ID: | | Ru | n ID: SV-6 _ | 261767 | SeqNo: | 3433690 | PrepDate: | 22-Sep-2015 | DF | :1 |
| Analyte | | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qua |
| Acenaphthene | | < 0.100 | 0.100 | | | | | | | |
| Acenaphthylene | | < 0.100 | 0.100 | | | | | | *************************************** | |
| Anthracene | | < 0.100 | 0.100 | | | | | | | |
| Benz(a)anthracene | | < 0.100 | 0.100 | | | | | | | |
| Benzo(a)pyrene | | < 0.100 | 0.100 | | | | - | | | |
| Benzo(b)fluoranthene | e | < 0.100 | 0.100 | | | | | | | |
| Benzo(g,h,i)perylene | | < 0.100 | 0.100 | | | | | | | |
| Benzo(k)fluoranthene | | < 0.100 | 0.100 | | | | | | | |
| Chrysene | | < 0.100 | 0.100 | | | | | | | |
| Dibenz(a,h)anthracer | ne | < 0.100 | 0.100 | | | | | | | |
| Fluoranthene | | < 0.100 | 0.100 | | | | | | | |
| Fluorene | | < 0.100 | 0.100 | | | | | | | |
| Indeno(1,2,3-cd)pyre | ne | < 0.100 | 0.100 | | | | | | | |
| Naphthalene | | < 0.100 | 0.100 | | | | | | | |
| Phenanthrene | | < 0.100 | 0.100 | | | | | | | |
| Pyrene | | < 0.100 | 0.100 | | | | | | | |
| Surr: 2-Fluorobiphen | yl | 2.289 | 0.100 | 3.03 | 0 | 75.6 | 32 - 130 | | | |
| Surr: 4-Terphenyl-d1 | 4 | 2.719 | 0.100 | 3.03 | 0 | 89.7 | 40 - 135 | | | |
| Surr: Nitrobenzene-d | 15 | 2.252 | 0.100 | 3.03 | 0 | 74.3 | 45 - 142 | | | |

QC BATCH REPORT

Method: SW8270

Client:

ARCADIS U.S., Inc.

Project:

Brickhland NM Semi Annual GW Sampling

Instrument:

WorkOrder:

Batch ID: 97340

HS15090767

SV-6

| LCS Samp | ole ID: LCS-97340 | | Units: | ug/L | Ana | alysis Date: | 23-Sep-2015 | 14:17 | |
|------------------------|-------------------|-------------|----------|------------------|---------|------------------|------------------|-----------------------------------------|------------------|
| Client ID: | | Run ID: SV- | 6_261767 | SeqNo: 3 | 3433688 | PrepDate: | 22-Sep-2015 | DF | :1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qua |
| Acenaphthene | 2.907 | 0.100 | 3.03 | 0 | 95.9 | 40 - 140 | | | |
| Acenaphthylene | 3.01 | 0.100 | 3.03 | 0 | 99.3 | 40 - 140 | | *************************************** | |
| Anthracene | 3.462 | 0.100 | 3.03 | 0 | 114 | 40 - 140 | | | |
| Benz(a)anthracene | 2.596 | 0.100 | 3.03 | 0 | 85.7 | 40 - 140 | | | |
| Benzo(a)pyrene | 2.297 | 0.100 | 3.03 | 0 | 75.8 | 40 - 140 | | | |
| Benzo(b)fluoranthene | 1.995 | 0.100 | 3.03 | 0 | 65.9 | 40 - 140 | | | |
| Benzo(g,h,i)perylene | 1.962 | 0.100 | 3.03 | 0 | 64.7 | 40 - 140 | | | |
| Benzo(k)fluoranthene | 2.498 | 0.100 | 3.03 | 0 | 82.4 | 40 - 140 | | | |
| Chrysene | 2.753 | 0.100 | 3.03 | 0 | 90.9 | 40 - 140 | | | |
| Dibenz(a,h)anthracene | 2.039 | 0.100 | 3.03 | 0 | 67.3 | 40 - 140 | | *************************************** | |
| Fluoranthene | 2.877 | 0.100 | 3.03 | 0 | 95.0 | 40 - 140 | | | |
| Fluorene | 2.813 | 0.100 | 3.03 | 0 | 92.8 | 40 - 140 | | | |
| Indeno(1,2,3-cd)pyrene | 2.248 | 0.100 | 3.03 | 0 | 74.2 | 40 - 140 | | | |
| Naphthalene | 2.638 | 0.100 | 3.03 | 0 | 87.1 | 40 - 140 | | | |
| Phenanthrene | 2.848 | 0.100 | 3.03 | 0 | 94.0 | 40 - 140 | | | |
| Pyrene | 2.709 | 0.100 | 3.03 | 0 | 89.4 | 40 - 140 | | | |
| Surr: 2-Fluorobiphenyl | 2.811 | 0.100 | 3.03 | 0 | 92.8 | 32 - 130 | | | |
| Surr: 4-Terphenyl-d14 | 2.616 | 0.100 | 3.03 | 0 | 86.3 | 40 - 135 | | | |
| Surr: Nitrobenzene-d5 | 2.102 | 0.100 | 3.03 | 0 | 69.4 | 45 - 142 | | | |

QC BATCH REPORT

Client:

ARCADIS U.S., Inc.

Project:

Brickhland NM Semi Annual GW Sampling

WorkOrder:

HS15090767

Batch ID: 97340 Instrument: SV-6 Method: SW8270

| LCSD S | ample ID: | LCSD-97340 | | Units: | ug/L | Ana | alysis Date: | 23-Sep-2015 | 14:37 | |
|------------------------|-------------|-----------------------|-----------------------|-------------|------------------|-----------|------------------|--------------|-------------|-----------------|
| Client ID: | | R | Run ID: SV-6 _ | 261767 | SeqNo: 3 | 433689 | PrepDate: | 22-Sep-2015 | DF: 1 | ı |
| Analyte | | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | | R %RPD L | RPD imit Qua |
| Acenaphthene | | 2.695 | 0.100 | 3.03 | 0 | 88.9 | 40 - 140 | 2.907 | 7.59 | 25 |
| Acenaphthylene | | 2.918 | 0.100 | 3.03 | 0 | 96.3 | 40 - 140 | 3.01 | 3.1 | 25 |
| Anthracene | | 3.193 | 0.100 | 3.03 | 0 | 105 | 40 - 140 | 3.462 | 8.08 | 25 |
| Benz(a)anthracene | | 2.452 | 0.100 | 3.03 | 0 | 80.9 | 40 - 140 | 2.596 | 5.7 | 25 |
| Benzo(a)pyrene | | 2.242 | 0.100 | 3.03 | 0 | 74.0 | 40 - 140 | 2.297 | 2.42 | 25 |
| Benzo(b)fluoranthene | | 2.119 | 0.100 | 3.03 | 0 | 69.9 | 40 - 140 | 1.995 | 6 | 25 |
| Benzo(g,h,i)perylene | | 2 | 0.100 | 3.03 | 0 | 66.0 | 40 - 140 | 1.962 | 1.92 | 25 |
| Benzo(k)fluoranthene | | 2.484 | 0.100 | 3.03 | 0 | 82.0 | 40 - 140 | 2.498 | 0.545 | 25 |
| Chrysene | | 2.47 | 0.100 | 3.03 | 0 | 81.5 | 40 - 140 | 2.753 | 10.9 | 25 |
| Dibenz(a,h)anthracen | е | 2.07 | 0.100 | 3.03 | 0 | 68.3 | 40 - 140 | 2.039 | 1.54 | 25 |
| Fluoranthene | | 2.704 | 0.100 | 3.03 | 0 | 89.2 | 40 - 140 | 2.877 | 6.2 | 25 |
| Fluorene | | 2.68 | 0.100 | 3.03 | 0 | 88.4 | 40 - 140 | 2.813 | 4.85 | 25 |
| Indeno(1,2,3-cd)pyrer | ne | 2.293 | 0.100 | 3.03 | 0 | 75.7 | 40 - 140 | 2.248 | 1.98 | 25 |
| Naphthalene | | 2.757 | 0.100 | 3.03 | 0 | 91.0 | 40 - 140 | 2.638 | 4.42 | 25 |
| Phenanthrene | | 2.884 | 0.100 | 3.03 | 0 | 95.2 | 40 - 140 | 2.848 | 1.27 | 25 |
| Pyrene | | 2.348 | 0.100 | 3.03 | 0 | 77.5 | 40 - 140 | 2.709 | 14.3 | 25 |
| Surr: 2-Fluorobipheny | 1 | 2.256 | 0.100 | 3.03 | 0 | 74.5 | 32 - 130 | 2.811 | 21.9 | 25 |
| Surr: 4-Terphenyl-d14 | ı | 2.364 | 0.100 | 3.03 | 0 | 78.0 | 40 - 135 | 2.616 | 10.1 | 25 |
| Surr: Nitrobenzene-d | 5 | 2.735 | 0.100 | 3.03 | 0 | 90.3 | 45 - 142 | 2.102 | 26.2 | 25 |
| he following samples v | vere anavze | d in this batch: HS15 | 090767-01 | HS15090767- | 02 I | IS1509076 | 7-03 | HS15090767-0 | 4 | |

Client:

ARCADIS U.S., Inc.

Project:

Brickhland NM Semi Annual GW Sampling

WorkOrder:

HS15090767

QC BATCH REPORT

| Batch ID: R261693 | | instrumen | ıt: | VOA2 | | Metho | od: SW826 | 0 | | |
|-----------------------------|---------------|------------|-------|---------|------------------|---------|------------------|------------------|---------|-------------------|
| MBLK Sample ID: | VBLKW-150922 | | | Units: | ug/L | Ana | alysis Date: | 22-Sep-201 | 5 14:41 | |
| Client ID: | | Run ID: VC | DA2_2 | 61693 | SeqNo: 3 | 3432268 | PrepDate: | | DF | :1 |
| Analyte | Result | PQ | L | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qua |
| Benzene | < 1.0 | 1. | 0 | | | | | | - | |
| Surr: 1,2-Dichloroethane-d4 | 49.95 | 1. | 0 | 50 | 0 | 99.9 | 71 - 125 | | | |
| Surr: 4-Bromofluorobenzene | 49.99 | 1. | 0 | 50 | 0 | 100.0 | 70 - 125 | | | |
| Surr: Dibromofluoromethane | 51.39 | 1. | 0 | 50 | 0 | 103 | 74 - 125 | | | |
| Surr: Toluene-d8 | 49.16 | 1. | 0 | 50 | o | 98.3 | 75 - 125 | | | |
| LCS Sample ID: | VLCSW-150922 | | | Units: | ug/L | Ana | alysis Date: | 22-Sep-2015 | 5 13:51 | |
| Client ID: | | Run ID: VC |)A2_2 | 61693 | SeqNo: 3 | 432267 | PrepDate: | | DF | :1 |
| Analyte | Result | PQ | L | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qua |
| Benzene | 47.98 | 1. | 0 | 50 | 0 | 96.0 | 80 - 120 | | | |
| Surr: 1,2-Dichloroethane-d4 | 50.31 | 1. | 0 | 50 | 0 | 101 | 71 - 125 | | | |
| Surr: 4-Bromofluorobenzene | 50.11 | 1. | 0 | 50 | 0 | 100 | 70 - 125 | | | |
| Surr: Dibromofluoromethane | 49.63 | 1. | 0 | 50 | 0 | 99.3 | 74 - 125 | | | |
| Surr: Toluene-d8 | 48.82 | 1 | 0 | 50 | 0 | 97.6 | 75 - 125 | | | |
| MS Sample ID: | HS15090933-05 | AS | | Units: | ug/L | Ana | ılysis Date: | 22-Sep-2015 | 15:57 | |
| Client ID: | | Run ID: VC | A2_2 | 61693 | SeqNo: 3 | 432271 | PrepDate: | | DF | :1 |
| Analyte | Result | PQ | L | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qual |
| Benzene | 45.92 | 1.4 | 0 | 50 | 0 | 91.8 | 80 - 120 | | | |
| Surr: 1,2-Dichloroethane-d4 | 50.63 | 1.0 | 0 | 50 | 0 | 101 | 71 - 125 | | | |
| Surr: 4-Bromofluorobenzene | 49.99 | 1.0 | o | 50 | 0 | 100.0 | 70 - 125 | | | |
| Surr: Dibromofluoromethane | 48.47 | 1.0 | 0 | 50 | 0 | 96.9 | 74 - 125 | | | |
| Surr: Toluene-d8 | 49.2 | 1.0 | 0 | 50 | 0 | 98.4 | 75 - 125 | | | |

QC BATCH REPORT

Client:

ARCADIS U.S., Inc.

Project:

Brickhland NM Semi Annual GW Sampling

WorkOrder:

HS15090767

Batch ID: R261693 Instrument: VOA2 Method: SW8260

| MSD | Sample ID: | HS15090933-05MSD | | Units: | ug/L | Ana | ilysis Date: | 22-Sep-2015 | 16:23 | |
|----------------------|------------|------------------|--------|---------|------------------|--------|------------------|-------------|-------|-----------------|
| Client ID: | | Run ID | : VOA2 | _261693 | SeqNo: 3 | 432272 | PrepDate: | | DF: | 1 |
| Analyte | | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | , | | RPD Limit Qu |
| Benzene | | 45.05 | 1.0 | 50 | 0 | 90.1 | 80 - 120 | 45.92 | 1.9 | 1 20 |
| Surr: 1,2-Dichloroet | hane-d4 | 50.6 | 1.0 | 50 | 0 | 101 | 71 - 125 | 50.63 | 0.060 | 1 20 |
| Surr: 4-Bromofluoro | benzene | 50.51 | 1.0 | 50 | 0 | 101 | 70 - 125 | 49.99 | 1.0 | 3 20 |
| Surr: Dibromofluoro | methane | 49.24 | 1.0 | 50 | 0 | 98.5 | 74 - 125 | 48.47 | 1.5 | 3 20 |
| Surr: Toluene-d8 | | 48,99 | 1.0 | 50 | 0 | 98.0 | 75 - 125 | 49.2 | 0.41 | 7 20 |

Client:

µg/L

ARCADIS U.S., Inc.

Project:

Brickhland NM Semi Annual GW Sampling

WorkOrder:

HS15090767

Micrograms per Liter

QUALIFIERS, ACRONYMS, UNITS

| Qualifier | Description |
|---------------|---------------------------------------------------------------------------|
| * | Value exceeds Regulatory Limit |
| a | Not accredited |
| В | Analyte detected in the associated Method Blank above the Reporting Limit |
| E | Value above quantitation range |
| Н | Analyzed outside of Holding Time |
| J | Analyte detected below quantitation limit |
| M | Manually integrated, see raw data for justification |
| n | Not offered for accreditation |
| ND | Not Detected at the Reporting Limit |
| 0 | Sample amount is > 4 times amount spiked |
| P | Dual Column results percent difference > 40% |
| R | RPD above laboratory control limit |
| S | Spike Recovery outside laboratory control limits |
| U | Analyzed but not detected above the MDL/SDL |
| Acronym | Description |
| DCS | Detectability Check Study |
| DUP | Method Duplicate |
| LCS | Laboratory Control Sample |
| LCSD | Laboratory Control Sample Duplicate |
| MBLK | Method Blank |
| MDL | Method Detection Limit |
| MQL | Method Quantitation Limit |
| MS | Matrix Spike |
| MSD | Matrix Spike Duplicate |
| PDS | Post Digestion Spike |
| PQL | Practical Quantitaion Limit |
| SD | Serial Dilution |
| SDL | Sample Detection Limit |
| TRRP | Texas Risk Reduction Program |
| Unit Reported | Description |

CERTIFICATIONS, ACCREDITATIONS & LICENSES

Date: 25-Sep-15

| Agency | Number | Expire Date |
|-----------------|---------------------|-------------|
| Arkansas | 15-024-0 | 27-Mar-2016 |
| California | 2919 | 31-Jul-2016 |
| Dept of Defense | L2231 Rev 3-20-2014 | 22-Dec-2015 |
| Illinois | 003622 | 09-May-2016 |
| Kansas | E-10352 2014-2015 | 30-Sep-2015 |
| Kentucky | KY 2015-2016 | 30-Apr-2016 |
| Louisiana | 03087 2015/2016 | 30-Jun-2016 |
| North Carolina | 624 - 2015 | 31-Dec-2015 |
| Oklahoma | 2015-047 | 31-Aug-2016 |
| Texas | T104704231-15-15 | 30-Apr-2016 |

Date:

25-Sep-15

Client:

ARCADIS U.S., Inc.

Project:

Brickhland NM Semi Annual GW Sampling

Work Order:

HS15090767

SAMPLE TRACKING

| Lab Samp ID | Client Sample ID | Action | Date | Person | New Location |
|---------------|------------------|--------|----------------------|--------|--------------|
| HS15090767-01 | MW-8 | Login | 9/17/2015 6:56:49 PM | ВНН | VW-3 |
| HS15090767-01 | MW-8 | Login | 9/17/2015 6:56:49 PM | ВНН | TPH C2 |
| HS15090767-02 | FD091615 | Login | 9/17/2015 6:56:49 PM | ВНН | TPH C2 |
| HS15090767-03 | FB091615 | Login | 9/17/2015 6:56:49 PM | ₿HH | VW-3 |
| HS15090767-03 | FB091615 | Login | 9/17/2015 6:56:49 PM | ₿HH | TPH C2 |
| HS15090767-04 | EB091615 | Login | 9/17/2015 6:56:49 PM | ВНН | VW-3 |
| HS15090767-04 | EB091615 | Login | 9/17/2015 6:56:49 PM | внн | TPH C2 |
| HS15090767-05 | MW-10 | Login | 9/17/2015 6:56:49 PM | ВНН | VW-3 |
| | | | | | |

Sample Receipt Checklist Client Name: **ARCADIS-BATON ROUGE** Date/Time Received: 17-Sep-2015 08:34 Work Order: HS15090767 Received by: **RPG** Checklist completed by: Reviewed by: Baudelio Hernandez Dane J. Wacasey 22-Sep-2015 17-Sep-2015 eSignature Date eSignature Date Matrices: <u>Water</u> Carrier name: **FedEx** Shipping container/cooler in good condition? Yes 🔽 No Not Present Custody seals intact on shipping container/cooler? Yes No Not Present Custody seals intact on sample bottles? Yes No Not Present Chain of custody present? Yes No Chain of custody signed when relinquished and received? Yes 🔽 No Chain of custody agrees with sample labels? Yes No Samples in proper container/bottle? Yes No Sample containers intact? Yes No N/A 🔽 TX1005 solids received in hermetically sealed vials? Yes No Sufficient sample volume for indicated test? Yes 🔽 No All samples received within holding time? Yes 🗸 Nο Yes 🗸 Container/Temp Blank temperature in compliance? No IR#1 Temperature(s)/Thermometer(s): 3.1c / 3.0c u/c Cooler(s)/Kit(s): Foam Date/Time sample(s) sent to storage: 09/17/2015 19:00 Water - VOA vials have zero headspace? Yes 🗸 No VOA vials submitted No Water - pH acceptable upon receipt? Yes No N/A ~ Yes N/A pH adjusted? No pH adjusted by: Login Notes: 1 of 3 vials for EB091615 time=08:35, COC=09:00. Sample collection time was logged per COC Person Contacted: Client Contacted: Date Contacted: Contacted By: 0 Regarding: Comments: Corrective Action:



Cincinnati, OH +1 513 733 5336

Everett, WA +1 425 356 2600 Fort Collins, CO +1 970 490 1511

+1 616 399 6070

Holland, MI

Chain

Custody Form

HS15090767

Brickhland

ARCADIS U.S., Inc.

Page ___

COC ID: 131 014

| Enviro | nmental | | | | A Car | | LS Project | | | | | | | | | | | | 7 |
|-----------------------|--------------------------|----------------|-----------------------|----------|---------------------------|---------------|---------------|-----------------------------------------|-------------|-----------|---------|----------|------------------------|--------|--------------|---------|-----------------|-----------------------------------------|------|
| | Customer Informatio | ก | | | Projec | t Informat | | 100000000000000000000000000000000000000 | | | • | | | | # ### | a min i | FRI BIRI | 排形 情景 | |
| Purchase Order | LA003185 | | Projec | t Name | Brickt | land NM Se | emi Annual G | W Samp | A | 8260_L | L_W (8: | 260 Be | enzene | (Unpre | s.)) | | | | |
| Work Order | | | Project i | Number | LA00 | 3185 | | | | 8270_P | | | | | | | | | |
| Company Name | ARCADIS U.S., Inc. | | Bill To Co | ompany | ARC | DIS | | | С | | | | | | | | | | |
| Send Report To | Tim Ratchford | | linvo | ice Attn | Accounts Payable | | | D | | | | | | | | | | | |
| Address | 10352 Plaza American | a Drive | | Address | 630 Plaza Drive Suite 600 | | | E F | | | | | | | | | | | |
| City/State/Zip | Baton Rouge, LA 708 | 16 | City/Si | ate/Zip | Highl | ands Ranch | , CO 80129 | | G | | | | | | | | | | |
| Phone | (225) 292-1004 | | | Phone | | 471-3699 | | | н | | | | and an own property of | | | - | | , , , , , , , , , , , , , , , , , , , , | |
| Fax | (120) 102 (00) | | | Fax | | | | | 1 | | | | | | | | | | |
| e-Mail Address | | | e-Mail A | ddress | | | | | J | | | | | | | - | | *********** | |
| No. | Sample Description | | Date | 01 | ime | Matrix | Pres. | # Bottles | A | В | C | D | , E | F | G | Н, | A.I. | J | Hold |
| 1 MW | -8 | | 09161 | 508 | 35 | W | Y | 6 | X | X | | | | | | | | | |
| | 91615 | | | | | W | Y | 3 | | X | | | | | | | | | |
| 3 FBC | 291615 | | | 08 | SO | W | Y | 6 | X | X | | | | | | | | | |
| 4 EBC | 291615 | | | α | 200 | W | Y | 6 | X | X | | | | | | | | | |
| 5 MW | | | | ÖC | 140 | W | N | 3 | X | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | عر | Der | 1, | | | | | | | | | | | |
| 8 | | | | - | | | XXXII | M | | | | | | | | | | | |
| 9 | | | | | | - | | M | | | | | | | | | | | |
| 10 | V | 7 01. | | | | | 1 | | | | | _ | | | | | | | |
| Sampler(s) Please P | Hiexie2 \ | MIX | F | ment Met | Z X_ | Rec | quired Turnar | | 10 Notes | | | Other | | | | esults | Due Da | be: | |
| Relinquished by: | therrez | <u>विपालाड</u> | Time: | Recei | ved by: | | | | | | - | - | | | | | | | |
| Relinquished by: | | Date: | Time: | Rece | ved by (La | boratory): Co | 9/17/15 | 08:34 | Co | oolel (ID | | er Jeimp | . QC | Packag | e: (Chec | k One E | lox Belo | W) | · |
| Logged by (Laboratory | | Date: | Time: | | | boratory): | | ree na | Ŧα | m | 3 | -1 | _ c | C Leve | STO | 0 | | | |
| Preservative Key: | 1-HCl 2-HNO ₃ | 3-H,SO4 4-N | aOH 5-Na ₂ | 8.0. | -NaHSO | 4 7-Othe | er 8-4°C | 9-5035 | | | 22 | 47 | - 0 | ther: | | | | | |

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.

2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.

3. The Chain of Custody is a legal document. All information must be completed accurately.

Copyright 2011 by ALS Environmental.



Foam

09117115

TRK/ 8079 4509 6025

THU - 17 SEP 10:30A PRIORITY OVERNIGHT

XH SGRA

Foam

77099 IAH

Page 21 of 21



10450 Stancliff Rd. Suite 210 Houston, TX 77099 T: +1 281 530 5656 F: +1 281 530 5887 www.alsglobal.com

December 08, 2015

Tim Ratchford ARCADIS U.S., Inc. 10352 Plaza Americana Drive Baton Rouge, LA 70816

Work Order: **HS15120133**

Laboratory Results for: Brickland NM Semi Annual GW Sampling

Dear Tim,

ALS Environmental received 7 sample(s) on Dec 03, 2015 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: Jumoke.Lawal

Dane J. Wacasey

Date:

08-Dec-15

Client:

ARCADIS U.S., Inc.

| Project: Work Order: | Brickland NM Semi Ann HS15120133 | ual GW Sampling | | | SAMPLE SUMI | MARY |
|-------------------------|-------------------------------------|-----------------|-------|-------------------|-------------------|------|
| Lab Samp ID | Client Sample ID | Matrix | TagNo | Collection Date | Date Received | Hold |
| HS15120133-01 | MW-17 | Water | | 02-Dec-2015 09:40 | 03-Dec-2015 09:52 | |
| HS15120133-02 | FD120215 | Water | | 02-Dec-2015 00:00 | 03-Dec-2015 09:52 | |
| HS15120133-03 | MW-11 | Water | | 02-Dec-2015 10:30 | 03-Dec-2015 09:52 | |
| HS15120133-04 | MW-3S | Water | | 02-Dec-2015 13:40 | 03-Dec-2015 09:52 | |
| HS15120133-05 | FB120215 | Water | | 02-Dec-2015 13:50 | 03-Dec-2015 09:52 | |
| HS15120133-06 | MW-3D | Water | | 02-Dec-2015 14:25 | 03-Dec-2015 09:52 | |
| HS15120133-07 | EB120215 | Water | | 02-Dec-2015 14:35 | 03-Dec-2015 09:52 | |
| | | | | | | |

ALS Group USA, Corp

Date: 08-Dec-15

Client:

ARCADIS U.S., Inc.

CASE NARRATIVE

Project:

Brickland NM Semi Annual GW Sampling

Work Order: HS15120133

GCMS Volatiles by Method SW8260

Batch ID: R265808,R265887

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

lient:

ARCADIS U.S., Inc.

roject: Brickla
Sample ID: MW-1

Brickland NM Semi Annual GW Sampling MW-17

Collection Date:

02-Dec-2015 09:40

ANALYTICAL REPORT

WorkOrder:HS15120133 Lab ID:HS15120133-01

Matrix:Water

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|-----------------------------|--------|---------------|-----------------|-------|--------------------|-------------------|
| LOW LEVEL VOLATILES BY SW | V8260C | Method:SW8260 | | | | Analyst: AKP |
| Benzene | < 1.0 | | 1.0 | ug/L | 1 | 04-Dec-2015 20:05 |
| Surr: 1,2-Dichloroethane-d4 | 82.4 | | 71-125 | %REC | 1 | 04-Dec-2015 20:05 |
| Surr: 4-Bromofluorobenzene | 98.5 | | 70-125 | %REC | 1 | 04-Dec-2015 20:05 |
| Surr: Dibromofluoromethane | 101 | | 7 4 -125 | %REC | 1 | 04-Dec-2015 20:05 |
| Surr: Toluene-d8 | 100 | | 75-125 | %REC | 1 | 04-Dec-2015 20:05 |

Ite: See Qualifiers Page for a list of qualifiers and their explanation.

lient:

ARCADIS U.S., Inc.

roject: Sample ID: Brickland NM Semi Annual GW Sampling

FD120215

Collection Date:

02-Dec-2015 00:00

ANALYTICAL REPORT

WorkOrder:HS15120133 Lab ID:HS15120133-02

Matrix:Water

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|-----------------------------|--------|---------------|-----------------|-------|--------------------|-------------------|
| LOW LEVEL VOLATILES BY SW | 8260C | Method:SW8260 | | | | Analyst: AKP |
| Benzene | < 1.0 | | 1.0 | ug/L | 1 | 04-Dec-2015 20:30 |
| Surr: 1,2-Dichloroethane-d4 | 81.0 | | 71-125 | %REC | 1 | 04-Dec-2015 20:30 |
| Surr: 4-Bromofluorobenzene | 98.1 | | 70-125 | %REC | 1 | 04-Dec-2015 20:30 |
| Surr: Dibromofluoromethane | 101 | | 7 4 -125 | %REC | 1 | 04-Dec-2015 20:30 |
| Surr: Toluene-d8 | 99.6 | | 75-125 | %REC | 1 | 04-Dec-2015 20:30 |

te: See Qualifiers Page for a list of qualifiers and their explanation.

lient:

ARCADIS U.S., Inc.

~roject:

Brickland NM Semi Annual GW Sampling

Sample ID:

MW-11

Collection Date:

02-Dec-2015 10:30

ANALYTICAL REPORT

WorkOrder:HS15120133 Lab ID:HS15120133-03

Matrix:Water

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|-----------------------------|--------|---------------|-----------------|-------|--------------------|-------------------|
| LOW LEVEL VOLATILES BY SW | /8260C | Method:SW8260 | | | | Analyst: AKP |
| Benzene | < 1.0 | | 1.0 | ug/L | 1 | 04-Dec-2015 20:55 |
| Surr: 1,2-Dichloroethane-d4 | 80.3 | | 71-125 | %REC | 1 | 04-Dec-2015 20:55 |
| Surr: 4-Bromofluorobenzene | 99.5 | | 70-125 | %REC | 1 | 04-Dec-2015 20:55 |
| Surr: Dibromofluoromethane | 99.5 | | 7 4 -125 | %REC | 1 | 04-Dec-2015 20:55 |
| Surr: Toluene-d8 | 99.9 | | 75-125 | %REC | 1 | 04-Dec-2015 20:55 |

te: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: 08-Dec-15

lient:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual GW Sampling

Sample ID:

MW-3S

Collection Date: 02-Dec-2015 13:40

ANALYTICAL REPORT

WorkOrder:HS15120133 Lab ID:HS15120133-04

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|-----------------------------|--------|---------------|-----------------|-------|--------------------|-------------------|
| LOW LEVEL VOLATILES BY SV | V8260C | Method:SW8260 | | | | Analyst: AKP |
| Benzene | < 1.0 | | 1.0 | ug/L | 1 | 04-Dec-2015 21:20 |
| Surr: 1,2-Dichloroethane-d4 | 84.4 | | 71-125 | %REC | 1 | 04-Dec-2015 21:20 |
| Surr: 4-Bromofluorobenzene | 97.3 | | 70-125 | %REC | 1 | 04-Dec-2015 21:20 |
| Surr: Dibromofluoromethane | 103 | | 7 4 -125 | %REC | 1 | 04-Dec-2015 21:20 |
| Surr: Toluene-d8 | 99.5 | | 75-125 | %REC | 1 | 04-Dec-2015 21:20 |

te: See Qualifiers Page for a list of qualifiers and their explanation.

LOW LEVEL VOLATILES BY SW8260C

Surr: 1,2-Dichloroethane-d4

Surr: 4-Bromofluorobenzene

Surr: Dibromofluoromethane

Date: 08-Dec-15

04-Dec-2015 19:40

04-Dec-2015 19:40

04-Dec-2015 19:40

ANALYTICAL REPORT

lient:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual GW Sampling

Method:SW8260

70-125

74-125

75-125

Sample ID:

ANALYSES

Surr: Toluene-d8

Benzene

FB120215

Lab ID:HS15120133-05 Matrix:Water

WorkOrder:HS15120133

Collection Date:

02-Dec-2015 13:50

RESULT QUAL

< 1.0

82.8

96.9

98.9

100

DILUTION DATE REPORT UNITS **FACTOR** ANALYZED LIMIT Analyst: AKP 1.0 ug/L 1 04-Dec-2015 19:40 71-125 04-Dec-2015 19:40 %REC 1

1

1

1

%REC

%REC

%REC

te: See Qualifiers Page for a list of qualifiers and their explanation.

lient:

ARCADIS U.S., Inc.

Brickland NM Semi Annual GW Sampling

WorkOrder:HS15120133

Project: Sample ID:

MW-3D

Lab ID:HS15120133-06

ANALYTICAL REPORT

Collection Date: 02-Dec-2015 14:25

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|-----------------------------|--------|---------------|-----------------|-------|--------------------|-------------------|
| LOW LEVEL VOLATILES BY SW | /8260C | Method:SW8260 | | | | Analyst: AKP |
| Benzene | < 1.0 | | 1.0 | ug/L | 1 | 05-Dec-2015 04:27 |
| Surr: 1,2-Dichloroethane-d4 | 88.2 | | 71-125 | %REC | 1 | 05-Dec-2015 04:27 |
| Surr. 4-Bromofluorobenzene | 97.4 | | 70-125 | %REC | 1 | 05-Dec-2015 04:27 |
| Surr: Dibromofluoromethane | 103 | | 7 4 -125 | %REC | 1 | 05-Dec-2015 04:27 |
| Surr: Toluene-d8 | 98.8 | | 75-125 | %REC | 1 | 05-Dec-2015 04:27 |

'lient: ARCADIS U.S., Inc.

Project: Brickland NM Semi Annual GW Sampling

Sample ID: EB120215

Collection Date: 02-Dec-2015 14:35

ANALYTICAL REPORT

WorkOrder:HS15120133 Lab ID:HS15120133-07

Matrix:Water

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|-----------------------------|--------|---------------|-----------------|-------|--------------------|-------------------|
| LOW LEVEL VOLATILES BY SW | /8260C | Method:SW8260 | | | | Analyst: AKP |
| Benzene | < 1.0 | | 1.0 | ug/L | 1 | 05-Dec-2015 04:02 |
| Surr: 1,2-Dichloroethane-d4 | 86.3 | | 71-125 | %REC | 1 | 05-Dec-2015 04:02 |
| Surr: 4-Bromofluorobenzene | 99.7 | | 70-125 | %REC | 1 | 05-Dec-2015 04:02 |
| Surr: Dibromofluoromethane | 102 | | 74-125 | %REC | 1 | 05-Dec-2015 04:02 |
| Surr: Toluene-d8 | 100 | | 75-125 | %REC | 1 | 05-Dec-2015 04:02 |

te: See Qualifiers Page for a list of qualifiers and their explanation.

Client: ARCADIS U.S., Inc.

Project: Brickland NM Semi Annual GW Sampling DATES REPORT

Date: 08-Dec-15

WorkOrder: HS15120133

| Sample ID | Client Sam | p ID Collection Date | TCLP Date | Prep Date | Analysis Date | DF |
|---------------|------------|--------------------------------|------------|-----------|-------------------|----|
| Batch ID R265 | 808 | Test Name: LOW LEVEL VOLATILES | BY SW8260C | Matri | x: Water | |
| HS15120133-01 | MW-17 | 02 Dec 2015 09:40 | | | 04 Dec 2015 20:05 | 1 |
| 1815120133-02 | FD120215 | 02 Dec 2015 00:00 | | | 04 Dec 2015 20:30 | 1 |
| HS15120133-03 | MW-11 | 02 Dec 2015 10:30 | | | 04 Dec 2015 20:55 | 1 |
| HS15120133-04 | MW-3S | 02 Dec 2015 13:40 | | | 04 Dec 2015 21:20 | 1 |
| HS15120133-05 | FB120215 | 02 Dec 2015 13:50 | | | 04 Dec 2015 19:40 | 1 |
| Batch ID R265 | 887 | Test Name: LOW LEVEL VOLATILES | BY SW8260C | Matri | x: Water | |
| HS15120133-06 | MW-3D | 02 Dec 2015 14:25 | | | 05 Dec 2015 04:27 | 1 |
| HS15120133-07 | EB120215 | 02 Dec 2015 14:35 | | | 05 Dec 2015 04:02 | 1 |

QC BATCH REPORT

Client:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual GW Sampling

WorkOrder:

Surr: Toluene-d8

HS15120133

| Batch ID: R265808 | | Instrument: | VOA2 | | Metho | od: SW 82 6 0 |) | |
|-----------------------------|-------------------------|-------------|----------|------------------|--------|-----------------------------|------------------|-----------------------|
| MBLK Sample II |): VBLKW-151204 | | Units: | ug/L | Ana | alysis Date: | 04-Dec-201 | 5 11:30 |
| Client ID: | | Run ID: VOA | 2_265808 | SeqNo: 3 | 514731 | PrepDate: | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | RPD %RPD Limit Qua |
| Benzene | < 1.0 | 1.0 | | | | | | |
| Surr: 1,2-Dichloroethane-d4 | 41.16 | 1.0 | 50 | 0 | 82.3 | 71 - 125 | | |
| Surr: 4-Bromofluorobenzene | 49.58 | 1.0 | 50 | 0 | 99.2 | 70 - 125 | | |
| Surr: Dibromofluoromethane | 49.29 | 1.0 | 50 | 0 | 98.6 | 74 - 125 | | |
| Surr: Toluene-d8 | 50.88 | 1.0 | 50 | 0 | 102 | 75 - 125 | | |
| LCS Sample II | D: VLCSW-151204 | | Units: | ug/L | Ana | alysis Date: | 04-Dec-201 | 5 10:39 |
| Client ID: | | Run ID: VOA | 2_265808 | SeqNo: 3 | 514730 | PrepDate: | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | RPD %RPD Limit Qua |
| Benzene | 42.95 | 1.0 | 50 | 0 | 85.9 | 80 - 120 | | |
| Surr: 1,2-Dichloroethane-d4 | 39.99 | 1.0 | 50 | 0 | 80.0 | 71 - 125 | | |
| Surr: 4-Bromofluorobenzene | 50.02 | 1.0 | 50 | 0 | 100 | 70 - 125 | | |
| Surr: Dibromofluoromethane | 48.38 | 1.0 | 50 | 0 | 96.8 | 74 - 125 | | |
| Surr: Toluene-d8 | 48.96 | 1.0 | 50 | 0 | 97.9 | 75 - 125 | | |
| MS Sample II | D: HS15120137-07 | MS | Units: | ug/L | Ana | alysis Date: | 04-Dec-201 | 5 13:10 |
| Client ID: | | Run ID: VOA | 2_265808 | SeqNo: 3 | 514843 | PrepDate: | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | RPD %RPD Limit Qua |
| Benzene | 44.32 | 1.0 | 50 | 0 | 88.6 | 80 - 120 | | |
| Surr: 1,2-Dichloroethane-d4 | 41.49 | 1.0 | 50 | 0 | 83.0 | 71 - 125 | | |
| Surr: 4-Bromofluorobenzene | 50.99 | 1.0 | 50 | 0 | 102 | 70 - 125 | | |
| Surr: Dibromofluoromethane | 49.24 | 1.0 | 50 | 0 | 98.5 | 74 - 125 | | |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

50

0

97.6

1.0

48.82

75 - 125

QC BATCH REPORT

Client:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual GW Sampling

WorkOrder:

HS15120133

| Batch ID: | R265808 | Instrument: | VOA2 | Method: | SW8260 |
|-----------|----------|-------------|------|----------|---------|
| Dater ID. | 14200000 | mou dinent. | 10/4 | micaloa. | 0110200 |

| MSD Sa | mple ID: | HS15120137-07MSD | | Units: | ug/L | Ana | ilysis Date: | 04-Dec-2015 | 13:35 |
|-------------------------|----------|------------------|-----|---------|------------------|------|------------------|-------------|----------------------|
| Client ID: | | Run ID: V | | _265808 | SeqNo: 3514844 | | PrepDate: | | DF: 1 |
| Analyte | | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | | RPD %RPD Limit Qu |
| Benzene | | 44.28 | 1.0 | 50 | 0 | 88.6 | 80 - 120 | 44.32 | 0.0984 20 |
| Surr: 1,2-Dichloroethar | ne-d4 | 43.11 | 1.0 | 50 | 0 | 86.2 | 71 - 125 | 41.49 | 3.82 20 |
| Surr: 4-Bromofluorobe | nzene | 50.02 | 1.0 | 50 | 0 | 100 | 70 - 125 | 50.99 | 1.92 20 |
| Surr. Dibromofluorome | thane | 48.72 | 1.0 | 50 | 0 | 97.4 | 74 - 125 | 49.24 | 1.07 20 |
| Surr: Toluene-d8 | | 48.17 | 1.0 | 50 | 0 | 96.3 | 75 - 125 | 48.82 | 1.34 20 |

The following samples were anayzed in this batch: HS15120133-01 HS15120133-02 HS15120133-03 HS15120133-04 HS15120133-05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

QC BATCH REPORT

Client:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual GW Sampling

WorkOrder:

HS15120133

Batch ID: R265887 Instrument: VOA2 Method: SW8260 MBLK Sample ID: VBLKW-151204 Units: ug/L Analysis Date: 04-Dec-2015 23:51 PrepDate: Client ID: Run ID: VOA2_265887 SeqNo: 3515760 DF: 1 **SPK Ref** Control RPD Ref **RPD** SPK Val %REC %RPD Limit Qual Analyte Result PQL Value Limit Value Benzene < 1.0 1.0 42.61 1.0 50 0 85.2 71 - 125 Surr. 1,2-Dichloroethane-d4 Surr. 4-Bromofluorobenzene 49.08 50 0 98.2 70 - 125 1.0 Surr. Dibromofluoromethane 52.25 1.0 50 n 104 74 - 125 50 Surr: Toluene-d8 49.68 1.0 0 99.4 75 - 125 LCS Analysis Date: 04-Dec-2015 23:01 Sample ID: VLCSW-151204 Units: ug/L Client ID: Run ID: VOA2_265887 SeqNo: 3515759 PrepDate: DF: 1 **SPK Ref** Control RPD Ref **RPD** %RPD Limit Qual PQL SPK Val Value %REC Limit Value **Analyte** Result 0 80 - 120 43.93 1.0 50 87.9 Benzene 71 - 125 41.88 1.0 50 0 83.8 Surr. 1,2-Dichloroethane-d4 49.72 50 0 99.4 70 - 125 Surr. 4-Bromofluorobenzene 1.0 Surr. Dibromofluoromethane 49.13 1.0 50 0 98.3 74 - 125 0 75 - 125 Surr. Toluene-d8 49.38 1.0 50 98.8 MS Sample ID: HS15120135-01MS Units: ug/L Analysis Date: 05-Dec-2015 01:31 SeqNo: 3515764 PrepDate: Client ID: Run ID: VOA2_265887 SPK Ref Control RPD Ref RPD **PQL** SPK Val Value %REC Limit Value %RPD Limit Qual Analyte Result Benzene 46.05 1.0 50 0 92.1 80 - 120 50 1.0 0 85.7 71 - 125 Surr. 1,2-Dichloroethane-d4 42.87 50 0 99.8 70 - 125 Surr: 4-Bromofluorobenzene 49.91 1.0

Note: See Qualifiers Page for a list of qualifiers and their explanation.

47.42

48.42

1.0

1.0

50

50

0

0

94.8

96.8

74 - 125

75 - 125

Surr. Dibromofluoromethane

Surr: Toluene-d8

Date: 08-Dec-15

QC BATCH REPORT

Client:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual GW Sampling

WorkOrder:

HS15120133

Batch ID: R265887 Instrument: VOA2 Method: SW8260

| MSD | Sample ID: | HS15120135-01MSD | | Units: | ıg/L | Ana | ilysis Date: | 05-Dec-2015 | 01:57 |
|--------------------|------------|------------------|---------|----------|------------------|--------|------------------|------------------|---------------------|
| Client ID: | | Run II | D: VOA2 | 2_265887 | SeqNo: 3 | 515765 | PrepDate: | | DF: 1 |
| Analyte | | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | RPD %RPD Limit Q |
| Benzene | | 43.43 | 1.0 | 50 | 0 | 86.9 | 80 - 120 | 46.05 | 5.85 20 |
| Surr: 1,2-Dichloro | ethane-d4 | 42.02 | 1.0 | 50 | 0 | 84.0 | 71 - 125 | 42.87 | 2 20 |
| Surr: 4-Bromofluo | robenzene | 50.49 | 1.0 | 50 | 0 | 101 | 70 - 125 | 49.91 | 1.15 20 |
| Surr: Dibromofluo | romethane | 47.11 | 1.0 | 50 | 0 | 94.2 | 74 - 125 | 47.42 | 0.664 20 |
| Surr: Toluene-d8 | | 49.68 | 1.0 | 50 | 0 | 99.4 | 75 - 125 | 48.42 | 2.58 20 |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client:

ARCADIS U.S., Inc.

Micrograms per Liter

Project:

μg/L

Brickland NM Semi Annual GW Sampling

WorkOrder: HS15120133

QUALIFIERS, ACRONYMS, UNITS

Date: 08-Dec-15

| Qualifier | Description |
|---------------|---------------------------------------------------------------------------|
| • | Value exceeds Regulatory Limit |
| a | Not accredited |
| В | Analyte detected in the associated Method Blank above the Reporting Limit |
| E | Value above quantitation range |
| Н | Analyzed outside of Holding Time |
| J | Analyte detected below quantitation limit |
| М | Manually integrated, see raw data for justification |
| n | Not offered for accreditation |
| ND | Not Detected at the Reporting Limit |
| 0 | Sample amount is > 4 times amount spiked |
| P | Dual Column results percent difference > 40% |
| R | RPD above laboratory control limit |
| s | Spike Recovery outside laboratory control limits |
| U | Analyzed but not detected above the MDL/SDL |
| Acronym | Description |
| DCS | Detectability Check Study |
| DUP | Method Duplicate |
| LCS | Laboratory Control Sample |
| LCSD | Laboratory Control Sample Duplicate |
| MBLK | Method Blank |
| MDL | Method Detection Limit |
| MQL | Method Quantitation Limit |
| MS | Matrix Spike |
| MSD | Matrix Spike Duplicate |
| PDS | Post Digestion Spike |
| PQL | Practical Quantitaion Limit |
| SD | Serial Dilution |
| SDL | Sample Detection Limit |
| TRRP | Texas Risk Reduction Program |
| Unit Reported | Description |
| | Missansana and the |

CERTIFICATIONS, ACCREDITATIONS & LICENSES

Date: 08-Dec-15

| Agency | Number | Expire Date |
|-----------------|---------------------|-------------|
| Arkansas | 15-024-0 | 27-Mar-2016 |
| California | 2919 | 31-Jul-2016 |
| Dept of Defense | L2231 Rev 3-20-2014 | 22-Dec-2015 |
| Illinois | 003622 | 09-May-2016 |
| Kansas | E-10352 2014-2015 | 31-Jan-2016 |
| Kentucky | KY 2015-2016 | 30-Apr-2016 |
| Louisiana | 03087 2015/2016 | 30-Jun-2016 |
| North Carolina | 624 - 2015 | 31-Dec-2015 |
| North Dakota | R-193 2015-2016 | 30-Apr-2016 |
| Oklahoma | 2015-047 | 31-Aug-2016 |
| Texas | T104704231-15-15 | 30-Apr-2016 |

Date: 08-Dec-15

ARCADIS U.S., Inc. Client:

Brickland NM Semi Annual GW Sampling SAMPLE TRACKING Project:

Work Order: HS15120133

| Lab Samp ID | Client Sample ID | Action | Date | Person | New Location |
|---------------|------------------|--------|----------------------|--------|--------------|
| HS15120133-01 | MW-17 | Login | 12/3/2015 6:11:00 PM | KRM | VW-3 |
| HS15120133-02 | FD120215 | Login | 12/3/2015 6:11:00 PM | KRM | VW-3 |
| HS15120133-03 | MW-11 | Login | 12/3/2015 6:11:00 PM | KRM | VW-3 |
| HS15120133-04 | MW-3S | Login | 12/3/2015 6:11:00 PM | KRM | VW-3 |
| HS15120133-05 | FB120215 | Login | 12/3/2015 6:11:00 PM | KRM | VW-3 |
| HS15120133-06 | MW-3D | Login | 12/3/2015 6:11:00 PM | KRM | VW-3 |
| HS15120133-07 | EB120215 | Login | 12/3/2015 6:11:00 PM | KRM | VW-3 |

Date: 08-Dec-15

| | | | | | | Sample Rec | eipt Checklist |
|--------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|--------------------|
| Client Name: | | S-BATON ROUGE | | | Time Received: | 03-Dec-2015 | 09:52 |
| Work Order: | HS15120 |)133 | | Rece | ived by: | ĴĴŢ | |
| Checklist comp | pleted by: | Krysta Mathis eSignature | 3-Dec-201 Date | Reviewed by: | Dane J. Wa | acasey | 7-Dec-2015 Date |
| Matrices: | WA | TER | · | Carrier name: | <u>FedEx</u> | • | |
| Custody seals Custody seals Chain of custo Chain of custo Chain of custo Samples in pro Sample contain TX1005 solids Sufficient samp | intact on s intact on s dy present dy signed v dy agrees v oper contain ners intact? received ir ple volume ceived with | when relinquished and reco with sample labels? ner/bottle? | | Yes V | No No <td< td=""><td>Not Present Not Present Not Present</td><td></td></td<> | Not Present Not Present Not Present | |
| Temperature(s | | neter(s): | | 3.1/3.3 U/C | | | 4 |
| Cooler(s)/Kit(s Date/Time sarr | • | t to storage: | | WHITE 12/03/15 19:00 | | | |
| | ials have z ceptable up | ero headspace? | | Yes Yes Yes | No I | No VOA vials subm | nitted |
| Login Notes: | | | | | | | _ |
| Client Contacte | ed: | | Date Contacted: | | Person Con | tacted: | |
| Contacted By: | 0 | | Regarding: | | | | |
| Comments: | | | | | | | |
| Corrective Acti | on: | | | | | | |

Cincinnati, OH +1 513 733 5336 Everett, WA +1 425 356 2600

Fort Collins, CO +1 970 490 1511 Holland, Mt +1 616 399 6070

Chain Custody Form

Page

HS15120133

N

ARCADIS U.S., Inc.

Brickland NM Semi Annual GW Sampling

coc ID: 136690 Environmental ALS Project Manager: MANAGE STE Project Information **Customer Information** LA003185 Brickland NM Semi Annual GW Sampl 8260 LL W (8260 Benzene (Unpres.)) Purchase Order **Project Name** Work Order LA003185 8270 PAH LVI **Project Number** C **ARCADIS** Company Name ARCADIS U.S., Inc. Bill To Company Accounts Payable Send Report To Tim Ratchford Involce Attn 630 Plaza Drive, Suite 600 10352 Plaza Americana Drive Address Address G City/State/Zip City/State/Zib Highlands Ranch, CO 80129 Baton Rouge, LA 70816 H Phone Phone (303) 471-3699 (225) 292-1004 Fax Fax e-Mail Address e-Mail Address No. Sample Description # Bottles Hold B C E F G H I NOD× 10 Required Turnsround Time: (Check Box) Regults Due Date: Shipment Method TAT 10 days Other Notes: IAGM Bookland NIMI QC Package: (Check One Box Below) QC Level STD Logged by (Laboratory): Other:

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.

4-NaOH

2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.

6-NaHSO

5-Na,S,O,

3. The Chain of Custody is a legal document. All information must be completed accurately.

3-H,8O.

2-HNO

Preservative Key: 1-HCI

Copyright 2011 by ALS Environmental.

7-Other

9-5035

TRK# 8063 1376 9560

THU - 03 DEC 10:30A PRIORITY OVERNIGHT

AB SGRA

77099 TX-US IAH

Page 21 of 21



10450 Stancliff Rd. Suite 210 Houston, TX 77099 T: +1 281 530 5656 F: +1 281 530 5887 www.alsglobal.com

December 09, 2015

Tim Ratchford ARCADIS U.S., Inc. 10352 Plaza Americana Drive Baton Rouge, LA 70816

Work Order: HS15120220

Laboratory Results for: Brickland NM Semi Annual GW Sampling

Dear Tim,

ALS Environmental received 6 sample(s) on Dec 04, 2015 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: Jumoke.Lawal

Dane J. Wacasey

Date:

09-Dec-15

Client:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual GW Sampling

SAMPLE SUMMARY

Work Order: HS15120220

| Lab Samp ID | Client Sample ID | Matrix | TagNo | Collection Date | Date Received | Hold |
|---------------|------------------|--------|-------|-------------------|-------------------|------|
| HS15120220-01 | MW-6S | Water | | 03-Dec-2015 08:55 | 04-Dec-2015 13:03 | |
| HS15120220-02 | MW- 6D | Water | | 03-Dec-2015 09:45 | 04-Dec-2015 13:03 | |
| HS15120220-03 | FB120315 | Water | | 03-Dec-2015 09:55 | 04-Dec-2015 13:03 | |
| HS15120220-04 | MW-9S | Water | | 03-Dec-2015 10:30 | 04-Dec-2015 13:03 | |
| HS15120220-05 | MW-5 | Water | | 03-Dec-2015 11:25 | 04-Dec-2015 13:03 | |
| HS15120220-06 | EB120315 | Water | | 03-Dec-2015 11:40 | 04-Dec-2015 13:03 | |
| | | | | | | |

Date: 09-Dec-15

Client:

ARCADIS U.S., Inc.

CASE NARRATIVE

Project:

Brickland NM Semi Annual GW Sampling

Work Order: HS15120220

GCMS Volatiles by Method SW8260

Batch ID: R265910,R265947

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Date: 09-Dec-15

lient:

ARCADIS U.S., Inc.

roject:

Brickland NM Semi Annual GW Sampling

Sample ID:

MW-6S

Collection Date:

03-Dec-2015 08:55

ANALYTICAL REPORT

WorkOrder:HS15120220 Lab ID:HS15120220-01

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|-----------------------------|--------|---------------|-----------------|-------|--------------------|-------------------|
| LOW LEVEL VOLATILES BY SW | /8260C | Method:SW8260 | | | | Analyst: AKP |
| Benzene | < 1.0 | | 1.0 | ug/L | 1 | 07-Dec-2015 16:47 |
| Surr: 1,2-Dichloroethane-d4 | 98.0 | | 71-125 | %REC | 1 | 07-Dec-2015 16:47 |
| Surr: 4-Bromofluorobenzene | 108 | | 70-125 | %REC | 1 | 07-Dec-2015 16:47 |
| Surr: Dibromofluoromethane | 98.3 | | 74-125 | %REC | 1 | 07-Dec-2015 16:47 |
| Surr: Toluene-d8 | 117 | | 75-125 | %REC | 1 | 07-Dec-2015 16:47 |

Date: 09-Dec-15

lient:

ARCADIS U.S., Inc.

roject:

Brickland NM Semi Annual GW Sampling

Sample ID:

MW-6D

Collection Date:

03-Dec-2015 09:45

ANALYTICAL REPORT

WorkOrder:HS15120220 Lab ID:HS15120220-02

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|-----------------------------|--------|---------------|-----------------|-------|--------------------|-------------------|
| LOW LEVEL VOLATILES BY SW | /8260C | Method:SW8260 | | | | Analyst: AKP |
| Benzene | < 1.0 | | 1.0 | ug/L | 1 | 07-Dec-2015 17:12 |
| Surr: 1,2-Dichloroethane-d4 | 101 | | 71-125 | %REC | 1 | 07-Dec-2015 17:12 |
| Surr: 4-Bromofluorobenzene | 106 | | 70-125 | %REC | 1 | 07-Dec-2015 17:12 |
| Surr: Dibromofluoromethane | 101 | | 74-125 | %REC | 1 | 07-Dec-2015 17:12 |
| Surr. Toluene-d8 | 118 | | 75-125 | %REC | 1 | 07-Dec-2015 17:12 |

Date: 09-Dec-15

lient:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual GW Sampling

Sample ID:

FB120315

Collection Date:

03-Dec-2015 09:55

ANALYTICAL REPORT

WorkOrder:HS15120220 Lab ID:HS15120220-03

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|-----------------------------|--------|---------------|-----------------|-------|--------------------|-------------------|
| LOW LEVEL VOLATILES BY SW | /8260C | Method:SW8260 | | | | Analyst: AKP |
| Benzene | < 1.0 | | 1.0 | ug/L | 1 | 07-Dec-2015 17:36 |
| Surr: 1,2-Dichloroethane-d4 | 96.8 | | 71-125 | %REC | 1 | 07-Dec-2015 17:36 |
| Surr: 4-Bromofluorobenzene | 106 | | 70-125 | %REC | 1 | 07-Dec-2015 17:36 |
| Surr: Dibromofluoromethane | 99.7 | | 74-125 | %REC | 1 | 07-Dec-2015 17:36 |
| Surr: Toluene-d8 | 118 | | <i>75-125</i> | %REC | 1 | 07-Dec-2015 17:36 |

Date: 09-Dec-15

`lient:

ARCADIS U.S., Inc.

roject:

Brickland NM Semi Annual GW Sampling

Sample ID:

MW-9S

Collection Date:

03-Dec-2015 10:30

ANALYTICAL REPORT

WorkOrder:HS15120220 Lab ID:HS15120220-04

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|-----------------------------|--------|---------------|-----------------|-------|--------------------|-------------------|
| LOW LEVEL VOLATILES BY SW | /8260C | Method:SW8260 | | | | Analyst: AKP |
| Benzene | < 1.0 | | 1.0 | ug/L | 1 | 07-Dec-2015 18:01 |
| Surr: 1,2-Dichloroethane-d4 | 100 | | 71-125 | %REC | 1 | 07-Dec-2015 18:01 |
| Surr: 4-Bromofluorobenzene | 104 | | 70-125 | %REC | 1 | 07-Dec-2015 18:01 |
| Surr: Dibromofluoromethane | 99.4 | | 7 4 -125 | %REC | 1 | 07-Dec-2015 18:01 |
| Surr: Toluene-d8 | 117 | | 75-125 | %REC | 1 | 07-Dec-2015 18:01 |

Date: 09-Dec-15

`lient:

ARCADIS U.S., Inc.

roject:

Brickland NM Semi Annual GW Sampling

Sample ID:

MW-5

Collection Date:

03-Dec-2015 11:25

ANALYTICAL REPORT

WorkOrder:HS15120220

Lab ID:HS15120220-05

| ANALYSES | RESULT QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|-----------------------------|---------------------|-----------------|-------|--------------------|-------------------|
| LOW LEVEL VOLATILES BY SW | 8260C Method:SW8260 | | | | Analyst: AKP |
| Benzene | 450 | 10 | ug/L | 10 | 07-Dec-2015 20:41 |
| Surr: 1,2-Dichloroethane-d4 | 84.7 | 71-125 | %REC | 10 | 07-Dec-2015 20:41 |
| Surr: 4-Bromofluorobenzene | 97.4 | 70-125 | %REC | 10 | 07-Dec-2015 20:41 |
| Surr: Dibromofluoromethane | 97.4 | 74-125 | %REC | 10 | 07-Dec-2015 20:41 |
| Surr: Toluene-d8 | 104 | 75-125 | %REC | 10 | 07-Dec-2015 20:41 |

Date: 09-Dec-15

lient: Project: ARCADIS U.S., Inc.

Brickland NM Semi Annual GW Sampling Sample ID:

EB120315

Collection Date:

03-Dec-2015 11:40

ANALYTICAL REPORT

WorkOrder:HS15120220 Lab ID:HS15120220-06

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|-----------------------------|--------|---------------|-----------------|-------|--------------------|-------------------|
| LOW LEVEL VOLATILES BY SW | /8260C | Method:SW8260 | | | | Analyst: AKP |
| Benzene | < 1.0 | | 1.0 | ug/L | 1 | 07-Dec-2015 18:27 |
| Surr: 1,2-Dichloroethane-d4 | 99.3 | | 71-125 | %REC | 1 | 07-Dec-2015 18:27 |
| Surr: 4-Bromofluorobenzene | 103 | | 70-125 | %REC | 1 | 07-Dec-2015 18:27 |
| Surr: Dibromofluoromethane | 97.0 | | 74-125 | %REC | 1 | 07-Dec-2015 18:27 |
| Surr: Toluene-d8 | 117 | | 75-12 5 | %REC | 1 | 07-Dec-2015 18:27 |

Date: 09-Dec-15

Client:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual GW Sampling

DATES REPORT

WorkOrder:

HS15120220

| Sample ID | | Client Sam | p ID Collection Date | TCLP Date | Prep Date | Analysis Date | DF |
|-----------|--------|------------|---------------------------|------------------|-----------|-------------------|----|
| Batch ID | R2659 | 10 | Test Name: LOW LEVEL VOLA | TILES BY SW8260C | Matri | x: Water | |
| HS1512022 | 20-05 | MW-5 | 03 Dec 2015 11 | :25 | | 07 Dec 2015 20:41 | 10 |
| Batch ID | R26594 | 47 | Test Name: LOW LEVEL VOLA | TILES BY SW8260C | Matri | x: Water | |
| HS1512022 | 20-01 | MW-6S | 03 Dec 2015 08 | :55 | | 07 Dec 2015 16:47 | 1 |
| HS1512022 | 20-02 | MW- 6D | 03 Dec 2015 09 | :45 | | 07 Dec 2015 17:12 | 1 |
| HS1512022 | 20-03 | FB120315 | 03 Dec 2015 09 | :55 | | 07 Dec 2015 17:36 | 1 |
| HS1512022 | 20-04 | MW-9S | 03 Dec 2015 10 | :30 | | 07 Dec 2015 18:01 | 1 |
| HS1512022 | 20-06 | EB120315 | 03 Dec 2015 11 | :40 | | 07 Dec 2015 18:27 | 1 |

Date: 09-Dec-15

QC BATCH REPORT

Client:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual GW Sampling

WorkOrder:

HS15120220

VOA2 Method: SW8260 Batch ID: R265910 Instrument: MBLK Units: ug/L Analysis Date: 07-Dec-2015 11:27 Sample ID: **VBLKW-151207** Run ID: VOA2_265910 SeqNo: 3516089 PrepDate: DE: 1 Client ID: SPK Ref RPD Ref RPD Control Analyte Result **PQL** SPK Val Value %REC Limit Value %RPD Limit Qual Benzene < 1.0 1.0 1.0 50 71 - 125 Surr: 1,2-Dichloroethane-d4 42.78 0 85.6 49.13 1.0 50 0 98.3 70 - 125 Surr: 4-Bromofluorobenzene Surr: Dibromofluoromethane 51.83 1.0 50 0 104 74 - 125 50.69 1.0 50 0 101 75 - 125 Surr: Toluene-d8 LCS Sample ID: VLCSW-151207 Units: ug/L Analysis Date: 07-Dec-2015 10:37 SeqNo: 3516088 Client ID: Run ID: VOA2_265910 PrepDate: SPK Ref RPD Ref **RPD** Control %RPD Limit Qual %REC PQI SPK Val Value Limit Analyte Result Value 50 0 89.4 80 - 120 Benzene 44.69 1.0 Surr: 1,2-Dichloroethane-d4 41.31 1.0 50 0 82.6 71 - 125 50 Surr: 4-Bromofluorobenzene 49.57 1.0 0 99.1 70 - 125 48.57 1.0 50 97.1 74 - 125 Surr. Dibromofluoromethane n Surr: Toluene-d8 48.85 1.0 50 0 97.7 75 - 125 MS Sample ID: HS15120238-01MS Units: ug/L Analysis Date: 07-Dec-2015 12:42 Client ID: Run ID: VOA2_265910 SeqNo: 3516128 PrepDate: SPK Ref Control RPD Ref **RPD PQL** SPK Val %REC %RPD Limit Qual Analyte Result Value Limit Value 43.57 1.0 50 0 87.1 80 - 120 Benzene 50 42.95 1.0 0 85.9 71 - 125 Surr: 1,2-Dichloroethane-d4 1.0 Surr: 4-Bromofluorobenzene 49.17 50 0 98.3 70 - 125 Surr: Dibromofluoromethane 49.79 1.0 50 0 99.6 74 - 125 Surr: Toluene-d8 49.04 1.0 50 0 98.1 75 - 125

Date: 09-Dec-15

QC BATCH REPORT

Client:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual GW Sampling

WorkOrder:

HS15120220

Batch ID: R265910 Instrument: VOA2 Method: SW8260

| MSD | Sample ID: | HS15120238-01MSD | | Units: | ug/L | Ana | lysis Date: | 07-Dec-2015 | 13:07 |
|---------------------|------------|------------------|------|---------|------------------|--------|------------------|-------------|----------------------|
| Client ID: | | Run ID: | VOA2 | _265910 | SeqNo: 3 | 516129 | PrepDate: | | DF: 1 |
| Analyte | | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | | RPD %RPD Limit Qu |
| Benzene | | 43.51 | 1.0 | 50 | 0 | 87.0 | 80 - 120 | 43.57 | 0.137 20 |
| Surr: 1,2-Dichloroe | thane-d4 | 4 2.71 | 1.0 | 50 | 0 | 85.4 | 71 - 125 | 42.95 | 0.576 20 |
| Surr: 4-Bromofluoro | obenzene | 50.14 | 1.0 | 50 | 0 | 100 | 70 - 125 | 49.17 | 1.94 20 |
| Surr: Dibromofluoro | methane | 47.25 | 1.0 | 50 | 0 | 94.5 | 74 - 125 | 49.79 | 5.24 20 |
| Surr: Toluene-d8 | | 49.09 | 1.0 | 50 | 0 | 98.2 | 75 - 125 | 49.04 | 0.0958 20 |

The following samples were analyzed in this batch: HS15120220-05

Client: ARCADIS U.S., Inc.

Project: Brickland NM Semi Annual GW Sampling

WorkOrder: HS15120220

QC BATCH REPORT

| Batch ID: R265947 | in | strument: | VOA4 | | Metho | od: SW8260 |) | |
|-----------------------------|-----------------|-----------|---------|------------------|--------|------------------|------------------|------------------------|
| MBLK Sample ID: | VBLKW-151207 | | Units: | ug/L | Ana | alysis Date: | 07-Dec-2015 | 5 11:46 |
| Client ID: | Run | ID: VOA4 | _265947 | SeqNo: 3 | 516859 | PrepDate: | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | RPD %RPD Limit Qual |
| Benzene | < 1.0 | 1.0 | | | | | | |
| Surr: 1,2-Dichloroethane-d4 | 49.08 | 1.0 | 50 | 0 | 98.2 | 71 - 125 | | |
| Surr: 4-Bromofluorobenzene | 52.28 | 1.0 | 50 | 0 | 105 | 70 - 125 | | |
| Surr: Dibromofluoromethane | 49.1 | 1.0 | 50 | 0 | 98.2 | 74 - 125 | | · |
| Surr: Toluene-d8 | 58.47 | 1.0 | 50 | 0 | 117 | 75 - 125 | | |
| LCS Sample ID: | VLCSW-151207 | | Units: | ug/L | Ana | alysis Date: | 07-Dec-2015 | 5 10:49 |
| Client ID: | Run | ID: VOA4 | _265947 | SeqNo: 3 | 516858 | PrepDate: | | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | RPD %RPD Limit Qual |
| Benzene | 53.23 | 1.0 | 50 | 0 | 106 | 80 - 120 | | |
| Surr: 1,2-Dichloroethane-d4 | 48.61 | 1.0 | 50 | 0 | 97.2 | 71 - 125 | | 37/3 // |
| Surr: 4-Bromofluorobenzene | 56.09 | 1.0 | 50 | 0 | 112 | 70 - 125 | | |
| Surr: Dibromofluoromethane | 49.36 | 1.0 | 50 | 0 | 98.7 | 74 - 125 | | |
| Surr: Toluene-d8 | 57.99 | 1.0 | 50 | 0 | 116 | 75 - 125 | | |
| MS Sample ID: | HS15120162-05MS | | Units: | ug/L | Ana | lysis Date: | 07-Dec-2015 | i 12:36 |
| Client ID: | Run | ID: VOA4 | _265947 | SeqNo: 3 | 516860 | PrepDate: | | DF: 1000 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | RPD %RPD Limit Qual |
| Benzene | 77550 | 1000 | 50000 | 35150 | 84.8 | 80 - 120 | | |
| Surr: 1,2-Dichloroethane-d4 | 49580 | 1000 | 50000 | 0 | 99.2 | 71 - 125 | | |
| Surr: 4-Bromofluorobenzene | 55970 | 1000 | 50000 | 0 | 112 | 70 - 125 | | |
| Surr: Dibromofluoromethane | 51100 | 1000 | 50000 | 0 | 102 | 74 - 125 | | |
| Surr: Toluene-d8 | 57520 | 1000 | 50000 | 0 | 115 | 75 - 125 | | |

Date: 09-Dec-15

QC BATCH REPORT

Client:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual GW Sampling

WorkOrder:

HS15120220

Batch ID: R265947 Instrument: VOA4 Method: SW8260

| MSD Samp | ple ID: | HS15120162-05MSD | | Units: | ug/L | Ana | alysis Date: | 07-Dec-2015 | 13:01 | |
|---------------------------|---------|------------------|---------|----------|------------------|--------|------------------|------------------|-------------|----------------|
| Client ID: | | Run | ID: VOA | 4_265947 | SeqNo: 3 | 516861 | PrepDate: | | DF: 1 | 1000 |
| Analyte | | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | R %RPD L | PD imit Qua |
| Benzene | | 77990 | 1000 | 50000 | 35150 | 85.7 | 80 - 120 | 77550 | 0.556 | 20 |
| Surr: 1,2-Dichloroethane- | d4 | 48440 | 1000 | 50000 | 0 | 96.9 | 71 - 125 | 49580 | 2.32 | 20 |
| Surr: 4-Bromofluorobenze | ene | 55700 | 1000 | 50000 | 0 | 111 | 70 - 125 | 55970 | 0.49 | 20 |
| Surr: Dibromofluoromethe | ane | 49450 | 1000 | 50000 | 0 | 98.9 | 74 - 125 | 51100 | 3.28 | 20 |
| Surr: Toluene-d8 | | 57470 | 1000 | 50000 | 0 | 115 | 75 - 125 | 57520 | 0.0791 | 20 |

The following samples were analyzed in this batch: HS15120220-01 HS15120220-02 HS15120220-03 HS15120220-04 HS15120220-06

Date: 09-Dec-15

Client: ARCADIS U.S., Inc.

QUALIFIERS, ACRONYMS, UNITS Brickland NM Semi Annual GW Sampling Project:

WorkOrder: HS15120220

| Qualifier | Description |
|---------------|---------------------------------------------------------------------------|
| • | Value exceeds Regulatory Limit |
| a | Not accredited |
| В | Analyte detected in the associated Method Blank above the Reporting Limit |
| E | Value above quantitation range |
| н | Analyzed outside of Holding Time |
| J | Analyte detected below quantitation limit |
| М | Manually integrated, see raw data for justification |
| n | Not offered for accreditation |
| ND | Not Detected at the Reporting Limit |
| 0 | Sample amount is > 4 times amount spiked |
| P | Dual Column results percent difference > 40% |
| R | RPD above laboratory control limit |
| S | Spike Recovery outside laboratory control limits |
| U | Analyzed but not detected above the MDL/SDL |
| Acronym | Description |
| DCS | Detectability Check Study |
| DUP | Method Duplicate |
| LCS | Laboratory Control Sample |
| LCSD | Laboratory Control Sample Duplicate |
| MBLK | Method Blank |
| MDL | Method Detection Limit |
| MQL | Method Quantitation Limit |
| MS | Matrix Spike |
| MSD | Matrix Spike Duplicate |
| PDS | Post Digestion Spike |
| PQL | Practical Quantitaion Limit |
| SD | Serial Dilution |
| SDL | Sample Detection Limit |
| TRRP | Texas Risk Reduction Program |
| Unit Reported | Description |

Unit Reported Description µg/L Micrograms per Liter

CERTIFICATIONS, ACCREDITATIONS & LICENSES

Date: 09-Dec-15

| Agency | Number | Expire Date |
|-----------------|---------------------|-------------|
| Arkansas | 15-024-0 | 27-Mar-2016 |
| California | 2919 | 31-Jul-2016 |
| Dept of Defense | L2231 Rev 3-20-2014 | 22-Dec-2015 |
| Illinois | 003622 | 09-May-2016 |
| Kansas | E-10352 2014-2015 | 31-Jan-2016 |
| Kentucky | KY 2015-2016 | 30-Apr-2016 |
| Louisiana | 03087 2015/2016 | 30-Jun-2016 |
| North Carolina | 624 - 2015 | 31-Dec-2015 |
| North Dakota | R-193 2015-2016 | 30-Apr-2016 |
| Oklahoma | 2015-047 | 31-Aug-2016 |
| Texas | T104704231-15-15 | 30-Apr-2016 |

Date:

09-Dec-15

Client:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual GW Sampling

SAMPLE TRACKING

Work Order:

HS15120220

| Client Sample ID | Action | Date | Person | New Location |
|------------------|----------------------------------------------|---------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MW-6S | Login | 12/5/2015 8:37:28 AM | RPG | VW-3 |
| MW- 6D | Login | 12/5/2015 8:37:28 AM | RPG | VW-3 |
| FB120315 | Login | 12/5/2015 8:37:28 AM | RPG | VW-3 |
| MW-9S | Login | 12/5/2015 8:37:28 AM | RPG | VW-3 |
| MW-5 | Login | 12/5/2015 8:37:28 AM | RPG | VW-3 |
| EB120315 | Login | 12/5/2015 8:37:28 AM | RPG | VW-3 |
| | MW-6S MW- 6D FB120315 MW-9S MW-5 | MW-6S Login MW-6D Login FB120315 Login MW-9S Login MW-5 Login | MW-6S Login 12/5/2015 8:37:28 AM MW-6D Login 12/5/2015 8:37:28 AM FB120315 Login 12/5/2015 8:37:28 AM MW-9S Login 12/5/2015 8:37:28 AM MW-5 Login 12/5/2015 8:37:28 AM | MW-6S Login 12/5/2015 8:37:28 AM RPG MW-6D Login 12/5/2015 8:37:28 AM RPG FB120315 Login 12/5/2015 8:37:28 AM RPG MW-9S Login 12/5/2015 8:37:28 AM RPG MW-5 Login 12/5/2015 8:37:28 AM RPG |

Date: 09-Dec-15

Sample Receipt Checklist Date/Time Received: 04-Dec-2015 13:03 Client Name: **ARCADIS-BATON ROUGE** Work Order: HS15120220 Received by: **PMG** Reviewed by: Checklist completed by: Raegen Giga 5-Dec-2015 Dane J. Wacasey 8-Dec-2015 eSignature Date eSignature Date Matrices: WATER Carrier name: FedEx Priority Overnight Shipping container/cooler in good condition? Yes 🗸 No Not Present Custody seals intact on shipping container/cooler? Yes Not Present No Custody seals intact on sample bottles? Yes No Not Present Chain of custody present? Yes No Chain of custody signed when relinquished and received? Yes No Chain of custody agrees with sample labels? Yes Nο Samples in proper container/bottle? Yes No Sample containers intact? Yes No N/A TX1005 solids received in hermetically sealed vials? Yes No Sufficient sample volume for indicated test? Yes No All samples received within holding time? Yes 🗸 No Container/Temp Blank temperature in compliance? Yes 🗸 No 3.0C/3.2C UC/C Temperature(s)/Thermometer(s): ir 4 Cooler(s)/Kit(s): FOAM Date/Time sample(s) sent to storage: 12/05/2015 08:40 Yes 🗸 No No VOA vials submitted Water - VOA vials have zero headspace? Water - pH acceptable upon receipt? Yes No ~ pH adjusted? Yes No N/A pH adjusted by: Login Notes: Client Contacted: Date Contacted: Person Contacted: Contacted By: 0 Regarding: Comments: Corrective Action:



Cincinnati, OH +1 513 733 5336

Everett, WA +1 425 356 2600 Fort Collins, CO +1 970 490 1511 Holland, MI +1 616 399 6070

Chain

Custody Form

COC ID: 136691

HS15120220

ARCADIS U.S., Inc.

Brickland NM Semi Annual GW Sampling

| Enuico | nmental | | | OC 19: T 3002 | | Stroklario Nimi Semi Annual GW Sampling |
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| | | | | LS Project Manager | | A control of the cont |
| C. STATE STREET, STREE | Customer Information | MONATA CAN CELANO (C | Project Informa | | en (*) | |
| Purchase Order | LA003185 | Project Nam | e Brickland NM Se | mi Annual GW Sampl | A | 8280_LL_W (8280 Benzene (Unpres.)) |
| Work Order | | er LA003185 | | В | 8270_PAH_LVI | |
| Company Name | ARCADIS U.S., Inc. | Bill To Compain | Y ARCADIS | | d | : |
| Send Report To | Tim Ratchford | Invoice At | Accounts Payabl | e | Đ | |
| Address | 10352 Plaza Americana Drive | | | 630 Plaza Drive, Suite 800 | | |
| City/State/Zip | Balon Rouge, LA 70816 | Glfy/State/Z | P Highlands Ranch | , CO 80129 | G | |
| Phone | (225) 292-1004 | Plion | (303) 471-3699 | | H | |
| Fix | | F | * | | T | |
| e-Mail Address | | e-Mail Addres | e e | | 3) | A (|
| No. | Sample Description | Data | Time Matrix | Pres # Bottle | - | |
| | J-6S | 120315 | 0855 W | None 3 | > | |
| 2 MV | U-6D | | 1945 W | | 12 | |
| . FBI | 20315 | | ass w | |) | X |
| * MN | 29-0 | (| 030 W | | X | |
| | -5 | 1 | 125 W | | > | |
| · EBI | 20315 | | 140 W | V | / | γ |
| 6 4 | | 1 | | | | |
| 8 | | | | 1. 1. | | |
| 9 | | | | 4/1 | | |
| 10 | 1 1 | | | 1 | | |
| Sampler(s) Please P | 表して Manual Manual Ma | Shipment I | 483720 | elired formeround frime. TA | W.S. | |
| Refinquished by: | a Guttomez Date: | 1.78 A. 18 A. | eceived by: | | | tes: |
| Relinquished by: | Date: | Time: Re | eceived by (Laboratory): | ′ 12. 2 | | Coder ID: Cooler Temp. DO Package: (Check One Box Below) |
| Logged by (Laboratory) | p Details | Time: | hecked by (Laboratory): | (13:03 | | Show 3.65 QC Level STD |
| | | | | | | 3 4 Other: |
| rreservative Key: | 1-HCI 2-HNO, 3-H,SO, 4- | Navn o-Na ₂ S ₂ O ₃ | o-Nariso, 740th | er 8-4°C 9-5035 | V 10 | 4607 |

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

Copyright 2011 by ALS Environmental.



| ORIGIN ID-ELPA (818) 583-8025 ANCADIS | SHIP DATE: OSDECIS ACTMET: 8.10 LB CAD: OFFCISE | 7 |
|-------------------------------------------------------|-------------------------------------------------------|---------------------------------------|
| 401 E MAIN DR STE 400 | DIME: 14x12x10 IN | . 829 |
| EL PAGO, TX 788011358 UNITED STATES US | BILL SENDER | . å |
| CLIENT SERVICES | | 2137 |
| ALS ENVIRONMENTAL | HOUSTON LAB | ş |
| 10450 STANCLIFF RD | | |
| STE 210 | | 1 |
| HOUSTON TX 77099 | | |
| All . | MPTr | _ 1 |
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| SALCH STREET, ST. | | \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ |
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| SALCH STREET, ST. | E COMPANY OF STREET | |
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| 8066 7894 6272 | FRI – 04 DEC 10:3 PRIORITY OVERNIG | HT 19 |
| S ALLETS STREETS SEE STREET STREET | FRI - 04 DEC 10:3 PRIORITY OVERNIG | HT 19 |
| 8066 7894 6272 | FRI – 04 DEC 10:3 PRIORITY OVERNIG | HT 19 |
| 8066 7894 6272 | FRI – 04 DEC 10:3 PRIORITY OVERNIG | HT 19 |
| 8066 7894 6272 | FRI – 04 DEC 10:3 PRIORITY OVERNIG | HT 19 |



December 14, 2015

Tim Ratchford ARCADIS U.S., Inc. 10352 Plaza Americana Drive Baton Rouge, LA 70816 10450 Stancliff Rd. Suite 210 Houston, TX 77099 T: +1 281 530 5656 F: +1 281 530 5887 www.alsglobal.com

Work Order: HS15120241

Laboratory Results for: Brickland NM Semi Annual GW Sampling

Dear Tim,

ALS Environmental received 5 sample(s) on Dec 05, 2015 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: Dayna.Fisher Dane J. Wacasey

| ALS | Group | USA, | Corp |
|-----|-------|------|------|
|-----|-------|------|------|

ARCADIS U.S., Inc. **Client: SAMPLE SUMMARY** Brickland NM Semi Annual GW Sampling Project: Work Order: HS15120241 TagNo Hold Lab Samp ID **Client Sample ID** Matrix **Collection Date Date Received** HS15120241-01 05-Dec-2015 10:00 MW-8 Water 04-Dec-2015 08:50 HS15120241-02 FD120415 Water 04-Dec-2015 00:00 05-Dec-2015 10:00 HS15120241-03 FB120415 Water 04-Dec-2015 08:55 05-Dec-2015 10:00 HS15120241-04 EB 120415 Water 04-Dec-2015 09:00 05-Dec-2015 10:00 Water 04-Dec-2015 09:45 HS15120241-05 MW-10 05-Dec-2015 10:00

Date:

14-Dec-15

Date: 14-Dec-15

Client:

ARCADIS U.S., Inc.

CASE NARRATIVE

Project:

Brickland NM Semi Annual GW Sampling

Work Order: HS15120241

GCMS Semivolatiles by Method SW8270

Batch ID: 99640

Sample ID: LCS-99640

• Insufficient sample received to perform MS/MSD. LCS/LCSD provided as batch quality control.

GCMS Volatiles by Method SW8260

Batch ID: R266195

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Batch ID: R266179

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Date: 14-Dec-15

lient:

ARCADIS U.S., Inc.

roject:

Brickland NM Semi Annual GW Sampling

Sample ID:

MW-8

Collection Date:

04-Dec-2015 08:50

ANALYTICAL REPORT

WorkOrder:HS15120241 Lab ID:HS15120241-01

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|-----------------------------|---------|---------------|-----------------|--------------|--------------------|-------------------|
| LOW-LEVEL PAHS - 8270D | | Method:SW8270 | | Prep:SW3511 | / 09-Dec-2015 | Analyst: LG |
| Acenaphthene | 0.328 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:08 |
| Acenaphthylene | 0.228 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:08 |
| Anthracene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:08 |
| Benz(a)anthracene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:08 |
| Benzo(a)pyrene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:08 |
| Benzo(b)fluoranthene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:08 |
| Benzo(g,h,i)perylene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:08 |
| Benzo(k)fluoranthene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:08 |
| Chrysene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:08 |
| Dibenz(a,h)anthracene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:08 |
| Fluoranthene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:08 |
| Fluorene | 0.583 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:08 |
| Indeno(1,2,3-cd)pyrene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:08 |
| Naphthalene | 7.65 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:08 |
| Phenanthrene | 0.414 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:08 |
| γrene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:08 |
| urr: 2-Fluorobiphenyl | 104 | | 32-130 | %REC | 1 | 09-Dec-2015 18:08 |
| Surr: 4-Terphenyl-d14 | 68.3 | | 40-135 | %REC | 1 | 09-Dec-2015 18:08 |
| Surr: Nitrobenzene-d5 | 121 | | 45-142 | %REC | 1 | 09-Dec-2015 18:08 |
| LOW LEVEL VOLATILES BY SW | 8260C | Method:SW8260 | | | | Analyst: AKP |
| Benzene | 970 | | 100 | u g/L | 100 | 10-Dec-2015 17:20 |
| Surr: 1,2-Dichloroethane-d4 | 104 | | 71-125 | %REC | 100 | 10-Dec-2015 17:20 |
| Surr: 4-Bromofluorobenzene | 105 | | 70-125 | %REC | 100 | 10-Dec-2015 17:20 |
| Surr: Dibromofluoromethane | 102 | | 74-125 | %REC | 100 | 10-Dec-2015 17:20 |
| Surr: Toluene-d8 | 103 | | 75-125 | %REC | 100 | 10-Dec-2015 17:20 |

lient:

ARCADIS U.S., Inc.

رroject:

Brickland NM Semi Annual GW Sampling

Sample ID:

FD120415

Collection Date:

04-Dec-2015 00:00

ANALYTICAL REPORT

WorkOrder:HS15120241 Lab ID:HS15120241-02

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|------------------------|---------|---------------|-----------------|-------------|--------------------|-------------------|
| LOW-LEVEL PAHS - 8270D | | Method:SW8270 | | Prep:SW3511 | / 09-Dec-2015 | Analyst: LG |
| Acenaphthene | 0.316 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:27 |
| Acenaphthylene | 0.252 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:27 |
| Anthracene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:27 |
| Benz(a)anthracene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:27 |
| Benzo(a)pyrene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:27 |
| Benzo(b)fluoranthene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:27 |
| Benzo(g,h,i)perylene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:27 |
| Benzo(k)fluoranthene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:27 |
| Chrysene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:27 |
| Dibenz(a,h)anthracene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:27 |
| Fluoranthene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:27 |
| Fluorene | 0.597 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:27 |
| Indeno(1,2,3-cd)pyrene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:27 |
| Naphthalene | 7.13 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:27 |
| Phenanthrene | 0.412 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:27 |
| Pyrene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:27 |
| ırr: 2-Fluorobiphenyl | 101 | | 32-130 | %REC | 1 | 09-Dec-2015 18:27 |
| Surr: 4-Terphenyl-d14 | 64.2 | | 40-135 | %REC | 1 | 09-Dec-2015 18:27 |
| Surr: Nitrobenzene-d5 | 115 | | 45-142 | %REC | 1 | 09-Dec-2015 18:27 |

Date: 14-Dec-15

`lient:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual GW Sampling

Sample ID:

FB120415

Collection Date: 04-Dec-2015 08:55

ANALYTICAL REPORT

WorkOrder:HS15120241 Lab ID:HS15120241-03

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|-----------------------------|---------|---------------|-----------------|-------------|--------------------|-------------------|
| LOW-LEVEL PAHS - 8270D | | Method:SW8270 | | Prep:SW3511 | / 09-Dec-2015 | Analyst: LG |
| Acenaphthene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:47 |
| Acenaphthylene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:47 |
| Anthracene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:47 |
| Benz(a)anthracene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:47 |
| Benzo(a)pyrene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:47 |
| Benzo(b)fluoranthene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:47 |
| Benzo(g,h,i)perylene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:47 |
| Benzo(k)fluoranthene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:47 |
| Chrysene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:47 |
| Dibenz(a,h)anthracene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:47 |
| Fluoranthene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:47 |
| Fluorene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:47 |
| Indeno(1,2,3-cd)pyrene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:47 |
| Naphthalene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:47 |
| Phenanthrene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:47 |
| yrene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 18:47 |
| ыт. 2-Fluorobiphenyl | 95.2 | | 32-130 | %REC | 1 | 09-Dec-2015 18:47 |
| Surr. 4-Terphenyl-d14 | 91.1 | | 40-135 | %REC | 1 | 09-Dec-2015 18:47 |
| Surr: Nitrobenzene-d5 | 109 | | <i>45-142</i> | %REC | 1 | 09-Dec-2015 18:47 |
| LOW LEVEL VOLATILES BY SW | 8260C | Method:SW8260 | | | | Analyst: AKP |
| Benzene | < 1.0 | | 1.0 | ug/L | 1 | 10-Dec-2015 13:49 |
| Surr. 1,2-Dichloroethane-d4 | 104 | | 71-125 | %REC | 1 | 10-Dec-2015 13:49 |
| Surr. 4-Bromofluorobenzene | 106 | | 70-125 | %REC | 1 | 10-Dec-2015 13:49 |
| Surr. Dibromofluoromethane | 103 | | 7 4 -125 | %REC | 1 | 10-Dec-2015 13:49 |
| Surr: Toluene-d8 | 102 | | 75-125 | %REC | 1 | 10-Dec-2015 13:49 |

Date: 14-Dec-15

`lient:

ARCADIS U.S., Inc.

roject:

Brickland NM Semi Annual GW Sampling

Sample ID:

EB 120415

Collection Date:

04-Dec-2015 09:00

ANALYTICAL REPORT

WorkOrder:HS15120241 Lab ID:HS15120241-04

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|-----------------------------|---------|---------------|-----------------|-------------|--------------------|-------------------|
| LOW-LEVEL PAHS - 8270D | | Method:SW8270 | | Prep:SW3511 | / 09-Dec-2015 | Analyst: LG |
| Acenaphthene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 19:06 |
| Acenaphthylene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 19:06 |
| Anthracene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 19:06 |
| Benz(a)anthracene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 19:06 |
| Benzo(a)pyrene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 19:06 |
| Benzo(b)fluoranthene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 19:06 |
| Benzo(g,h,i)perylene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 19:06 |
| Benzo(k)fluoranthene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 19:06 |
| Chrysene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 19:06 |
| Dibenz(a,h)anthracene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 19:06 |
| Fluoranthene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 19:06 |
| Fluorene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 19:06 |
| Indeno(1,2,3-cd)pyrene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 19:06 |
| Naphthalene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 19:06 |
| Phenanthrene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 19:06 |
| Pyrene | < 0.102 | | 0.102 | ug/L | 1 | 09-Dec-2015 19:06 |
| urr: 2-Fluorobiphenyl | 105 | | 32-130 | %REC | 1 | 09-Dec-2015 19:06 |
| Surr: 4-Terphenyl-d14 | 90.5 | | 40-135 | %REC | 1 | 09-Dec-2015 19:06 |
| Surr: Nitrobenzene-d5 | 114 | | 45-142 | %REC | 1 | 09-Dec-2015 19:06 |
| LOW LEVEL VOLATILES BY SW | /8260C | Method:SW8260 | | | | Analyst: AKP |
| Benzene | < 1.0 | | 1.0 | ug/L | 1 | 10-Dec-2015 14:14 |
| Surr: 1,2-Dichloroethane-d4 | 106 | | 71-125 | %REC | 1 | 10-Dec-2015 14:14 |
| Surr: 4-Bromofluorobenzene | 105 | | 70-125 | %REC | 1 | 10-Dec-2015 14:14 |
| Surr. Dibromofluoromethane | 103 | | 7 4 -125 | %REC | 1 | 10-Dec-2015 14:14 |
| Surr: Toluene-d8 | 100 | | 75-125 | %REC | 1 | 10-Dec-2015 14:14 |

Date: 14-Dec-15

lient:

ARCADIS U.S., Inc.

∼roject:

Brickland NM Semi Annual GW Sampling

Sample ID:

MW-10

Collection Date:

04-Dec-2015 09:45

ANALYTICAL REPORT

WorkOrder:HS15120241 Lab ID:HS15120241-05

| ANALYSES | RESULT QUA | L | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|----------------------------------------------|------------|---|-----------------|-------|--------------------|-------------------|
| LOW LEVEL VOLATILES BY SW8260C Method:SW8260 | | | | | Analyst: AKP | |
| Benzene | < 1.0 | | 1.0 | ug/L | 1 | 11-Dec-2015 13:53 |
| Surr: 1,2-Dichloroethane-d4 | 107 | | 71-125 | %REC | 1 | 11-Dec-2015 13:53 |
| Surr: 4-Bromofluorobenzene | 110 | | 70-125 | %REC | 1 | 11-Dec-2015 13:53 |
| Surr: Dibromofluoromethane | 110 | | 7 4 -125 | %REC | 1 | 11-Dec-2015 13:53 |
| Surr: Toluene-d8 | 119 | | 75-125 | %REC | 1 | 11-Dec-2015 13:53 |

WEIGHT LOG

ent: A

ARCADIS U.S., Inc.

roject: Bricklan

Brickland NM Semi Annual GW Sampling

WorkOrder: HS15120241

| Batch ID: 99640 | Method: LOW-LEVEL PAHS - 827 | | 8270D | Prep: 3511_PAH | |
|-----------------|------------------------------|------------------|-----------------|----------------|--|
| SampiD | Container | Sample Wt/Vol | Final Volume | Prep Factor | |
| HS15120241-01 | 1 | 32.22 | 2 (mL) | 0.06207 | |
| HS15120241-02 | 1 | 32.41 | 2 (mL) | 0.06171 | |
| HS15120241-03 | 1 | 32.37 | 2 (mL) | 0.06179 | |
| HS15120241-04 | 1 | 32.39 | 2 (mL) | 0.06175 | |

ALS Group USA, Corp

Date: 14-Dec-15

Client:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual GW Sampling

DATES REPORT

WorkOrder:

HS15120241

| Sample ID | Client Sam | p ID Collection Date | TCLP Date | Prep Date | Analysis Date | DF |
|----------------|------------|---------------------------------|--------------|-------------------|-------------------|-----|
| Batch ID 99640 | · | Test Name: LOW-LEVEL PAHS - 827 | 70D | Matrix: V | Vater | |
| HS15120241-01 | MW-8 | 04 Dec 2015 08:50 | | 09 Dec 2015 08:30 | 09 Dec 2015 18:08 | 1 |
| HS15120241-02 | FD120415 | 04 Dec 2015 00:00 | | 09 Dec 2015 08:30 | 09 Dec 2015 18:27 | 1 |
| HS15120241-03 | FB120415 | 04 Dec 2015 08:55 | | 09 Dec 2015 08:30 | 09 Dec 2015 18:47 | 1 |
| HS15120241-04 | EB 120415 | 04 Dec 2015 09:00 | | 09 Dec 2015 08:30 | 09 Dec 2015 19:06 | 1 |
| Batch ID R266 | 179 | Test Name: LOW LEVEL VOLATILES | S BY SW8260C | Matrix: V | Vater | |
| HS15120241-01 | MW-8 | 04 Dec 2015 08:50 | | | 10 Dec 2015 17:20 | 100 |
| HS15120241-03 | FB120415 | 04 Dec 2015 08:55 | | | 10 Dec 2015 13:49 | 1 |
| HS15120241-04 | EB 120415 | 04 Dec 2015 09:00 | | | 10 Dec 2015 14:14 | 1 |
| Batch ID R266 | 195 | Test Name: LOW LEVEL VOLATILES | BY SW8260C | Matrix: V | Vater | |
| HS15120241-05 | MW-10 | 04 Dec 2015 09:45 | | | 11 Dec 2015 13:53 | 1 |

QC BATCH REPORT

Client:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual GW Sampling

WorkOrder:

HS15120241

Batch ID: 99640 Instrument: SV-8 Method: SW8270

| MBLK S | Sample ID: | MBLK-99640 | | | Units: | ug/L | | Ana | ılysis Date: | 09-Dec-2015 | 16:50 | |
|-----------------------|------------|------------|---------|------|---------|-----------------|------|------|------------------|-----------------------------------------|-------|------------------|
| Client ID: | | | Run ID: | SV-6 | _266119 | SeqNo: | 3519 | 636 | PrepDate: | 09-Dec-2015 | DF | :1 |
| Analyte | | Result | ı | PQL | SPK Val | SPK Re Value | | REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qua |
| Acenaphthene | | < 0.100 | 0. | .100 | | | | | | | | |
| Acenaphthylene | | < 0.100 | 0. | 100 | | | | | | | | |
| Anthracene | | < 0.100 | 0. | 100 | | | | | | | | |
| Benz(a)anthracene | | < 0.100 | 0. | 100 | | | | | | | | |
| Benzo(a)pyrene | | < 0.100 | 0. | 100 | | | | | | | | |
| Benzo(b)fluoranthene |) | < 0.100 | 0. | 100 | | | | | | | | |
| Benzo(g,h,i)perylene | | < 0.100 | 0. | 100 | | | | | | | | |
| Benzo(k)fluoranthene | • | < 0.100 | 0. | 100 | | | | | | · · · · · · · · · · · · · · · · · · · | | |
| Chrysene | | < 0.100 | 0. | 100 | | | | | | | | |
| Dibenz(a,h)anthracer | ne | < 0.100 | 0. | 100 | | | | | | | | |
| Fluoranthene | | < 0.100 | 0. | 100 | | | | | | | | |
| Fluorene | | < 0.100 | 0. | 100 | | | | ~ | | | | |
| Indeno(1,2,3-cd)pyre | ne | < 0.100 | 0. | 100 | | | | | | | | |
| Naphthalene | | < 0.100 | 0. | 100 | | | | | | | | |
| Phenanthrene | | < 0.100 | 0. | 100 | | | | | | | | |
| Pyrene | | < 0.100 | 0. | 100 | | | | | | | | |
| Surr: 2-Fluorobipheny | yl | 3.004 | 0. | 100 | 3.03 | a |) | 99.1 | 32 - 130 | | | |
| Surr: 4-Terphenyl-d1- | 4 | 2.855 | 0. | 100 | 3.03 | |) | 94.2 | 40 - 135 | *************************************** | · | |
| Surr: Nitrobenzene-d | 5 | 3.812 | 0. | 100 | 3.03 | a |) | 126 | 45 - 142 | | | |

Client:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual GW Sampling

WorkOrder:

HS15120241

QC BATCH REPORT

| Batch ID: 99640 | Instrument: | SV-6 | Method: SW8270 | | | | | | |
|------------------------|---------------------|--------------|----------------|------------------|--------|------------------|------------------|---------|------------------|
| LCS Sample | D: LCS-99640 | | Units: | ug/L | Ana | alysis Date: | 09-Dec-201 | 5 17:09 | |
| Client ID: | | Run ID: SV-6 | _266119 | SeqNo: 3 | 519637 | PrepDate: | 09-Dec-201 | 5 DF: | 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | | RPD Limit Qua |
| Acenaphthene | 3.196 | 0.100 | 3.03 | 0 | 105 | 40 - 140 | | | |
| Acenaphthylene | 3.244 | 0.100 | 3.03 | 0 | 107 | 40 - 140 | | | |
| Anthracene | 2.972 | 0.100 | 3.03 | 0 | 98.1 | 40 - 140 | | | |
| Benz(a)anthracene | 2.831 | 0.100 | 3.03 | 0 | 93.4 | 40 - 140 | | | |
| Benzo(a)pyrene | 2.501 | 0.100 | 3.03 | 0 | 82.5 | 40 - 140 | | | |
| Benzo(b)fluoranthene | 2.519 | 0.100 | 3.03 | 0 | 83.1 | 40 - 140 | | | |
| Benzo(g,h,i)perylene | 2.254 | 0.100 | 3.03 | 0 | 74.4 | 40 - 140 | | | |
| Benzo(k)fluoranthene | 2.295 | 0.100 | 3.03 | 0 | 75.8 | 40 - 140 | | | |
| Chrysene | 2.56 | 0.100 | 3.03 | 0 | 84.5 | 40 - 140 | | | |
| Dibenz(a,h)anthracene | 2.283 | 0.100 | 3.03 | 0 | 75.4 | 40 - 140 | | | |
| Fluoranthene | 2.749 | 0,100 | 3.03 | 0 | 90.7 | 40 - 140 | | | |
| Fluorene | 3.186 | 0.100 | 3.03 | 0 | 105 | 40 - 140 | | | |
| Indeno(1,2,3-cd)pyrene | 2.545 | 0.100 | 3.03 | 0 | 84.0 | 40 - 140 | | | |
| Naphthalene | 3.204 | 0.100 | 3.03 | 0 | 106 | 40 - 140 | | | |
| Phenanthrene | 3.054 | 0.100 | 3.03 | 0 | 101 | 40 - 140 | | | |
| Pyrene | 3.068 | 0.100 | 3.03 | 0 | 101 | 40 - 140 | | | |
| Surr: 2-Fluorobiphenyl | 2.923 | 0.100 | 3.03 | 0 | 96.5 | 32 - 130 | | | |
| Surr: 4-Terphenyl-d14 | 2.762 | 0.100 | 3.03 | 0 | 91.1 | 40 - 135 | | | |
| Surr: Nitrobenzene-d5 | 3,641 | 0.100 | 3.03 | 0 | 120 | 45 - 142 | | | |

QC BATCH REPORT

Client:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual GW Sampling

WorkOrder:

HS15120241

Batch ID: 99640 Instrument: SV-6 Method: SW8270

| LCSD Sample ID: | LCSD-99640 | | Units: | ug/L | Ana | alysis Date: | 09-Dec-2015 | 17:29 | |
|----------------------------------|----------------------|---------------|-------------|------------------|-----------|------------------|--------------|-------------|----------------|
| Client ID: | | Run ID: SV-6_ | 266119 | SeqNo: 3 | 519638 | PrepDate: | 09-Dec-2015 | DF: 1 | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | | R %RPD L | PD imit Qua |
| Acenaphthene | 3.152 | 0.100 | 3.03 | 0 | 104 | 40 - 140 | 3.196 | 1.39 | 25 |
| Acenaphthylene | 3.103 | 0.100 | 3.03 | 0 | 102 | 40 - 140 | 3.244 | 4.43 | 25 |
| Anthracene | 2.908 | 0.100 | 3.03 | 0 | 96.0 | 40 - 140 | 2.972 | 2.19 | 25 |
| Benz(a)anthracene | 2.7 | 0.100 | 3.03 | 0 | 89.1 | 40 - 140 | 2.831 | 4.72 | 25 |
| Benzo(a)pyrene | 2.371 | 0.100 | 3.03 | 0 | 78.3 | 40 - 140 | 2.501 | 5.34 | 25 |
| Benzo(b)fluoranthene | 2.426 | 0.100 | 3.03 | 0 | 80.1 | 40 - 140 | 2.519 | 3.76 | 25 |
| Benzo(g,h,i)perylene | 2.225 | 0.100 | 3.03 | 0 | 73.4 | 40 - 140 | 2.254 | 1.33 | 25 |
| Benzo(k)fluoranthene | 2.138 | 0.100 | 3.03 | 0 | 70.6 | 40 - 140 | 2.295 | 7.1 | 25 |
| Chrysene | 2.537 | 0.100 | 3.03 | 0 | 83.7 | 40 - 140 | 2,56 | 0.904 | 25 |
| Dibenz(a,h)anthracene | 2.221 | 0.100 | 3.03 | 0 | 73.3 | 40 - 140 | 2.283 | 2.79 | 25 |
| Fluoranthene | 2.729 | 0.100 | 3.03 | 0 | 90.1 | 40 - 140 | 2.749 | 0.748 | 25 |
| Fluorene | 3.59 | 0.100 | 3.03 | 0 | 118 | 40 - 140 | 3.186 | 11.9 | 25 |
| Indeno(1,2,3-cd)pyrene | 2.512 | 0.100 | 3.03 | 0 | 82.9 | 40 - 140 | 2.545 | 1.3 | 25 |
| Naphthalene | 3.159 | 0.100 | 3.03 | 0 | 104 | 40 - 140 | 3.204 | 1.42 | 25 |
| Phenanthrene | 3.001 | 0.100 | 3.03 | 0 | 99.0 | 40 - 140 | 3.054 | 1.76 | 25 |
| Pyrene | 2.834 | 0.100 | 3.03 | 0 | 93.5 | 40 - 140 | 3.068 | 7.94 | 25 |
| Surr: 2-Fluorobiphenyl | 2.68 | 0.100 | 3.03 | 0 | 88.4 | 32 - 130 | 2.923 | 8.68 | 25 |
| Surr: 4-Terphenyl-d14 | 2.625 | 0.100 | 3.03 | 0 | 86.6 | 40 - 135 | 2.762 | 5.05 | 25 |
| Surr: Nitrobenzene-d5 | 3.503 | 0.100 | 3.03 | 0 | 116 | 45 - 142 | 3.641 | 3.89 | 25 |
| he following samples were anayza | d in this batch: HS1 | 5120241-01 | HS15120241- | 02 F | IS1512024 | 1-03 | HS15120241-0 | 4 | |

Client:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual GW Sampling

WorkOrder:

HS15120241

QC BATCH REPORT

| Batch ID: R266179 | In | strument: | VOA2 | | Metho | od: SW826 | 0 | | |
|-----------------------------|-----------------|-----------|---------|------------------|----------------|------------------|------------------|---------|------------------|
| MBLK Sample ID: | VBLKW-151210 | | | ug/L | | - | 10-Dec-201 | | |
| Client ID: | Rur | ID: VOA2 | _266179 | SeqNo: 3 | 3520840 | PrepDate: | | DF | :1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qua |
| Benzene | < 1.0 | 1.0 | | | | | | | |
| Surr: 1,2-Dichloroethane-d4 | 52.34 | 1.0 | 50 | 0 | 105 | 71 - 125 | | | * |
| Surr: 4-Bromofluorobenzene | 52.76 | 1.0 | 50 | 0 | 106 | 70 - 125 | | | |
| Surr: Dibromofluoromethane | 50.99 | 1.0 | 50 | 0 | 102 | 74 - 125 | | | |
| Surr: Toluene-d8 | 50.29 | 1.0 | 50 | 0 | 101 | 75 - 125 | | | |
| LCS Sample ID: | VLCSW-151210 | | Units: | ug/L | Ana | alysis Date: | 10-Dec-201 | 5 12:34 | |
| Client ID: | Rur | ID: VOA2 | _266179 | SeqNo: 3 | 52083 9 | PrepDate: | | DF | : 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qua |
| Benzene | 41.85 | 1.0 | 50 | 0 | 83.7 | 80 - 120 | | | |
| Surr: 1,2-Dichloroethane-d4 | 52.45 | 1.0 | 50 | 0 | 105 | 71 - 125 | | | |
| Surr: 4-Bromofluorobenzene | 54.65 | 1.0 | 50 | 0 | 109 | 70 - 125 | | | |
| Surr: Dibromofluoromethane | 49.36 | 1.0 | 50 | 0 | 98.7 | 74 - 125 | | | |
| Surr: Toluene-d8 | 48.46 | 1.0 | 50 | 0 | 96.9 | 75 - 125 | | | |
| MS Sample ID: | HS15120268-10MS | | Units: | ug/L | Ana | alysis Date: | 10-Dec-2015 | 18:38 | |
| Client ID: | Run | ID: VOA2 | _266179 | SeqNo: 3 | 520852 | PrepDate: | | DF | : 500 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qua |
| Benzene | 22830 | 500 | 25000 | 0 | 91.3 | 80 - 120 | | | |
| Surr: 1,2-Dichloroethane-d4 | 26300 | 500 | 25000 | 0 | 105 | 71 - 125 | | | |
| Surr: 4-Bromofluorobenzene | 27280 | 500 | 25000 | 0 | 109 | 70 - 125 | | | |
| Surr: Dibromofluoromethane | 24830 | 500 | 25000 | 0 | 99.3 | 74 - 125 | | | |
| Surr: Toluene-d8 | 24940 | 500 | 25000 | 0 | 99.8 | 75 - 125 | | | |

QC BATCH REPORT

Client:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual GW Sampling

WorkOrder:

HS15120241

Batch ID: R266179 Instrument: VOA2 Method: SW8260

| MSD | Sample ID: | HS15120268-10MSD | | Units: | ug/L | Ana | alysis Date: | 10-Dec-2015 | 19:03 |
|---------------------|------------|------------------|--------|----------|------------------|--------|------------------|-------------|---------------------|
| Client ID: | | Run ID: | : VOA2 | 2_266179 | SeqNo: 3 | 520853 | PrepDate: | | DF: 500 |
| Analyte | | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | | RPD %RPD Limit Q |
| Benzene | | 21840 | 500 | 25000 | 0 | 87.4 | 80 - 120 | 22830 | 4.46 20 |
| Surr: 1,2-Dichloroe | ethane-d4 | 25460 | 500 | 25000 | 0 | 102 | 71 - 125 | 26300 | 3.27 20 |
| Surr: 4-Bromofluoi | obenzene | 26890 | 500 | 25000 | 0 | 108 | 70 - 125 | 27280 | 1.44 20 |
| Surr: Dibromofluor | omethane | 24010 | 500 | 25000 | 0 | 96.0 | 74 - 125 | 24830 | 3.35 20 |
| Surr: Toluene-d8 | | 25000 | 500 | 25000 | 0 | 100 | 75 - 125 | 24940 | 0.25 20 |

Client:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual GW Sampling

WorkOrder:

HS15120241

QC BATCH REPORT

| Batch ID: R266195 | Instr | ument: | VOA4 | | Metho | od: SW826 | 0 | | |
|-----------------------------|-----------------|--------|---------|------------------|--------|------------------|------------------|-----------------------------------------|-------------------|
| MBLK Sample ID: | VBLKW-151211 | | Units: | ug/L | Ana | alysis Date: | 11-Dec-201 | 5 13:02 | |
| Client ID: | Run ID | : VOA4 | _266195 | SeqNo: 3 | 521302 | PrepDate: | | DF | : 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | | RPD Limit Qua |
| Benzene | < 1.0 | 1.0 | | | | | | | |
| Surr: 1,2-Dichloroethane-d4 | 52.75 | 1.0 | 50 | 0 | 106 | 71 - 125 | | | |
| Surr: 4-Bromofluorobenzene | 51.92 | 1.0 | 50 | 0 | 104 | 70 - 125 | | | |
| Surr: Dibromofluoromethane | 53.3 | 1.0 | 50 | 0 | 107 | 74 - 125 | | | |
| Surr: Toluene-d8 | 59.48 | 1.0 | 50 | 0 | 119 | 75 - 125 | | | , |
| LCS Sample ID: | VLC\$W-151211 | | Units: | ug/L | Ana | ılysis Date: | 11-Dec-201 | 5 12:11 | |
| Client ID: | Run ID | VOA4 | _266195 | SeqNo: 3 | 521301 | PrepDate: | | DF | :1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qua |
| Benzene | 51.72 | 1.0 | 50 | 0 | 103 | 80 - 120 | | | |
| Surr: 1,2-Dichloroethane-d4 | 52.98 | 1.0 | 50 | 0 | 106 | 71 - 125 | | ······ | ····· |
| Surr: 4-Bromofluorobenzene | 55.35 | 1.0 | 50 | 0 | 111 | 70 - 125 | | | |
| Surr: Dibromofluoromethane | 54.24 | 1.0 | 50 | 0 | 108 | 74 - 125 | | | |
| Surr: Toluene-d8 | 60.36 | 1.0 | 50 | 0 | 121 | 75 - 125 | | | |
| MS Sample ID: | HS15120379-01MS | | Units: | ug/L | Ana | lysis Date: | 11-Dec-201 | 5 16:27 | |
| Client ID: | Run ID | VOA4 | _266195 | SeqNo: 3 | 521740 | PrepDate: | | DF | :1 |
| Analyte | Result | PQL | SPK Vai | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qual |
| Benzene | 51.57 | 1.0 | 50 | 0 | 103 | 80 - 120 | | | |
| Surr: 1,2-Dichloroethane-d4 | 54.21 | 1.0 | 50 | 0 | 108 | 71 - 125 | | | |
| Surr: 4-Bromofluorobenzene | 56.11 | 1.0 | 50 | 0 | 112 | 70 - 125 | | | |
| Surr: Dibromofluoromethane | 55.11 | 1.0 | 50 | 0 | 110 | 74 - 125 | <u> </u> | *************************************** | |
| Surr: Toluene-d8 | 60.73 | 1.0 | 50 | 0 | 121 | 75 - 125 | | | |

QC BATCH REPORT

Client:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual GW Sampling

WorkOrder:

HS15120241

Batch ID: R266195 Instrument: VOA4 Method: SW8260

| MSD Sa | ample ID: | HS15120379-01MSD | | Units: | ug/L | Ana | alysis Date: | 11-Dec-2015 | i 16:52 |
|-------------------------|-----------|------------------|-----------------|-----------------|------------------|--------|------------------|------------------|-----------------------|
| Client ID: | | Run II | D: VOA 4 | <u> </u> 266195 | SeqNo: 3 | 521741 | PrepDate: | | DF: 1 |
| Analyte | | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | RPD %RPD Limit Qua |
| Benzene | | 51.14 | 1.0 | 50 | 0 | 102 | 80 - 120 | 51.57 | 0.845 20 |
| Surr. 1,2-Dichloroethai | ne-d4 | 53.14 | 1.0 | 50 | 0 | 106 | 71 - 125 | 54.21 | 1.99 20 |
| Surr: 4-Bromofluorobe | nzene | 54.94 | 1.0 | 50 | 0 | 110 | 70 - 125 | 56.11 | 2.12 20 |
| Surr: Dibromofluorome | thane | 54.16 | 1.0 | 50 | 0 | 108 | 74 - 125 | 55.11 | 1.74 20 |
| Surr: Toluene-d8 | | 59.31 | 1.0 | 50 | 0 | 119 | 75 - 125 | 60.73 | 2.37 20 |

The following samples were anayzed in this batch: HS15120241-05

Client:

µg/L

Micrograms per Liter

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual GW Sampling

WorkOrder:

HS15120241

QUALIFIERS, ACRONYMS, UNITS

| Qualifier | Description |
|---------------|---------------------------------------------------------------------------|
| • | Value exceeds Regulatory Limit |
| а | Not accredited |
| В | Analyte detected in the associated Method Blank above the Reporting Limit |
| E | Value above quantitation range |
| Н | Analyzed outside of Holding Time |
| J | Analyte detected below quantitation limit |
| M | Manually integrated, see raw data for justification |
| n | Not offered for accreditation |
| ND | Not Detected at the Reporting Limit |
| 0 | Sample amount is > 4 times amount spiked |
| P | Dual Column results percent difference > 40% |
| R | RPD above laboratory control limit |
| S | Spike Recovery outside laboratory control limits |
| U | Analyzed but not detected above the MDL/SDL |
| Acronym | Description |
| DCS | Detectability Check Study |
| DUP | Method Duplicate |
| LCS | Laboratory Control Sample |
| LCSD | Laboratory Control Sample Duplicate |
| MBLK | Method Blank |
| MDL | Method Detection Limit |
| MQL | Method Quantitation Limit |
| MS | Matrix Spike |
| MSD | Matrix Spike Duplicate |
| PDS | Post Digestion Spike |
| PQL | Practical Quantitaion Limit |
| SD | Serial Dilution |
| SDL | Sample Detection Limit |
| TRRP | Texas Risk Reduction Program |
| Unit Reported | Description |

CERTIFICATIONS, ACCREDITATIONS & LICENSES

| Agency | Number | Expire Date |
|-----------------|---------------------|-------------|
| Arkansas | 15-024-0 | 27-Mar-2016 |
| California | 2919 | 31-Jul-2016 |
| Dept of Defense | L2231 Rev 3-20-2014 | 22-Dec-2015 |
| Illinois | 003622 | 09-May-2016 |
| Kansas | E-10352 2014-2015 | 31-Jan-2016 |
| Kentucky | KY 2015-2016 | 30-Apr-2016 |
| Louisiana | 03087 2015/2016 | 30-Jun-2016 |
| North Carolina | 624 - 2015 | 31-Dec-2015 |
| North Dakota | R-193 2015-2016 | 30-Apr-2016 |
| Oklahoma | 2015-047 | 31-Aug-2016 |
| Texas | T104704231-15-15 | 30-Apr-2016 |

Date:

14-Dec-15

Client:

ARCADIS U.S., Inc.

Project:

Brickland NM Semi Annual GW Sampling

Work Order:

HS15120241

SAMPLE TRACKING

| Lab Samp ID | Client Sample ID | Action | Date | Person | New Location |
|---------------|------------------|--------|----------------------|--------|--------------|
| HS15120241-01 | MW-8 | Login | 12/5/2015 1:38:11 PM | RPG | VW-3 |
| HS15120241-01 | MW-8 | Login | 12/5/2015 1:38:11 PM | RPG | TPH C2 |
| HS15120241-02 | FD120415 | Login | 12/5/2015 1:38:11 PM | RPG | TPH C2 |
| HS15120241-03 | FB120415 | Login | 12/5/2015 1:38:11 PM | RPG | VW-3 |
| HS15120241-03 | FB120415 | Login | 12/5/2015 1:38:11 PM | RPG | TPH C2 |
| HS15120241-04 | EB 120415 | Login | 12/5/2015 1:38:11 PM | RPG | VW-3 |
| HS15120241-04 | EB 120415 | Login | 12/5/2015 1:38:11 PM | RPG | TPH C2 |
| HS15120241-05 | MW-10 | Login | 12/5/2015 1:38:11 PM | RPG | VW-3 |

| | | | | | | Sample Receipt | Checklist |
|-------------------|--------------|------------------------------|-----------------|-----------------|---------------------|------------------------|-----------|
| Client Name: | ARCADI | S-BATON ROUGE | | Date | e/Time Received: | 05-Dec-2015 10:00 | 2 |
| Work Order: | HS15120 |)241 | | Rec | eived by: | RPG | |
| Oh a ddiad a same | | | | Daviewa d by | | | |
| Checklist comp | pleted by: | Raegen Giga | 5-Dec-201 | 5 Reviewed by | Dane J. Wa | | c-2015 |
| | | eSignature | Date | | eSignature | ' | Date |
| Matrices: | wat | er | | Carrier name | : <u>FedEx Prio</u> | rity Overnight | |
| Shipping conta | ainer/cooler | in good condition? | | Yes 🗸 | No 🔲 | Not Present | |
| Custody seals | intact on s | hipping container/cooler? | | Yes 🗸 | No 🔲 | Not Present | |
| Custody seals | intact on s | ample bottles? | | Yes | No 🔲 | Not Present | |
| Chain of custo | dy present | ? | | Yes 🗸 | No 🔲 | | |
| Chain of custo | dy signed v | when relinquished and rece | eived? | Yes 🗸 | No 🔲 | | |
| Chain of custo | dy agrees | with sample labels? | | Yes 🗸 | No 🗌 | | |
| Samples in pro | oper contai | ner/bottle? | | Yes 🗸 | No 🔲 | | |
| Sample contai | ners intact | ? | | Yes 🗸 | No 🔲 | | |
| TX1005 solids | received in | n hermetically sealed vials? | • | Yes | No 🔲 | N/A 🔽 | |
| Sufficient sam | ple volume | for indicated test? | | Yes 🗸 | No 🗌 | | |
| All samples re- | ceived with | in holding time? | | Yes 🗸 | No 🗌 | | |
| Container/Tem | np Blank te | mperature in compliance? | | Yes 🗸 | No 🔲 | | |
| Temperature(s | s)/Thermon | neter(s): | | 4.2c/4.4c uc/c | | IR - | 4 |
| Cooler(s)/Kit(s | s): | | | Foam | | | |
| Date/Time san | nple(s) sen | t to storage: | | 12/05/2015 13:4 | 0 | | , |
| Water - VOA v | ials have z | ero headspace? | | Yes 🗸 | No 1 | No VOA vials submitted | |
| Water - pH acc | ceptable up | oon receipt? | | Yes | No 🔲 | N/A 🔽 | |
| pH adjusted? | | | | Yes | No 🔲 | N/A 🔽 | |
| pH adjusted by | y: | | | | | | |
| Login Notes: | | | | | | | |
| Client Contact | ed: | | Date Contacted: | | Person Con | tacted: | |
| Contacted By: | 0 | | Regarding: | | | | |
| Comments: | Г | | | | | | |
| | | | | | | | |
| Corrective Acti | ion: | | | | | | |
| | | | | | | | |



Cincinnati, OH +1 513 733 5336 Fort Collins, CO +1 970 490 1511 Chair

Custody Form

Houston, TX +1 281 530 5656 Spring City, PA +1 610 948 4903 South Ch

ın, WV

+1 304 1 8

Everett, WA Holland, MI +1 425 356 2600 +1 616 399 6070 Page ____of ___

Middletown, PA +1 717 944 5541 Salt Lake City, UT +1 801 266 7700 York, PA +1 717 505 5280

20944 COC ID: Environmental ALS Project Manager: ALS Work Order #: Parameter/Method Request for Analysis **Customer Information Project Information** kland NM Semi annual (8260 Benzene, (Unpres.)) **Purchase Order** LA00318S **Project Name** GW Sampling Work Order Project Number c Company Name Bill To Company þ Send Report To Invoice Attn HS15120241 ARCADIS U.S., Inc. Address Address Brickland NM Semi Annual GW Sampling Highlands Ranch.(080149 City/State/Zip City/State/Zip Phone Phone Fax Fax e-Mail Address e-Mail Address Matrix # Bottles Hold No. Sample Description Date Time // Pres. 1.0 8 C 120415 None 3 MW-10 5 10 Shipment Method Results Due Date: XSTD 10 WK Days 5 WK Day 2 Wk Days 24 Hour Received by: Cagin Brickland Received by (Laboratory): Relinquished by: Date: Cooler ID Time: Cooler Temp GC Package: (Check One Box Below) 10.00 ☐ Level II Std QC ☐ TRRP Checklist Logged by (Laboratory): Date: Time: Checked by (Lifebratory Level III Std QC/Raw Date ☐ TRRP Level IV V/24 2 ☐ Level IV SWB46/CLP Other OC LOUEL: STD Preservative Key: 1-HCl 2-HNO₄ 3-H₂SO₄ 4-NaOH 5-Na₂S₂O₃ 6-NaHSO₄ 7-Other 9-5035 CF +0-2

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.

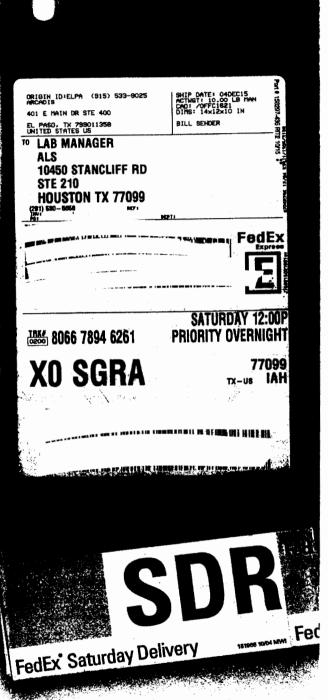
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.

3. The Chain of Custody is a legal document, All information must be completed accurately.

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Appendix D

Plugging and Abandonment Field Activities Report



September 17, 2015

Mr. Glenn Von Gonten New Mexico Oil Conservation Division 1220 South St. Francis Drive Santa Fe, New Mexico 87505

Subject: Plugging and Abandonment Field Activities Report

Former Brickland Refinery Site Sunland Park, New Mexico

(Abatement Plan AP-001) - New Mexico Oil Conservation Division Approval Correspondence

Dear Mr. Von Gonten:

Huntsman is providing this letter to the NMOC to report the Well Plugging and Abandonment Field Activities at the Former Brickland Refinery Site. This report includes a description of the field work performed, photographic documentation, and state well plugging reports for all wells plugged and abandoned.

Monitor Well Plugging and Abandonment

On July 20, 2015, Huntsman observed and provided field oversight for the plugging and abandoning twenty one monitoring wells that. The New Mexico-licensed well driller (Maverick Drilling, Marvin McGee) removed the surface completions by way of pulling protective casings using a backhoe due to soft site conditions. In accordance with New Mexico Administrative Code, 19.27.4 NMAC, *Natural Resources and Wildlife, Underground water, well driller licensing; construction, repair and plugging of wells,* all well casings were attempted to be removed by pulling straight up using a backhoe and chain wrapped around the casing. Although effort to remove the casing was made, in some locations not all of the casing was removed due to the casing breaking off below ground surface. The remaining casing and borehole was tremie grouted from the bottom up to ground surface. Table 1 below lists the well names, locations, total depths, and the footage of casing removed from the well.

Table 1: Plugged and Abandoned Monitoring Well information

| WELL NAME | CASING SIZE (in) | TOTAL DEPTH (ft) | CASING PULLED (ft) |
|--------------|---------------------|---------------------|--------------------|
| MW-1 | 4 | 14.25 | 3 |
| MW-4 | 4 | 14 | 10 |
| MW-7 | 4 | 13.66 | 10 |
| MW-12 | 4 | 25 | 15 |
| MW-14 | 4 | 23.3 | 2 |
| MW-15 | 4 | 32.2 | 0 |
| MW-16 | 4 | 29.7 | 2 |
| WP-1 | 2 | 9.5 | 0 |
| WP-2 | 2 | 17.6 | 1 |



| WELL NAME | CASING SIZE (inches) | TOTAL DEPTH (foot) | CASING PULLED (foot) |
|--------------|----------------------|-----------------------|----------------------|
| WP-3 | 2 | 8.8 | 1 |
| WP-7 | 2 | 17.2 | 1 |
| WP-14 | 2 | 5.6 | 2 |
| WP-25 | 2 | Unknown | 0 |
| WP-26D | 2 | 18.9 | 10 |
| WP-26S | 2 | 10.8 | 1 |
| WP-27D | 2 | 14.9 | 1 |
| WP-27S | 2 | 11.8 | 1 |
| WP-30 | 2 | 10.1 | 3 |
| WP-31 | 2 | 13.5 | 2.5 |
| WP-32 | 2 | 12.6 | 2 |
| WP-33 | 2 | 12 | 3 |

The removed well casings were taken by the drillers as directed by Arcadis for disposal at the local landfill. The metal pipes were taken to the recycling facility.

The drilling subcontractor is required by the State of New Mexico to submit State of New Mexico Plugging Reports which includes the wells location, construction, depth, backfill material, and methods of backfill. The State of New Mexico Plugging Reports for all twenty one (21) wells plugged and abandoned are included as an attachment to this letter report. MW-9 was not removed as it could not be located during the P&A event and has not been located during the last 2 years of groundwater monitoring events.

This letter report for plug and abandonment will be provided to the NMOCD with the Annual Groundwater Report due on or before April 1, 2016 as well.

We appreciate your approval to modify the sampling performed at the former Brickland Refinery site. If you have any questions or require additional information on our addendum, please contact me at 281-719-3039 or via email at ed_l_gunderson@huntsman.com.

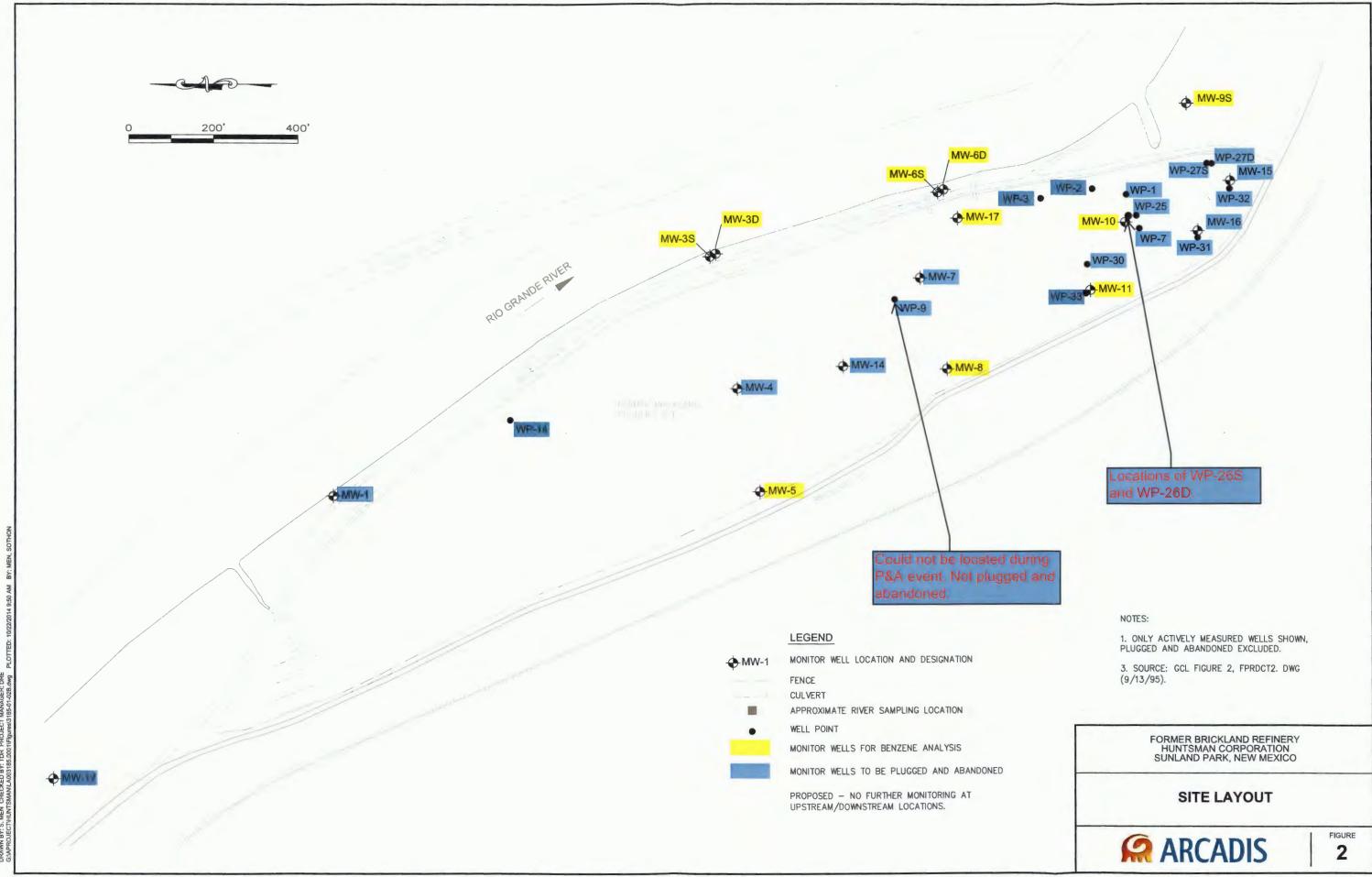
Sincerely,

Ed Gunderson Senior Manager, EHS Legal and Regulatory Compliance



Attachment A

Site Map





Attachment B

State of New Mexico Plugging Records





NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

| I. GE | NERAL / WELL OWNER | SHIP: | | | | | | BEIV | | |
|--------------------|---------------------------------------------------------|--------------------|--------------|----------------|--------------|---------------------------------------|--------------|------------|-----------|------|
| State E | Engineer Well Number:LF | G-16012 MW-1 | 15 | | | U | " JU | L 28 20 | 015 | |
| Well o | wner: Edward Gunderson | Huntsman Inter | mational, L | LC. | _ : | Phone No. | STATE | ENGINEER (| OFFICE | |
| Mailin | g address: 8600 Gosling R | .oad | | | | | | | | |
| City: | The Woodlands | | State: | Texas | | | | Zip code | : | 1 |
| II. W | ELL PLUGGING INFOR | MATION: | | | | | | | | |
| 1) | Name of well drilling con | pany that plugg | ged well: | Maverick | Drilling, | Inc. | | | ······ | |
| 2) | New Mexico Well Driller | License No.: _ | WD-14 | 149 | | | Expirati | ion Date: | June 30. | 2016 |
| 3) | Well plugging activities v Johnny Arnett | vere supervised l | by the follo | wing wel | l driller(s) | /rig superv | visor(s): | Marvi | n Magee a | and |
| 4) | Date well plugging began | July 21, 201 | 5 | _ Date | well plug | ging concl | uded: _ | July 21, 2 | 015 | |
| 5) | GPS Well Location: | Latitude: | 31 106 | _deg, _deg, | 47 31 | min,39 min,59 | 9.33 9.88 | sec, WGS | 84 | |
| 6) | Depth of well confirmed by the following manner: | | | | ft belo | w ground l | evel (b | gl), | | |
| 7) | Static water level measure | ed at initiation o | f plugging: | 4 | ft bgl | | | | | |
| 8) | Date well plugging plan | of operations was | s approved | by the St | ate Engine | eer: July 1 | , 2015 | | | |
| 9) | Were all plugging activiti differences between the a | | | | | | | | | |
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Page 1 of 2

Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with 10) horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

| Depth (ft bgl) | Plugging <u>Material Used</u> (include any additives used) | Volume of Material Placed (gallons) | Theoretical Volume of Borehole/ Casing (gallons) | Placement Method (tremie pipe, other) | Comments ("casing perforated first", "open annular space also plugged", etc.) |
|----------------|------------------------------------------------------------------|-------------------------------------|--------------------------------------------------------|----------------------------------------|--------------------------------------------------------------------------------|
| - | | | | | |
| 20 | Neat cement grout | | | Tremie | Removed casing |
| 32.2 | TD | 21 | 21 | | |
| 40 | | | | | |
| - | | | | | |
| | | | | | |
| 60 | | | | | |
| _ | | | | | |
| _ | | | | | |
| 80 | | | | | |
| _ | | | | | |
| | | | | | |
| _ | | | | | |
| | | MULTIPLY cubic feet x 7. | BY AND OBTAIN 4805 = gallons | | |
| | | cubic yards x 201. | 97 = gallons | | |

III. SIGNATURE:

| I, Marvin Magee | , say that | I am | familiar | with the | e rules of | the Office | of the State |
|-------------------------------------------------------|------------|--------|----------|----------|------------|------------|--------------|
| Engineer pertaining to the plugging of wells and that | | | | | | | |
| are true to the best of my knowledge and belief. | 11 | | 1// | • | | | |
| | | | //// | | | | |
| 9/ | lan | _// | la | 20 3 | ٤ | Jul | ly 28 2015 |
| | | | | | _ | | 7 |
| | Sig | nature | of Wolf | Driller | | | Date |

Version: September 8, 2009 Page 2 of 2





NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

| I. GEN | ERAL / WELL OWNERSHIP: | | | DECEIVI | |
|----------|-----------------------------------------------------------------------------------------------|---------------|--------------------|---------------------------|-------------------------------|
| State En | ngineer Well Number: LRG-16012 MW-1 | | | JUL 28 2015 | العار ا |
| Well ow | mer: Edward Gunderson, Huntsman Internatio | nal, LI | .C | STATE ENGINEER OF | ICE |
| Mailing | address: 8600 Gosling Road | | | LAS CRUCES, NM | |
| City: | The Woodlands S | tate: _ | Texas | | Zip code: |
| II. WE | LL PLUGGING INFORMATION: | | | | |
| 1) | Name of well drilling company that plugged we | ell: <u>1</u> | Maverick Dril | ling, Inc. | |
| 2) | New Mexico Well Driller License No.: | WD-14 | 49 | Expirati | on Date: <u>June 30, 2016</u> |
| 3) | Well plugging activities were supervised by the Johnny Arnett | follov | ving well drill | ler(s)/rig supervisor(s): | Marvin Magee and |
| 4) | Date well plugging began: July 21, 2015 | | Date well | plugging concluded: _ | July 21, 2015 |
| 5) | GPS Well Location: Latitude: 31 Longitude: 106 | | deg, 47 deg, 32 | min, 50.49 min, 08.51 | sec sec, WGS 84 |
| 6) | Depth of well confirmed at initiation of plugging by the following manner: | | 14.25 ft | below ground level (by | gl), |
| 7) | Static water level measured at initiation of plug | gging: | ft | bgl | |
| 8) | Date well plugging plan of operations was appr | roved b | y the State E | ngineer: July 1, 2015 | |
| 9) | Were all plugging activities consistent with an differences between the approved plugging pla | | | | |
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| | | | | | |
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Version: September 8, 2009

10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

| Depth (ft bgl) | Plugging <u>Material Used</u> (include any additives used) | Volume of <u>Material Placed</u> (gallons) | Theoretical Volume of Borehole/ Casing (gallons) | Placement Method (tremie pipe, other) | Comments ("casing perforated first", "open annular space also plugged", etc.) |
|----------------|------------------------------------------------------------------|--------------------------------------------------|--------------------------------------------------|----------------------------------------|-------------------------------------------------------------------------------|
| _ | Neat cement grout | | | Tremie | Removed casing |
| _ | | | | | |
| 14.25 | TD | 9 | 9 | | |
| 20 – | | | | | |
| 2- | | | | | |
| | | | | | |
| _ | | | | | |
| | | | | | |
| 40 | | | | | |
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| _ | | | | | |
| | | | | | |
| 60 | | | | | |
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| | | | | | |
| 80 | | | | | |
| _ | | | | | |
| - | | | | | |
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| **** | | | | | |
| | | AUG TIDLY | MATOO OMA | | |

MULTIPLY BY AND OBTAIN cubic feet x 7.4905 = gallons cubic yards x 201.97 = gallons

III. SIGNATURE:

| I, Marvin Magee | , say | that ! | am | familiar | with | the | rules | of th | e Office | of the | State |
|-------------------------------------------------------|-------|--------|----|----------|------|-----|-------|-------|----------|--------|-------|
| Engineer pertaining to the plugging of wells and that | | | | | | | | | | | |
| are true to the best of my knowledge and belief | | | | _ | | | - | • | | | |
| are due to the best of my knowledge and benefit. | | , | | | | | | | | | |

Signature of Well Driller

July 28 2015

Date





| NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19 27 4 NMA |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| I. GENERAL / WELL OWNERSHIP: State Engineer Well Number: _LRG-16012 MW-14 |
| II. WELL PLUGGING INFORMATION: 1) Name of well drilling company that plugged well: Maverick Drilling, Inc. |
| 2) New Mexico Well Driller License No.: WD-1449 Expiration Date: June 30, 2016 |
| Well plugging activities were supervised by the following well driller(s)/rig supervisor(s): Marvin Magee and Johnny Arnett |
| 4) Date well plugging began: July 21, 2015 Date well plugging concluded: July 21, 2015 |
| 5) GPS Well Location: Latitude: 31 deg, 47 min, 39.20 sec Longitude: 106 deg, 32 min, 05.13 sec, WGS 84 |
| 6) Depth of well confirmed at initiation of plugging as:23.3 ft below ground level (bgl), by the following manner: |
| 7) Static water level measured at initiation of plugging: 1.5 ft bgl |
| 8) Date well plugging plan of operations was approved by the State Engineer: <u>July 1, 2015</u> |
| Were all plugging activities consistent with an approved plugging plan? Yes If not, please described differences between the approved plugging plan and the well as it was plugged (attach additional pages as needed): |
| |
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| |
| |

Version: September 8, 2009 Page 1 of 2

10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

| Depth (ft bgl) | Plugging <u>Material Used</u> (include any additives used) | Volume of Material Placed (gallons) | Theoretical Volume of Borehole/ Casing (gallons) | Placement Method (tremie pipe, other) | Comments ("casing perforated first", "open annular space also plugged", etc.) |
|-------------------|------------------------------------------------------------|-------------------------------------|--------------------------------------------------------|----------------------------------------|-------------------------------------------------------------------------------|
| 20 | Neat cement grout | 15 | 15 | Tremie | Removed casing |
| 40 | | • | | | |
| 60 | | | | | |
| 80 | | | | | |
| _ | | MULTIPLY | BY AND OBTAIN | | |

cubic feet x 7.4805 = gallons cubic yards x 201.97 = gallons

III. SIGNATURE:

| I, Marvin Magee | , say | that I am | familiar w | ith the rul | les of the | Office of the State |
|--------------------------------------------------|--------------|---------------|------------|---------------|------------|---------------------|
| Engineer pertaining to the plugging of wells and | that each ar | nd all of the | statements | s in this Plu | agging Rec | ord and attachments |
| are true to the best of my knowledge and belief. | 111 | 1 | 11 | | | |
| | 816 | | | | | |
| | /)//6 | an/// | BBA | | | July 28 2015 |

Signature of Well Driller

Version: September 8, 2009

Date





NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

| | RAL / WELL OWNERSHIP: | DECEIVED |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| | neer Well Number:LRG-16012 MW-12 | JUL 2 8 2015 |
| Well owne | er: Edward Gunderson, Huntsman International, LLC. | PROMETINGINEER OFFICE |
| Mailing ad | ddress: 8600 Gosling Road | |
| City:T | The Woodlands State: Texas | Zip code:77381 |
| II. WELI | L PLUGGING INFORMATION: | |
| 1) N | Name of well drilling company that plugged well: <u>Maverick Dr</u> | illing, Inc. |
| 2) N | New Mexico Well Driller License No.: WD-1449 | Expiration Date: June 30, 2016 |
| 3) V | Well plugging activities were supervised by the following well dri Johnny Arnett | iller(s)/rig supervisor(s): Marvin Magee and |
| 4) D | Date well plugging began: July 21, 2015 Date well | ll plugging concluded: July 21, 2015 |
| 5) 0 | GPS Well Location: Latitude: 31 deg, 47 Longitude: 106 deg, 32 | min, 57.96 sec min, 16.77 sec, WGS 84 |
| | Depth of well confirmed at initiation of plugging as: | ft below ground level (bgl), |
| 7) S | Static water level measured at initiation of plugging: | ft bgl |
| 8) [| Date well plugging plan of operations was approved by the State I | Engineer: July 1, 2015 |
| | Were all plugging activities consistent with an approved plugging lifferences between the approved plugging plan and the well as it | |
| 4 | | |
| | | |
| | THE CONTRACTOR OF THE CONTRACT | |
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| | | |

Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with 10) horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

| Depth (ft bgl) | Plugging <u>Material Used</u> (include any additives used) | Volume of <u>Material Placed</u> (gallons) | Theoretical Volume of Borehole/ Casing (gallons) | Placement Method (tremie pipe, other) | Comments ("casing perforated first", "open annular space also plugged", etc.) |
|----------------|------------------------------------------------------------|--------------------------------------------|--------------------------------------------------------|---------------------------------------|-------------------------------------------------------------------------------|
| 20 | | • | | T | P |
| 25 _ | Neat cement grout | 16 | 16 | Tremie | Removed casing |
| 40 | | | | | |
| - | | | | | |
| 60 | | | | | |
| - | | | | | |
| 80 | | | | | |
| _ | | | | | |
| | | MINTO! V | RV AND ORTAIN | • | • |

MULTIPLY AND OBTAIN gallons 7.4805 cubic feet 201.97 gallons cubic yards

III. SIGNATURE:

| I, <u>Ma</u> | rvin Magee | , say | that I a | m familiar | with the | rules of the | Office of the State |
|--------------|--------------------------------------|-----------------|------------|---------------|-------------|--------------|----------------------|
| Engineer | pertaining to the plugging of wells | and that each a | ind all of | the states he | nts in this | Plugging Re | cord and attachments |
| are true t | o the best of my knowledge and beli- | ef. // | ' | /// | | | |
| | | 9/1/2 | | | | | |
| | | // lm | n// | laag | 0 | | July 28 2015 |
| | 7 | | | | | | |
| | | | Signati | pe of Well | Driller | | Date |
| | | | | | | | |

Version: September 8, 2009





NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC I. GENERAL / WELL OWNERSHIP: IUI **2 8** 2015 State Engineer Well Number: __LRG-16012 MW-16 STATE ENGINEER OFFICE Phone DAS CRUCES, NM Well owner: Edward Gunderson, Huntsman International, LLC. Mailing address: 8600 Gosling Road 77381 City: The Woodlands Texas Zip code: State: II. WELL PLUGGING INFORMATION: Name of well drilling company that plugged well: Maverick Drilling, Inc. 1) New Mexico Well Driller License No.: WD-1449 Expiration Date: June 30, 2016 2) Well plugging activities were supervised by the following well driller(s)/rig supervisor(s): Marvin Magee and 3) Johnny Arnett Date well plugging began: July 21, 2015 Date well plugging concluded: July 21, 2015 4) 5) GPS Well Location: Latitude: Longitude: ____106 deg, 32 min, 01.28 sec, WGS 84 Depth of well confirmed at initiation of plugging as: 32.2 ft below ground level (bgl), 6) by the following manner: Tape measure Static water level measured at initiation of plugging: 4 ft bgl 7) Date well plugging plan of operations was approved by the State Engineer: July 1, 2015 8) Were all plugging activities consistent with an approved plugging plan? Yes If not, please describe 9) differences between the approved plugging plan and the well as it was plugged (attach additional pages as needed):

Version: September 8, 2009

Page 1 of 2

10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

| Neat cement grout | Depth (ft bgl) | Plugging <u>Material Used</u> (include any additives used) | Volume of <u>Material Placed</u> (gallons) | Theoretical Volume of Borehole/ Casing (gallons) | Placement Method (tremie pipe, other) | Comments ("casing perforated first", "open annular space also plugged", etc.) |
|-------------------------------------------------------------------------------|-------------------|------------------------------------------------------------|--------------------------------------------------|--------------------------------------------------------|----------------------------------------|-------------------------------------------------------------------------------|
| Neat cement grout 19 19 19 Removed casing Removed casing Removed casing | | | | | | |
| 29.7 | 20 | | | | | |
| 80 MULTIPLY BY AND OBTAIN cubic feet x 7.4006 = gallons | 29.7 | | 19 | 19 | Tremie pipe | Removed casing |
| MULTIPLY BY AND OBTAIN cubic feet x 7.4806 = gallons | 40 | | | | | |
| MULTIPLY BY AND OBTAIN cubic feet x 7.4806 = gallons | _ | | | | | |
| MULTIPLY BY AND OBTAIN cubic feet x 7.4805 = gallions | 60 | | | | | |
| MULTIPLY BY AND OBTAIN cubic feet x 7.4805 = gallions | - | | | | | |
| cubic feet x 7.4805 = gallons | 80 | | | | | |
| cubic feet x 7.4805 = gallons | - | | | | | |
| cubic feet x 7.4805 = gallons | | | | | | |
| LUDIC TOICS | | | cubic feet x 7. | 4805 = gallons | | |

III. SIGNATURE:

| I, Marvin Magee | , say | that I | am | familiar v | with the | rules o | f the | Office | of the | State |
|----------------------------------------------------------|-------|--------|----|------------|----------|---------|-------|--------|--------|-------|
| Engineer pertaining to the plugging of wells and that of | | | | | | | | | | |
| are true to the best of my knowledge and belief. | 1 | 1 | | 111 | | - | _ | | | |
| | | | | /// | | | | | | |
| 4 | //. | _ | | //2 - | _ | | | | | |

Signature of Well Driller

July 28 2015

Date





NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

| I. GEI | NERAL / WELL OWNERSI | HIP: | | ותו | ECEIVED |
|--------------|----------------------------------------------------------|-----------------------------|--------------------|--------------------------|-------------------------------------------------------|
| State E | Engineer Well Number:LRG | i-16012 MW-4 | | Nr | |
| | wner: Edward Gunderson, H | | , LLC. | Phone No.: | JUL 2 8 2015 |
| Mailin | g address: 8600 Gosling Ros | ad | | S | TATE ENGINEER OFFICE LAS CRUCES, NM |
| City: | The Woodlands | State | e: Texas | | Zip code: |
| <u>11. W</u> | ELL PLUGGING INFORM | ATION: | | | |
| 1) | Name of well drilling comp | any that plugged well: | Maverick Drill | ing, Inc. | |
| 2) | New Mexico Well Driller L | icense No.: WD | -1449 | Expira | ation Date: <u>June 30, 2016</u> |
| 3) | Well plugging activities we Johnny Arnett | re supervised by the fo | llowing well drill | er(s)/rig supervisor(s | e): Marvin Magee and |
| 4) | Date well plugging began: | July 21, 2015 | Date well [| plugging concluded: | July 21, 2015 |
| 5) | GPS Well Location: | Latitude: 31 Longitude: 106 | deg,47 deg,32 | min, 14.69 min, 05.11 | _ sec _ sec, WGS 84 |
| 6) | Depth of well confirmed at by the following manner: | | | below ground level (| bgl), |
| 7) | Static water level measured | at initiation of pluggir | ng: <u>1.5</u> ft | bgl | |
| 8) | Date well plugging plan of | operations was approv | ed by the State En | ngineer: July 1, 201 | 5 |
| 9) | Were all plugging activities differences between the app | | | | _ If not, please describe dditional pages as needed): |
| | | | | | |
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| | | dade - FRIII FRIII FRII | | | |
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Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

| Depth (ft bgl) 0 | Plugging <u>Material Used</u> (include any additives used) | Volume of <u>Material Placed</u> (gallons) | Theoretical Volume of Borehole/ Casing (gallons) | Placement <u>Method</u> (tremie pipe, other) | Comments ("casing perforated first", "open annular space also plugged", etc.) |
|------------------|------------------------------------------------------------|--------------------------------------------------|--------------------------------------------------------|----------------------------------------------|--------------------------------------------------------------------------------|
| | Neat cement grout | | | Tremie | removed casing |
| - | | | | | |
| _ | 700 | | | | |
| 14 — | TD | 9 | 9 | | |
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| | | MULTIPLY | BY AND OBTAIN | | |

MULTIPLY BY AND OBTAIN cubic feet x 7.4805 = gallons cubic yards x 201.97 = gallons

III. SIGNATURE:

.

| I, Marvin Magee | , say | that I | am | familiar | with t | he rule | s of th | ne Office | of the | State |
|-------------------------------------------------------|---------|------------|-------|----------|----------|----------|---------|------------|----------|-------|
| Engineer pertaining to the plugging of wells and that | each an | nd all o | f the | stateme | nts in t | his Plug | ging R | Record and | d attach | ments |
| are true to the best of my knowledge and belief. | 11 | | 1 | 1 | | | | | | |
| | 1am | ~ / | | ase | e | | | Jul | y 28 20 | 15 |

Signature of Well Driller

Date





NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

| I. GEI | NERAL/WELLOWNERSHIP: |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| State E | Ingineer Well Number: LRG-16012 MW-7 |
| Well o | wner: Edward Gunderson, Huntsman International, LLC. Phone No.: STATE ENGINEER OFFICE |
| Mailing | g address: 8600 Gosling Road |
| City: _ | The Woodlands State: Texas Zip code: 77381 |
| 11. W | ELL PLUGGING INFORMATION: |
| 1) | Name of well drilling company that plugged well: Maverick Drilling, Inc. |
| 2) | New Mexico Well Driller License No.: WD-1449 Expiration Date: June 30, 2016 |
| 3) | Well plugging activities were supervised by the following well driller(s)/rig supervisor(s): Marvin Magee and Johnny Arnett |
| 4) | Date well plugging began: July 21, 2015 Date well plugging concluded: July 21, 2015 |
| 5) | GPS Well Location: Latitude: 31 deg, 47 min, 36.76 sec Longitude: 106 deg, 32 min, 02.42 sec, WGS 84 |
| 6) | Depth of well confirmed at initiation of plugging as: 13.66 ft below ground level (bgl), by the following manner: Tape measure |
| 7) | Static water level measured at initiation of plugging: 2 ft bgl |
| 8) | Date well plugging plan of operations was approved by the State Engineer: July 1, 2015 |
| 9) | Were all plugging activities consistent with an approved plugging plan? Yes If not, please described differences between the approved plugging plan and the well as it was plugged (attach additional pages as needed): |
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Version: September 8, 2009 Page 1 of 2

10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

| Depth (ft bgl) 0 | Plugging <u>Material Used</u> (include any additives used) | Volume of <u>Material Placed</u> (gallons) | Theoretical Volume of Borehole/ Casing (gallons) | Placement Method (tremie pipe, other) | Comments ("casing perforated first", "open annular space also plugged", etc.) |
|------------------|------------------------------------------------------------|--------------------------------------------|--------------------------------------------------------|---------------------------------------|-------------------------------------------------------------------------------|
| | Neat cement grout | | | Tremie pipe | Removed casing |
| | | | | | |
| 13.66 | TD | 9 | 9 | | |
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| | | MULTIPLY | BY AND OBTAIN | | |
| | | | 100C | | |

cubic feet x 7.4806 = gallons cubic yards x 201.97 = gallons

III. SIGNATURE:

| I, Marvin Magee, , say that I am familiar with the r | ules of the Office of the State |
|------------------------------------------------------------------------------------------------|---------------------------------|
| Engineer pertaining to the plugging of wells and that each and all of the statements in this F | Plugging Record and attachments |
| are true to the best of my knowledge and belief. | |
| 1//00 - ///000 | |
| -111004 110gel | July 28 2015 |
| Signature of Well Driller | Date |





NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

| I. GEN | NERAL / WELL OWNERSHIP: |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| State Er | ngincer Well Number: LRG-16012 WP-1 |
| | wner: Edward Gunderson, Huntsman International, LLC. Phone No.: |
| Mailing | address: 8600 Gosling Road |
| City: | The Woodlands State: Texas Zip code: 77381 |
| | LL PLUGGING INFORMATION: |
| 1) | Name of well drilling company that plugged well: Maverick Drilling, Inc. |
| 2) | New Mexico Well Driller License No.: WD-1449 Expiration Date: June 30, 2016 |
| 3) | Well plugging activities were supervised by the following well driller(s)/rig supervisor(s): Marvin Magee and Johnny Amett |
| 4) | Date well plugging began: July 21, 2015 Date well plugging concluded: July 21, 2015 |
| 5) | GPS Well Location: Latitude: 31 deg, deg, deg, 32 47 min, min, min, min, min, min, min, min, |
| 6) | Depth of well confirmed at initiation of plugging as: 9.5 ft below ground level (bgl), by the following manner: |
| 7) | Static water level measured at initiation of plugging: 2.5 ft bgl |
| 8) | Date well plugging plan of operations was approved by the State Engineer: July 1, 2015 |
| 9) | Were all plugging activities consistent with an approved plugging plan? Yes If not, please described differences between the approved plugging plan and the well as it was plugged (attach additional pages as needed): |
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Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

| Depth (ft bgl) | Plugging <u>Material Used</u> (include any additives used) | Volume of Material Placed (gallons) | Theoretical Volume of Borehole/Casing (gallons) | Placement Method (tremie pipe, other) | Comments ("casing perforated first", "open annular space also plugged", etc.) |
|-------------------|------------------------------------------------------------|-------------------------------------------|-------------------------------------------------------|---------------------------------------|-------------------------------------------------------------------------------|
| | Neat cement grout | | | Tremie | Removed casing |
| _ | | | | | |
| 9.5 | TD | 6 | 6 | | |
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| | | MULTIPLY ! cubic feel x 7 | BY AND OBTAIN 1805 = gallons | | |
| | | cubic yards x 201.5 | 97 = gallons | | |

| III. SIGNATURE: | | |
|------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|--------------|
| I, Marvin Magee | , say that I am familiar with the rules of | |
| Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Record and attachments | | |
| are true to the best of my knowledge and be | elief. | |
| | 541 W. | |
| | 2/11-4/16gec | July 28 2015 |
| | Signature of Well Driller | Date |





| | NERAL / WELL OWNERSHIP: Engineer Well Number: LRG-16012 WP-2 |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | owner: Edward Gunderson, Huntsman International, LLC. Phone No.: |
| | g address: 8600 Gosling Road |
| City: | The Woodlands State: Texas Zip code: 77381 |
| 11. W | ELL PLUGGING INFORMATION: |
| 1) | Name of well drilling company that plugged well: Maverick Drilling, Inc. |
| 2) | New Mexico Well Driller License No.: WD-1449 Expiration Date: June 30, 2016 |
| 3) | Well plugging activities were supervised by the following well driller(s)/rig supervisor(s): Marvin Magee and Johnny Arnett |
| 4) | Date well plugging began: July 21, 2015 Date well plugging concluded: July 21, 2015 |
| 5) | GPS Well Location: Latitude: 31 deg, deg, deg, 32 47 min, min, min, min, min, min, min, min, |
| 6) | Depth of well confirmed at initiation of plugging as: 17.6 ft below ground level (bgl), by the following manner: |
| 7) | Static water level measured at initiation of plugging: 2.5 ft bgl |
| 8) | Date well plugging plan of operations was approved by the State Engineer: July 1, 2015 |
| 9) | Were all plugging activities consistent with an approved plugging plan? Yes If not, please describe differences between the approved plugging plan and the well as it was plugged (attach additional pages as needed): |
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For each interval plugged, describe within the following columns:

| Depth (ft bgl) 0 | Plugging <u>Material Used</u> (melode any additives used) | Volume of <u>Material Placed</u> (gallons) | Theoretical Volume of Borehole/ Casing (gallons) | Placement Method (tremic pipe, other) | Comments ("casing perforated first", "open annular space also plugged", etc.) |
|------------------------|-----------------------------------------------------------|--------------------------------------------------|--------------------------------------------------------|---------------------------------------|-------------------------------------------------------------------------------|
| 17.6 20 | Neat cement grout | 3 | 3 | Tremie | Removed casing |
| - | | | | | |
| 40 | | | | | |
| 60 | | | | | |
| 80 | | | | | |
| - | | MULTIPLY E cubic feet x 7 4 cubic yards x 201.5 | BY AND OBTAIN BOS = gallons gallons | | |

III. SIGNATURE:

| I. Marvin Magee | , say that | I am familiar | with the re | des of the Office of the State |
|-----------------------------------------------------|---------------|-------------------|----------------|--------------------------------|
| Engineer pertaining to the plugging of wells and th | at each and a | ll of the stateme | onts in this P | lugging Record and attachments |
| are true to the best of my knowledge and belief. | 1.1 | AI | , | |
| • | | - 717 | | |
| .). | 1/100 | 5/1/0 | al & | July 28 2015 |
| | Si | gnature of Well | 7 Driller | Date |





| <u> 1. GE</u> | NERAL/WELLOWNERSHIP: |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| State f | Ingineer Well Number: LRG-16012 WP-3 |
| Well o | wner: Edward Gunderson, Huntsman International, LLC. Phone No.: |
| Mailin | g address: 8600 Gosling Road |
| City: | The Woodlands State: Texas Zip code: 77381 |
| 11 11/1 | CLU DI LICCING INFODRIATION. |
| | ELL, PLUGGING INFORMATION: Name of well drilling company that plugged well:Maverick Drilling, Inc. |
| 1) | |
| 2) | New Mexico Well Driller License No.: WD-1449 Expiration Date: June 30, 2016 |
| 3) | Well plugging activities were supervised by the following well driller(s)/rig supervisor(s): Marvin Magee and Johnny Arnett |
| 4) | Date well plugging began: July 21, 2015 Date well plugging concluded: July 21, 2015 |
| 5) | GPS Well Location: Latitude: 31 deg, 47 min, 33.62 sec Longitude: 106 deg, 32 min, 00.17 sec, WGS 84 |
| 6) | Depth of well confirmed at initiation of plugging as: 8.8 ft below ground level (bgl), by the following manner: |
| 7) | Static water level measured at initiation of plugging: 2.5 ft bgl |
| 8) | Date well plugging plan of operations was approved by the State Engineer: July 1, 2015 |
| 9) | Were all plugging activities consistent with an approved plugging plan? Yes If not, please describe differences between the approved plugging plan and the well as it was plugged (attach additional pages as needed): |
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For each interval plugged, describe within the following columns:

| Depth (fi bgt) 0 | Plugging <u>Material Used</u> (unclude any additives used) | Volume of <u>Material Placed</u> (gallons) | Theoretical Volume of Borchole/ Casing (gallons) | Placement <u>Method</u> (trenie pipe, other) | Comments ("casing perforated first", "open annular space also plugged", etc.) |
|------------------|------------------------------------------------------------|--------------------------------------------------|--------------------------------------------------|-------------------------------------------------------|-------------------------------------------------------------------------------|
| | Neat cement grout | | | Tremie | Removed casing |
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| 8.8 | T() | 1.5 | 1.4 | | |
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cubic feet x 7 4805 = ga cubic yards x 201 97 = ga III. SIGNATURE:

| Marvin Magee | | | rules of the Office of the State |
|-----------------------------------------------|----|------------------------|----------------------------------|
| gineer pertaining to the plugging of wells an | | the statements in this | Plugging Record and attachments |
| true to the best of my knowledge and belief. | 11 | 4/ | |

Signature of Well Driller

July 28 2015

Date





| <u>1. GE</u> | NERAL/WELLOWNERSHIP: |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| State I | ingineer Well Number: LRG-16012 WP-7 |
| Wello | owner: Edward Gunderson, Huntsman International, LLC. Phone No.: |
| Mailin | g address: 8600 Gosling Road |
| City: | The Woodlands State: Texas Zip code: 77381 |
| <u>II. W</u> | ELL PLUGGING INFORMATION: |
| 1) | Name of well drilling company that plugged well: Maverick Drilling, Inc. |
| 2) | New Mexico Well Driller License No.: WD-1449 Expiration Date: June 30, 2016 |
| 3) | Well plugging activities were supervised by the following well driller(s)/rig supervisor(s): Marvin Magee and Johnny Arnett |
| 4) | Date well plugging began: July 21, 2015 Date well plugging concluded: July 21, 2015 |
| 5) | GPS Well Location: Latitude: 31 deg, 47 min, 32.47 sec Longitude: 106 deg, 32 min, 01.25 sec, WGS 84 |
| 6) | Depth of well confirmed at initiation of plugging as: 17.2 ft below ground level (bgl), by the following manner: |
| 7) | Static water level measured at initiation of plugging: 2.5 ft bgl |
| 8) | Date well plugging plan of operations was approved by the State Engineer: July 1, 2015 |
| 9) | Were all plugging activities consistent with an approved plugging plan? Yes If not, please describe differences between the approved plugging plan and the well as it was plugged (attach additional pages as needed): |
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| to the Market State of the Con- | |
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For each interval plugged, describe within the following columns:

| Depth (ft bgl) 0 | Plugging <u>Material Used</u> (mchide any additives used) | Volume of <u>Material Placed</u> (gallons) | Theoretical Volume of Borehole/ Casing (gallons) | Placement Method (tremic pipe, other) | Comments ("casing perforated first", "open annular space also plugged", etc.) |
|------------------------|-----------------------------------------------------------|--------------------------------------------------|--------------------------------------------------------|---------------------------------------|-------------------------------------------------------------------------------|
| - | Neat cement grout | | | Tremie | Removed casing |
| 17.2 | TD | 2.5 | 2.8 | | |
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MULTIPLY BY AND OBTAIN cubic feet x 7 4805 = gallons cubic yards x 201 97 = gallons

III. SIGNATURE:

| I, Marvin Magee , say that I am familiar with the re | |
|------------------------------------------------------------------------------------------------|--------------------------------|
| Engineer pertaining to the plugging of wells and that each and all of the statements in this P | lugging Record and attachments |
| are true to the best of my knowledge and belief. | |
| 1/Minstage | July 28 2015 |
| Signature of Well Driller | Date |





| I. GE | NERAL/WELL OWNERSHIP: |
|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| State E | ngineer Well Number:LRG-16012 WP-14 |
| | Aner: Edward Gunderson, Huntsman International, LLC. Phone No.: |
| Mailing | address: 8600 Gosling Road |
| City: | The Woodlands State: Texas Zip code: 77381 |
| <u>11. W</u> | ELL PLUGGING INFORMATION: |
| 1) | Name of well driffing company that plugged well: Maverick Drilling, Inc. |
| 2) | New Mexico Well Driller License No.: WD-1449 Expiration Date: June 30, 2016 |
| 3) | Well plugging activities were supervised by the following well driller(s)/rig supervisor(s): Marvin Magee and Johnny Arnett |
| 4) | Date well plugging began: July 21, 2015 Date well plugging concluded: July 21, 2015 |
| 5) | GPS Well Location: Latitude: 31 deg, deg, deg, deg, deg, deg, deg, deg, |
| 6) | Depth of well confirmed at initiation of plugging as:ft below ground level (bgl), by the following manner: |
| 7) | Static water level measured at initiation of plugging: 1 ft bgl |
| 8) | Date well plugging plan of operations was approved by the State Engineer: July 1, 2015 |
| 9) | Were all plugging activities consistent with an approved plugging plan? Yes If not, please describe differences between the approved plugging plan and the well as it was plugged (attach additional pages as needed): |
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For each interval plugged, describe within the following columns:

| Depth (f) bgl) () | Plugging <u>Material Used</u> (melude any additives used) | Volume of <u>Material Placed</u> (gallons) | Theoretical Volume of Borehole/ Casing (gallons) | Placement Method (ttemic pipe, other) | Comments ("casing perforated first", "open annular space also plugged", etc.) |
|-------------------------|-----------------------------------------------------------|--------------------------------------------------|--------------------------------------------------------|---------------------------------------|-------------------------------------------------------------------------------|
| | Neat cement grout | l | 1 | Tremie | Removed casing |
| 5.6 | ID | • | ' | | |
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| | | MULTIPLY (cubic feet x 7 | BY AND OBTAIN BOS = gallons | | |

III. SIGNATURE:

| 1. Marvin Magee | | | | | | | | of the State |
|-------------------------------------------------------|---------------|----------|---------|----------|-----------------|--------------|-----------|--------------|
| Engineer pertaining to the plugging of wells and that | iteach ang al | l of the | stateme | nts in t | his Plug | ging R | ecord and | attachments |
| are true to the best of my knowledge and belief. | AA | | // | | | | | |
| | Illa . | | 11/ | | | | | |
| | 1914 6 | /1 | 114 | W (| 2 | 14740° 7480. | July | 28 2015 |
| ₩ Stranger ₩ Vivi | Sig | nature o | Frei | Driller | No. of the land | | | Date |





| J. GEN | ERAL/WELLOWNERSHIP: |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | ngineer Well Number: LRG-16012 WP-25 |
| Well ov | wner: Edward Gunderson, Huntsman International, LLC. Phone No.: |
| Mailing | address: 8600 Gosling Road |
| City: _ | The Woodlands State: Texas Zip code: 77381 |
| <u>H. WE</u> | LL PLUGGING INFORMATION: |
| 1) | Name of well drilling company that plugged well: Maverick Drilling, Inc. |
| 2) | New Mexico Well Driller License No.: WD-1449 Expiration Date: June 30, 2016 |
| 3) | Well plugging activities were supervised by the following well driller(s)/rig supervisor(s): Marvin Magee and Johnny Arnett |
| 4) | Date well plugging began: July 21, 2015 Date well plugging concluded: July 21, 2015 |
| 5) | GPS Well Location: Latitude: 31 deg. 47 min, 32.51 sec Longitude: 106 deg. 32 min, 00.85 sec, WGS 84 |
| 6) | Depth of well confirmed at initiation of plugging as:ft below ground level (bgl), by the following manner:Tape measure |
| 7) | Static water level measured at initiation of plugging: 2.5 ft bgl |
| 8) | Date well plugging plan of operations was approved by the State Engineer: July 1, 2015 |
| 9) | Were all plugging activities consistent with an approved plugging plan? Yes If not, please describe differences between the approved plugging plan and the well as it was plugged (attach additional pages as needed): |
| Distriction of service of the service | |
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| 7. | |
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For each interval plugged, describe within the following columns:

| Depth (ft bgl) 0 | Plugging <u>Material Used</u> (melude any additives used) | Volume of <u>Material Placed</u> (gallons) | Theoretical Volume of Borehole/ Casing (gallons) | Placement Method (tremie pipe. other) | Comments ("casing perforated first", "open annular space also plugged", etc.) |
|------------------------|-----------------------------------------------------------------|--------------------------------------------------|--------------------------------------------------------|---------------------------------------|-------------------------------------------------------------------------------|
| - | Neat cement grout | | | Tremie pipe | Removedeasing |
| 15 | TD | 2 | 2.4 | | |
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| - | | | | | |
| | | MULTIPLY E cubic feet x 7.4 cubic yards x 2019 | 3Y AND OBTAIN 805 = gallons 97 = gallons | , | |

III. SIGNATURE:

| I, Marvin Magee | , say that I am familiar with the rules of th | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|------------------------|
| Engineer pertaining to the plugging of wells and the | hat each and all of the statements, in this Plugging R | tecord and attachments |
| are true to the best of my knowledge and belief. | 11 11 | |
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| | Il land lance | July 28 2015 |
| Address of the second of the s | 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 | |
| | Signature of Well-Briller | Date |





| I. GEN | (ERAL / WELL OWNERSHIP: |
|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| State En | ngineer Well Number: LRG-16012 WP-26D |
| Well ow | vner: Edward Gunderson, Huntsman International, LLC. Phone No.: |
| Mailing | address: 8600 Gosling Road |
| City: | The Woodlands State: Texas Zip code: 77381 |
| | |
| II. WE | LL PLUGGING INFORMATION: |
| 1) | Name of well drilling company that plugged well: Maverick Drilling, Inc. |
| 2) | New Mexico Well Driller License No.: WD-1449 Expiration Date: June 30, 2016 |
| 3) | Well plugging activities were supervised by the following well driller(s)/rig supervisor(s): Marvin Magee and Johnny Arnett |
| 4) | Date well plugging began: July 21, 2015 Date well plugging concluded: July 21, 2015 |
| 5) | GPS Well Location: Latitude: 31 deg. 47 min, 32.76 sec Longitude: 106 deg. 32 min, 01.04 sec, WGS 84 |
| 6) | Depth of well confirmed at initiation of plugging as:ft below ground level (bgl). by the following manner:ft |
| 7) | Static water level measured at initiation of plugging: 2 ft bgl |
| 8) | Date well plugging plan of operations was approved by the State Engineer: July 1, 2015 |
| 9) | Were all plugging activities consistent with an approved plugging plan? Yes If not, please described differences between the approved plugging plan and the well as it was plugged (attach additional pages as needed): |
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For each interval plugged, describe within the following columns:

| Depth (fi bgl) | Plugging <u>Material Used</u> (include any additives used) | Volume of <u>Material Placed</u> (gallons) | Theoretical Volume of Borehole/ Casing (gallons) | Placement Method ttreme pipe, other) | Comments ("casing perforated first", "open annular space also plugged", etc.) |
|-------------------|------------------------------------------------------------------|--------------------------------------------------|--------------------------------------------------------|--------------------------------------|-------------------------------------------------------------------------------|
| | Neat cement grout | | | Tremie pipe | Removed casing |
| • | | | | | |
| 14.7 | TD | 2.5 | 2.4 | | |
| 20 | (1) | 2 | | | |
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| | | MULTIPLY E | BY AND OBTAIN | • | • |

| | | cubic yards | 1 | 201 97 | E | gallons |] | |
|--------------|--------------------------------------------------------------------|--------------------------|------|-------------|-------------|--------------|-----------------|---------------------------|
| <u> 111.</u> | SIGNATURE: | | | | | | | |
| I, | Marvin Magec | | | | | | | f the Office of the State |
| | ineer pertaining to the pluggin true to the best of my knowleds | | at c | ach and all | of the | e statements | in this Pluggin | g Record and attachments |
| | | our sur republic control | 100 | 1/1/2 | ~~ <u>~</u> | 160 | | July 28 2015 |
| | | | | Sig | nature | of Well Dr | iller | Date |





| Wella | |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ***** | mer: Edward Gunderson, Huntsman International, LLC. Phone No.: |
| Mailin | address: 8600 Gosling Road |
| City: | The Woodlands State: Texas Zip code: 77381 |
| <u>II. W</u> | LL PLUGGING INFORMATION: |
| l) | Name of well drilling company that plugged well: Maverick Drilling, Inc. |
| 2) | New Mexico Well Driller License No.: WD-1449 Expiration Date: June 30, 2016 |
| 3) | Well plugging activities were supervised by the following well driller(s)/rig supervisor(s): Marvin Magee and Johnny Amett |
| 4) | Date well plugging began: July 21, 2015 Date well plugging concluded: July 21, 2015 |
| 5) | GPS Well Location: Latitude: 31 deg. 47 min, 32.76 sec Longitude: 106 deg. 32 min, 01.00 sec, WGS 84 |
| 5) | Depth of well confirmed at initiation of plugging as: 13.7 ft below ground level (bgl), by the following manner: Tape measure |
| 7) | Static water level measured at initiation of plugging: 2 ft bgl |
| 3) | Date well plugging plan of operations was approved by the State Engineer: July 1, 2015 |
|)) | Were all plugging activities consistent with an approved plugging plan? Yes If not, please described ifferences between the approved plugging plan and the well as it was plugged (attach additional pages as needed): |
| ************* | |
| androus-solution variation | |
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For each interval plugged, describe within the following columns:

| Depth (# bgl) 0 | Plugging <u>Material Used</u> (mehale any additives used) | Volume of <u>Material Placed</u> (galloos) | Theoretical Volume of Borehole/ Casing (gallons) | Placement Method (tremic pipe, other) | Comments ("casing perforated first", "open annular space also plugged", etc.) |
|-----------------|-----------------------------------------------------------|-------------------------------------------------------------------------------|--------------------------------------------------------|---------------------------------------|-------------------------------------------------------------------------------|
| | Neat cement grout | júsa krodým mag oga sa spisa sa s | | Tremie pipe | Removed casing |
| - | TD | 2 | 2.2 | | |
| 13.7 - | D | * | | | |
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| | | MULTIPLY | NATEO ONA YE | | |

MULTIPLY BY AND OBTAIN cubic feet x 7 4805 = gallons cubic yards x 201 97 = gallons

III. SIGNATURE:

| I, Marvin Magee | , say that I am familiar with the re | |
|--------------------------------------------------|-----------------------------------------------|--------------------------------|
| Engineer pertaining to the plugging of wells and | that each and all of the statements in this P | lugging Record and attachments |
| are true to the best of my knowledge and belief. | - 41 - 41 | |
| | 8/10 ///2 | |
| | Man/lages | July 28 2015 |
| - | Signature of Well Driller | Date |





| I. GEN | VERAL / WELL OWNERSHIP: |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| State Er | ngincer Well Number:LRG-16012 WP-27D |
| Well ov | vner: Edward Gunderson, Huntsman International, LLC. Phone No.: |
| Mailing | address: 8600 Gosling Road |
| _ | The Woodlands State: Texas Zip code: 77381 |
| <u> II. WE</u> | LL PLUGGING INFORMATION: |
| 1) | Name of well drilling company that plugged well: Maverick Drilling, Inc. |
| 2) | New Mexico Well Driller License No.: WD-1449 Expiration Date: June 30, 2016 |
| 3) | Well plugging activities were supervised by the following well driller(s)/rig supervisor(s): Marvin Magee and Johnny Arnett |
| 4) | Date well plugging began: July 21, 2015 Date well plugging concluded: July 21, 2015 |
| 5) | GPS Well Location: Latitude: 31 deg, deg, deg, 31 47 min, min, min, min, min, min, min, min, |
| 6) | Depth of well confirmed at initiation of plugging as: 14.9 ft below ground level (bgl), by the following manner: |
| 7) | Static water level measured at initiation of plugging: 4 ft bgl |
| 8) | Date well plugging plan of operations was approved by the State Engineer: July 1, 2015 |
| 9) | Were all plugging activities consistent with an approved plugging plan? Yes If not, please describe differences between the approved plugging plan and the well as it was plugged (attach additional pages as needed): |
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| Lagrana constituente se con | |
| AND CONTRACTOR | |
| **** | |

For each interval plugged, describe within the following columns:

| Depth (ft bgl) 0 | Plugging <u>Material Used</u> (melude any additives used) | Volume of <u>Material Placed</u> (gallons) | Theoretical Volume of Borehole/ Casing (gallons) | Placement Method (tremic pipe, other) | Comments ("casing perforated first", "open unnular space also plugged", etc.) |
|------------------------|-----------------------------------------------------------|--------------------------------------------------|--------------------------------------------------------|---------------------------------------|-------------------------------------------------------------------------------|
| _ | Neat cement grout | | | Tremic | Removed casing |
| | | | | | |
| 14.9 | TD | 2 | 2.5 | | |
| 20 | | | | | |
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| 40 40 | | | | | |
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| | | MULTIPLY z 7 cubic feet x 7 | BY AND OBTAIN BY Salions | | |

III. SIGNATURE:

| I. Marvin Magee | , say | that | l an | ı familiar | with the | rules of | the Office | of the State |
|-------------------------------------------------------|--------|--------|-------|------------|-------------|----------|------------|--------------|
| Engineer pertaining to the plugging of wells and that | each a | nd all | of t | ne stateme | nts in this | Plugging | Record and | attachments |
| are true to the best of my knowledge and belief. | | | 1 | 1 | | | | |
| (/ | 1A - | | - 1 | abla | | | | |
| Y_{\perp} | / a | · ¥ ′ | | asi | € | | July | 28 2015 |
| 7 | | Sie | natur | e of Well | Driller | | | Date |





| I. GE | NERAL/WELLOWNERSHIP: |
|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| State I | Engineer Well Number: LRG-16012 WP-27S |
| Well | owner: Edward Gunderson, Huntsman International, LLC. Phone No.: |
| Mailin | ng address: 8600 Gosling Road |
| City: | The Woodlands State: Texas Zip code: 77381 |
| | ELL PLUGGING INFORMATION: New Control of the Contr |
| 1) | Name of well drilling company that plugged well: Maverick Drilling, Inc. |
| 2) | New Mexico Well Driller License No.: WD-1449 Expiration Date: June 30, 2016 |
| 3) | Well plugging activities were supervised by the following well driller(s)/rig supervisor(s): Marvin Magee and Johnny Arnett |
| 4) | Date well plugging began: July 21, 2015 Date well plugging concluded: July 21, 2015 |
| 5) | GPS Well Location: Latitude: 31 deg, 47 min, 30.14 sec Longitude: 106 deg, 31 min, 59.39 sec, WGS 84 |
| 6) | Depth of well confirmed at initiation of plugging as: 11.8 ft below ground level (bgl), by the following manner: |
| 7) | Static water level measured at initiation of plugging: 4 ft bgl |
| 8) | Date well plugging plan of operations was approved by the State Engineer: July 1, 2015 |
| 9) | Were all plugging activities consistent with an approved plugging plan? Yes If not, please describe differences between the approved plugging plan and the well as it was plugged (attach additional pages as needed): |
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For each interval plugged, describe within the following columns:

| Depth (it bgl) 0 | Plugging <u>Material Used</u> (include any additives used) | Volume of <u>Material Placed</u> (gallons) | Theoretical Volume of Borehole/ Casing (gallons) | Placement Method (treme pipe, other) | Comments ("casing perforated first", "open annular space also plugged", etc.) |
|------------------|------------------------------------------------------------|--------------------------------------------------|--------------------------------------------------|--------------------------------------|-------------------------------------------------------------------------------|
| | Neat cement grout | | | Tremie | Removed casing |
| 11.8 | TD | 2 | 1.9 | | |
| 20 | | | | | |
| _ | | | | | |
| 40 | | | | | |
| - | | | | | |
| 60 | | | | | |
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| | | MULTIPLY | MATEO DAA YE | | |

MULTIPLY BY AND OBTAIN cubic feet x 7 4805 = gallons cubic yards x 201 97 = gallons

III. SIGNATURE:

| III. SIGNATURES | | |
|--------------------------------------------------|--------------------------------------------------------|------------------------|
| I. Marvin Magee | , say that I am familiar with the rules of | |
| Engineer pertaining to the plugging of wells and | d that each and all of the statements in this Plugging | Record and attachments |
| are true to the best of my knowledge and belief. | - A1 - M | |
| g, place to 4 | S/an lagge | July 28 2015 |
| | Signature of Well Driller | Date |





| <u>l. Ge</u> | NERAL / WELL OWNERSHIP: |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| State I | Engineer Well Number: LRG-16012 WP-30 |
| Wello | owner: Edward Gunderson, Huntsman International, LLC. Phone No.: |
| Mailin | g address: 8600 Gosling Road |
| City: | The Woodlands State: Texas Zip code: 77381 |
| <u>II. W</u> | ELL PLUGGING INFORMATION: Name of well drilling company that plugged well: Maverick Drilling, Inc. |
| | New Mexico Well Driller License No.: WD-1449 Expiration Date: June 30, 2016 |
| 2) 3) | Well plugging activities were supervised by the following well driller(s)/rig supervisor(s): Marvin Magee and Johnny Arnett |
| 4) | Date well plugging began: July 21, 2015 Date well plugging concluded: July 21, 2015 |
| 5) | GPS Well Location: Latitude: 31 deg, deg, deg, 32 47 min, min, min, min, min, min, min, min, |
| 6) | Depth of well confirmed at initiation of plugging as: 10.1 ft below ground level (bgl), by the following manner: |
| 7) | Static water level measured at initiation of plugging: 2.5 ft bgl |
| 8) | Date well plugging plan of operations was approved by the State Engineer: July 1, 2015 |
| 9) | Were all plugging activities consistent with an approved plugging plan? Yes If not, please describe differences between the approved plugging plan and the well as it was plugged (attach additional pages as needed): |
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For each interval plugged, describe within the following columns:

| Depth (fl bgl) 0 | Plugging <u>Material Used</u> (include any additives used) | Volume of <u>Material Placed</u> (gallons) | Theoretical Volume of Borehole/ Casing (gallons) | Placement Method (treme pipe, other) | Comments ("casing perforated first", "open annular space also plugged", etc.) |
|------------------|------------------------------------------------------------|--------------------------------------------------|--------------------------------------------------------|--------------------------------------|-------------------------------------------------------------------------------|
| | Neat cement grout | | | Tremic | Removed casing |
| 10.1 | TD | 1.5 | 1.6 | | |
| 20 | | | | | |
| - | | | | | |
| 40 | | | | | |
| - | | | | | |
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| 60 | | | | | |
| - | | | | | |
| 80 | | | | | |
| - | | | | | |
| _ | | | | | |
| | | MULTIPLY E | BY AND OBTAIN BOS = gallons | | |

| | 10000 1001 | _ | | | | | |
|-------------------------------------|---------------------|---------------------|------------|---------|-------------|----------------------------------------------|-------------------------|
| | cubic yards | × | 201 97 | ¥ | gallons | j | |
| III. SIGNATURE: | | | | | | | |
| 1, Marvin Magee | | | say that | l am | familiar wi | ith the rules of | the Office of the State |
| Engineer pertaining to the plugging | of wells and th | al ca | ch and all | of the | statements | in this Plugging | Record and attachments |
| are true to the best of my knowledg | | | M | | A.T. | | |
| | | $\langle Z \rangle$ | 11 2 | a grand | 115 | | |
| | Vi. a. 44 for codds | 2/ | 1610 | // | 16ig | <u> (</u> | July 28 2015 |
| | | | Sio | sature | of Well Dri | iller | Date |





| I. GE | NERAL/WELLOWNERSHIP: | | | | | |
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| State E | ingineer Well Number: LRG-16012 WP-31 | | | | andronaninos antro por escolo n de la constanción de la constanci | |
| Wello | wner: Edward Gunderson, Huntsman Intern | ational, L | LC. | Phone No.: | in sentration relativistic in the considerate and experience of the sentration of th | |
| Mailing | g address: 8600 Gosling Road | | | | en de la constitución de la cons | |
| City: | The Woodlands | _ State: | Texas | | Zip code: | 77381 |
| <u>11. WI</u> | ELL PLUGGING INFORMATION: | | | | | |
| 1) | Name of well drilling company that plugged | d well: | Maverick Drill | ling, Inc. | haring year annial harmon and a second and a | |
| 2) | New Mexico Well Driller License No.: | WD-14 | 149 | Expi | ration Date: <u>J</u> | ine 30, 2016 |
| 3) | Well plugging activities were supervised by Johnny Arnett | | wing well drill | er(s)/rig supervisor(| (s): Marvin N | Aagee and |
| 4) | Date well plugging began: July 21, 2015 | | Date well | plugging concluded | July 21, 201 | 5 |
| 5) | GPS Well Location: Latitude: 31 Longitude: | 106 | deg, 47 deg, 32 | min, 31.09 min, 01.48 | sec sec, WGS 84 | I |
| 6) | Depth of well confirmed at initiation of plug by the following manner: | | | below ground level | (bgl). | (A) w/s to describe the second of the second |
| 7) | Static water level measured at initiation of p | olugging: | 2.5 ft | bgl | | |
| 8) | Date well plugging plan of operations was a | ipproved l | y the State En | gineer: July 1, 20 | 15 | |
| 9) | Were all plugging activities consistent with differences between the approved plugging | | | | | |
| - | | | | | *************************************** | paragar et are return à la régal destabliques de constituent. |
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For each interval plugged, describe within the following columns:

| Depth (fi bgl) 0 | Plugging <u>Material Used</u> (melude any additives used) | Volume of Material Placed (gallons) | Theoretical Volume of Borchole/ Casing (gallous) | Placement Method (treme pipe, other) | Comments ("casing perforated first", "open annular space also plugged", etc.) |
|-----------------------------------------|-----------------------------------------------------------|-------------------------------------|--------------------------------------------------------|--------------------------------------|-------------------------------------------------------------------------------|
| _ | Neat cement grout | | | Tremie | Removed casing |
| 13.5 | TD | 2 | 2.2 | | |
| 20 | | | | | |
| _ | | | | | |
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| 80 | | | | | |
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| *************************************** | | MULTIPLY | AND OBTAIN | | l |
| | | cubic feet x 7 | 1805 = gallons | | |

| III. SIGNATURE: | | |
|-------------------------------------------------------|----------------------------------------------------|------------------------|
| I. Marvin Magee | _ , say that I am familiar with the rules of | |
| Engineer pertaining to the plugging of wells and that | at each and all of the statements in this Plugging | Record and attachments |
| are true to the best of my knowledge and belief. | (1) | |
| | | |
| | Illand Hance | July 28 2015 |
| | Signature of Well Driller | Date |





| l. GE | NERAL / WELL OWNERSHIP: |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| State E | Engineer Well Number: LRG-16012 WP-32 |
| Well o | owner: Edward Gunderson, Huntsman International, LLC. Phone No.: |
| Mailin | ng address: 8600 Gosling Road |
| City: | The Woodlands State: Texas Zip code: 77381 |
| 11. W | ELL PLUGGING INFORMATION: |
| 1) | Name of well drilling company that plugged well: Maverick Drilling, Inc. |
| 2) | New Mexico Well Driller License No.: WD-1449 Expiration Date: June 30, 2016 |
| 3) | Well plugging activities were supervised by the following well driller(s)/rig supervisor(s): Marvin Magee and Johnny Arnett |
| 4) | Date well plugging began: July 21, 2015 Date well plugging concluded: July 21, 2015 |
| 5) | GPS Well Location: 1.atitude: 31 deg. 47 min. 30.36 sec Longitude: 106 deg. 32 min. 00.07 sec, WGS 84 |
| 6) | Depth of well confirmed at initiation of plugging as: 12.6 ft below ground level (bgl), by the following manner: |
| 7) | Static water level measured at initiation of plugging: 4 ft bgl |
| 8) | Date well plugging plan of operations was approved by the State Engineer: July 1, 2015 |
| 9) | Were all plugging activities consistent with an approved plugging plan? Yes If not, please describe differences between the approved plugging plan and the well as it was plugged (attach additional pages as needed): |
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| *************************************** | |
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| a processor and approximate | |

For each interval plugged, describe within the following columns:

| Depth (ft bgl) 0 | Plugging <u>Material Used</u> (onclude any additives used) | Volume of <u>Material Placed</u> (gallons) | Theoretical Volume of Borchole/ Casing (gallons) | Placement Method (tremic pipe, other) | Comments t"casing perforated first", "open annular space also plugged", etc.) |
|------------------------|------------------------------------------------------------|--------------------------------------------------|--------------------------------------------------------|---------------------------------------|-------------------------------------------------------------------------------|
| _ | Neat cement grout | | | Tremie | Removed casing |
| 12,6 - | | 2 | 2 | | |
| 20 | | | | | |
| - | | | | | |
| _ | | | | | |
| 40 | | | | | |
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| 60 | | | | | |
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| _ | | | | | |
| 80 | | | | | |
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| | | | | | |
| | | MULTIPLY | BY AND OBTAIN 4805 = gallons | | I |
| | | cubic feet x 7 | 4905 = gallons | | |

HL SIGNATURE:

| Marvin Magee , say that I am familiar with the rules of the | |
|----------------------------------------------------------------------------------------------------------|-----------------------|
| Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Re | ecord and attachments |
| are true to the best of my knowledge and belief. | |
| 11/an 1/inse | |
| 11190 11000 | July 28 2015 |
| Signature of Well Driller | Date |

201 97





| <u>1. GE</u> | NERAL / WELL OWNERSHIP: |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| State E | ingineer Well Number: LRG-16012 WP-33 |
| Wello | owner: Edward Gunderson, Huntsman International, LLC. Phone No.: |
| Mailin | g address: 8600 Gosling Road |
| City: | The Woodlands State: Texas Zip code: 77381 |
| H. Wi | ELL PLUGGING INFORMATION: |
| 1) | Name of well drilling company that plugged well: Maverick Drilling, Inc. |
| 2) | New Mexico Well Driller License No.: WD-1449 Expiration Date: June 30, 2016 |
| 3) | Well plugging activities were supervised by the following well driller(s)/rig supervisor(s): Marvin Magee and Johnny Arnett |
| 4) | Date well plugging began: July 21, 2015 Date well plugging concluded: July 21, 2015 |
| 5) | GPS Well Location: Latitude: 31 deg, deg, deg, 32 47 min, min, min, min, min, min, min, min, |
| 6) | Depth of well confirmed at initiation of plugging as: 12 ft below ground level (bgl), by the following manner: |
| 7) | Static water level measured at initiation of plugging: 2.5 ft bgl |
| 8) | Date well plugging plan of operations was approved by the State Engineer: July 1, 2015 |
| 9) | Were all plugging activities consistent with an approved plugging plan? Yes If not, please describe differences between the approved plugging plan and the well as it was plugged (attach additional pages as needed): |
| | |
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| | |
| | |

For each interval plugged, describe within the following columns:

| Depth (0 bg) | Plugging <u>Material Used</u> (melude any additives used) | Volume of Material Placed (gallons) | Theoretical Volume of Borehole/ Casing (gallous) | Placement <u>Method</u> (tremic pipe, other) | Comments ("casing perforated first", "open annular space also plugged", etc.) |
|-----------------|-----------------------------------------------------------|-------------------------------------------|--------------------------------------------------------|-------------------------------------------------------|-------------------------------------------------------------------------------|
| - - | Neat cement grout | | | Tremie | Removed casing |
| 12 - | TD | 2 | 2 | Video Company | |
| 20 | | | | | |
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| 40 | | | | | |
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| 80 | | | | | |
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| _ | | | | | |
| _ | | | | | |
| | | MULTIPLY cubic feet x 7 cubic yards x 20 | 7 4805 = gallons 1 97 = gallons | | |

HI. SIGNATURE:

| I. Marvin Magee | | | | the Office of the State |
|------------------------------------------------------|--------------------|--------------------|-----------------|-------------------------|
| Engineer pertaining to the plugging of wells and the | hat each and all o | f the statements i | n this Plugging | Record and attachments |
| are true to the best of my knowledge and belief. | 2.27 | 11 | | |
| | $\mathcal{F}II$ | | | |
| | 11/100 | 1/40 | 6 | July 28 2015 |
| • | 77 | ture of Well Dril | | |
| | Date | | | |



Attachment C

Photographic Documentation

ARCADIS

PHOTOGRAPHIC LOG

Property Name:

Former Huntsman Refinery Site

Location:

Sunland Park, New Mexico

Project No.

LA003185.2015

Photo No.

Date: 7/20/15

Description:

Pulling protective casing from well MW-4 using a backhoe.



ARCADIS

PHOTOGRAPHIC LOG

Property Name:

Former Huntsman Refinery Site

Location:

Sunland Park, New Mexico

Project No.

LA003185.2015

Photo No.

Date: 7/20/15

Description:

Pulling casing from well MW-4.





Property Name:

Former Huntsman Refinery Site

Location:

Sunland Park, New Mexico

Project No.

LA003185.2015

Photo No.

Date: 7/20/15

Description:

Showing 10 feet of casing pulled from well MW-4.



ARCADIS

Property Name:

Former Huntsman Refinery Site

Location:

Sunland Park, New Mexico

PHOTOGRAPHIC LOG

LA003185.2015

Project No.

Photo No.

Date: 7/20/15

Description:

Grouting MW-4 using a hose starting at the bottom of the well and pulling it up as the well fills with cement grout.



ARCADIS

PHOTOGRAPHIC LOG

Property Name:

Former Huntsman Refinery Site

Location:

Sunland Park, New Mexico

Project No. LA003185.2015

Photo No.

5

Date: 7/20/15

Description:

Pulling casing from well WP-25 using a backhoe.



ARCADIS

PHOTOGRAPHIC LOG

Property Name:

Former Huntsman Refinery Site

Location:

Sunland Park, New Mexico

Project No.

LA003185.2015

Photo No.

6

Description:

Date: 7/20/15

WP-25 hole after casing was pulled





Property Name:

Location:

Project No.

Former Huntsman Refinery Site

Sunland Park, New Mexico

LA003185.2015

Photo No.

Date: 7/20/15

Description:

WP-25 grouted





PHOTOGRAPHIC LOG

Property Name:

Former Huntsman Refinery Site

Location:

Sunland Park, New Mexico

Project No.

LA003185.2015

8 December tierre

Photo No.

Date: 7/20/15

Description:

WP-27D casing pulled using a backhoe.





Property Name:

Former Huntsman Refinery Site

Location:

Sunland Park, New Mexico

Project No.

LA003185.2015

Photo No. 9

Date: 7/20/15

Description:

Well casing WP-26S being pulled with a backhoe.



ARCADIS

PHOTOGRAPHIC LOG

Property Name:

Former Huntsman Refinery Site

Location:

Sunland Park, New Mexico

Project No.

LA003185.2015

10 Description:

Photo No.

Date: 7/20/15

Well WP-26S grouted with cement grout after being pulled.





Property Name:

Former Huntsman Refinery Site

Location:

Sunland Park, New Mexico

Project No.

LA003185.2015

Photo No.

Date: 7/20/15

Description:

WP-2 being plugged using a bucket full of cement grout due to the location being in soft sand, trailer could not drive to location.



ARCADIS

PHOTOGRAPHIC LOG

Property Name:

Former Huntsman Refinery Site

Location:

Sunland Park, New Mexico

Project No.

LA003185.2015

Photo No. Date: 7/20/15

Description:

Well point casing WP-14 being pulled with a backhoe.





Property Name:

Former Huntsman Refinery Site

Location:

Sunland Park, New Mexico

Project No.

LA003185.2015

Photo No.

Date: 7/20/15

Description:

WP-14 close up of where the pipe broke at approximately 2 feet below surface.



ARCADIS

PHOTOGRAPHIC LOG

Property Name:

Former Huntsman Refinery Site

Date:

7/20/15

Location:

Sunland Park, New Mexico

Project No.

LA003185.2015

14 Description:

Photo No.

A stake was placed as a marker on WP-14 to locate it in the future for excavation of "tar" material below ground surface.



ARCADIS

PHOTOGRAPHIC LOG

Property Name:

Former Huntsman Refinery Site

Location:

Sunland Park, New Mexico

Project No. LA003185.2015

Photo No. 15

Date: 7/20/15

Description:

Pulling casing from well MW-1.



ARCADIS

PHOTOGRAPHIC LOG

Property Name:

Former Huntsman Refinery Site

Location:

Sunland Park, New Mexico

Project No.

LA003185.2015

16

Photo No.

7/20/15

Date:

Description:

Grouting MW-1 using a hose starting at the bottom of the well and pulling it up as the well fills with cement grout.





Property Name:

Former Huntsman Refinery Site

Location:

Sunland Park, New Mexico

Project No.

LA003185.2015

Photo No.

Date: 7/20/15

Description:

Pulling protective casing from well MW-





PHOTOGRAPHIC LOG

Property Name:

Former Huntsman Refinery Site

Location:

Sunland Park, New Mexico

Project No.

LA003185.2015

Photo No. Date: 7/20/15

Description:

Pulling casing from well MW-12.





PHOTOGRAPHIC LOG

Property Name:

Former Huntsman Refinery Site

Location:

Sunland Park, New Mexico

Project No.

LA003185.2015

Photo No.

Date: 7/20/15

Description:

Grouting MW-12 using a hose starting at the bottom of the well and pulling it up as the well fills with cement grout.





PHOTOGRAPHIC LOG

Property Name:

Former Huntsman Refinery Site

Location:

Sunland Park, New Mexico

Project No.

LA003185.2015

Photo No.

Date: 7/20/15

Description:

MW-12 grouted.





Appendix E

WP-14 Limited Excavations Field Activities Report



February 8, 2016

Mr. Glenn Von Gonten New Mexico Oil Conservation Division 1220 South St. Francis Drive Santa Fe, New Mexico 87505

Subject: WP-14 Limited Excavations Field Activities Report

Former Brickland Refinery Site Sunland Park, New Mexico

(Abatement Plan AP-001) - New Mexico Oil Conservation Division Approval Correspondence

Dear Mr. Von Gonten:

Huntsman is providing this letter to the NMOCD to report the Well Point WP-14 Limited Excavation Field Activities at the Former Brickland Refinery Site. This report includes a description of the field work performed, photographic documentation, and waste characterization and transportation documents.

New Mexico One-Call Services and Utility Checklists

On November 2, 2015, ARCADIS submitted a New Mexico 811 (NM811) ticket to ensure utilities were marked out prior to the mobilization date of November 11, 2015. NM811 ticket number was submitted as part of ARCADIS policy to identify three lines of evidence prior to performing any intrusive work at project sites. Other lines of evidence used were client / owner interviews and map as well as visual surveys once onsite. All areas of excavations were cleared by utility companies with services in the area prior to beginning excavation activities. ARCADIS' checklist for utility clearance and the NM811 ticket are included as an attachment in Appendix D.

Field Activities

On November 11, 2015, ARCADIS mobilized a backhoe with operator to the site to begin excavation around WP-14. Initial excavation activities were directly on top of the location of former WP-14 to determine if the "tar" material seen during groundwater gauging event was pooling around the WP-14 location. A seam of "tar" material was observed on the second bucket removed at approximately 2.5 feet below ground surface which happened to coincide with a location of a heavily corroded metal pipe. The "tar" material was immediately removed and placed into lined 20 cubic yard (cyd) roll off bins that were staged onsite to minimize mixing of surrounding soils with the "tar" material within the excavation. ARCADIS then excavated in all directions to ensure all tar material and impacted soil was removed.

During excavation activities to the east of the WP-14 location additional corroded pipe was observed to make a "T" into the area of the "tar" impacted material at WP-14. Excavations continued along this pipe run as it was a possible source area of the "tar" material. Approximately 10 feet of 3 to 4 inch diameter corroded metal pipe was found, removed from the ground, and placed into the roll off bin. Visual evidence of staining likely from "tar" material that once passed through this pipe was removed and also placed into roll offs. Excavations extended approximately 10 feet each direction from WP-14 to ensure no other "tar" material was found away from the WP-14 area.

No further impacts of "tar" material were observed away from the pipe run to the east or directly underneath WP-14; therefore ARCADIS stopped the excavation to limit soil volumes generated. The total volume removed for the excavation was approximately 50-60 cubic yards which was stored in



three 20 cyd roll off bins. In an abundance of caution, more soil was removed than initially expected for the limited excavation to ensure that all "tar" material and tar impacted soils once related to WP-14 were addressed.

Once all soil was removed from the excavation and stored in roll off bins the excavation was backfilled with material that had been historically stockpiled on-site to the north of WP-14, outside of the known lead impacted area to the south of WP-14. Backfill material was compacted as it was introduced to the excavation to limit future settlement of soils and the surface of the excavation backfill was levelled to the existing grade surrounding the excavation.

Waste Management

ARCADIS handled the waste management of the roll off bins which included the sampling and profiling of the waste to obtain approvals for transportation and disposal. Once roll off bins were covered and secured they were moved to an area inside the site security fence closer to the front of the facility to allow for easier access for waste characterization sampling and loading for transport to the licensed facility for disposal. ARCADIS collected one composite sample per bin to be representative of the material within each bin, which was analyzed for volatile organic compounds, Toxicity Characterization Leachate Procedure (TCLP) benzene, TCLP11 metals, polychlorinated biphenyls, gasoline range organics and diesel range organics by ALS Laboratories. Once all analytical results were received, the waste streams were profiled and sent to US Ecology in Robstown, Texas for classification and approval for disposal.

Based on the analytical results for the roll off bins one roll off bin (Bin #942) was classified as hazardous waste due to the TCLP analysis of 12.7 mg/l for lead exceeding the EPA threshold of 5.0 mg/L for characteristic hazardous waste, and two of the roll off bins (Bin # 1168 and 1171) were classified as non-hazardous waste. We believe the lead detected in the soil sample from bin 942 is due to the proximity of well point WP-14 to the known surface impacts of lead in the soil to the south of the location, based on an historical investigation and subsequent clay cap placement reports.

On January 25 and 26, 2016, the three roll off bins were removed from the site under uniform hazardous waste manifests by Chemical Transportation Inc., a licensed waste hauler. The three bins were transported to US Ecology in Robstown, Texas for disposal. Waste profiles and manifest documentation are attached as Appendix B of this report.

This letter report for WP-14 Limited Excavation will also be provided to the NMOCD with the Annual Groundwater Report due on or before April 1, 2016.

If you have any questions or require additional information on our addendum, please contact me at 281-719-3039 or via email at ed_I_gunderson@huntsman.com.

Sincerely,

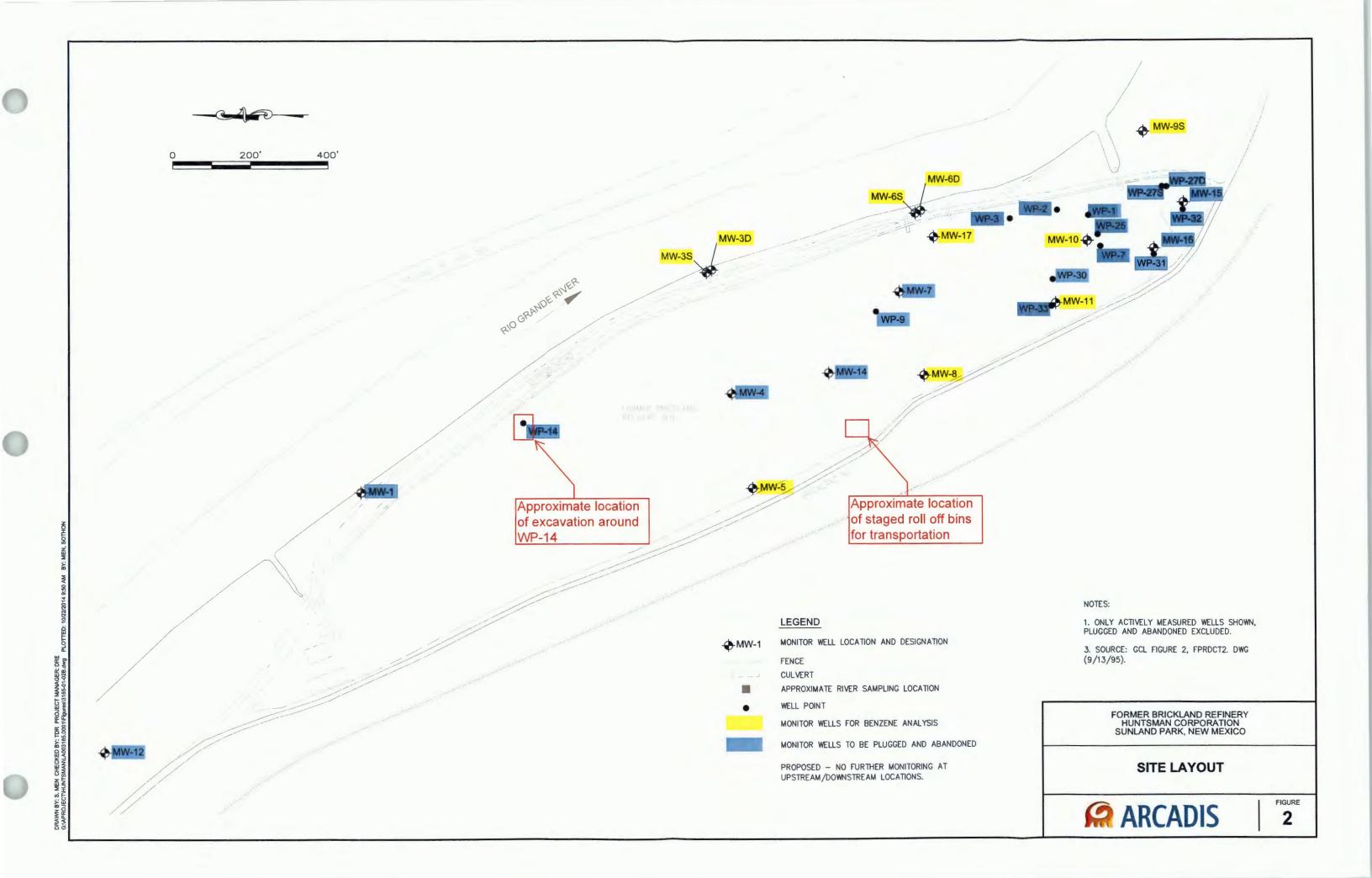
Edward L. Gunderson

Edward I Gunderson

Senior Manager, EHS Legal and Regulatory Compliance



Attachment A
Site Map





Attachment B

Waste Profiles and Approval documentation including Analytical Results

and

Uniform Hazardous Waste Manifests



US Ecology Nevada (Beatty)
US Ecology Idaho (Grand View)
US Ecology Texas (Robstown)
US Ecology Michigan (Detroit)

800-239-3943 800-274-1516 800-242-3209 800-396-3265

| PROFILE # | |
|-----------|--|
|-----------|--|

| A. | A. GENERATOR INFORMATION | | | | | | | | | | | | | |
|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|--------------|--------------|---------------------------------------|---------------------------------------|----------------|----------------|---------------------------------------|--------------------------|--------------------------|-------------|---------------|------------------|-------------|
| 1. (| Generator: HUNTSMAN | INTER | RNATIONAL | , LLC | | | Billing infor | mation i | is sam | e | | O. required f | or payment | |
| | Facility Address: | | | | | 12. | Billing Com | oany: / | ARCA | DIS | | | | |
| | 110 OLD McNUTT ROAD JNLAND PARK, NM 88063 | | | | | 13. | Billing Addr | ess: 63 | 30 PL/ | AZA DRIVE | | | | |
| | Mailing Address: 8600 G | OSLING | G ROAD | | | 14. | City/State/2 | ip: HIC | GHLA | NDS RANG | CH / CC | LORADO / | | |
| | City/State/Zip: THE WOO | | | 77381 | · · · · · · · · · · · · · · · · · · · | - | | | | | | PO# - LA0031 | 85.2015 | |
| | Technical Contact: EDWA | | | | | + | Phone: 720 | | | | 17. Fax | | | |
| | Phone: 281-719-3039 | 1 | 7. Fax: | | | - | | | | | | RATION@AR | CADIS COM | |
| | Generator Status: | CES | | sqg | ☑ roe | 10. | Email: Ac | - | 017(1 | ADEC. ADI | | Trionage and | O ADIO.OOM | |
| | EPA ID #: NMR00002229 | | | , | 10. State II |)#: [| 00035 | | | | | | | |
| | | 2911 | | | 1 201 014101 | , ,,, <u>.</u> | - | T | | | | | | |
| | SHIPPING INFORMATIO | | | | | <u> </u> | | | | | | | | |
| | US DOT Shipping name: | | rdous West | Colid | n o n // ond\ | | | | | | | | | |
| 1. | · · · · · · · · · · · · · · · · · · · | пага | 7 | | n.o.s. (Lead) | | | | | | | | | |
| 2. | Hazard Class: 9 | | | | NA3077 | | | ing Gro | | | | 5. RQ: | | |
| 6. | Container Type: | B ulk | То | tes | Pallet | | Boxes | Dru | ıms | Other | , Descr | ibe: | | |
| 7. | Frequency: | Year | □ Q. | arterly | Monti | nly | 1 tim | е [| Oth | er, Describ | e: | | | |
| 8. | Shipment: Size: | Quantity: _ | 17 | · · · · · · · · · · · · · · · · · · · | - | 1 - | | Impor | t: Yes uste import Su | V No pplement) | | | | |
| C. GENERAL MATERIAL & REGULATORY INFORMATION | | | | | | | | | | | | | | |
| 1. | Common name for this wa | aste: | Lead Impa | ted So | i | | | | | | | | | |
| EX | Process generating the ma | AR A MO | ONITORING | WELL | THAT SHOW | ED EV | IDENCE OF | VISCO | US M | ATERIAL I | NSIDE | WELL. REM | OVAL OF SOI | _ WAS |
| | LIMIT FUTURE IMPACTS | | | | | analys | sis, Work Ord | ler: HS1 | 51106 | 639, results | for bin | 942 only) | | |
| | Describe physical appeara OWN SANDY CLAY SOIL V | | | | | SOII S | S AND MINO | RAMOI | INTS | OF BLACI | CVISC | OUS MATER | IAI STRONG | |
| | DROCARBON ODOR WHE | | | | | OOIL | AND MINO | · · · · · · · · · · · · · · · · · · · | 01110 | OI DEMO | | OOO MINTER | IAL. OTTOTIC | |
| 4. | Odor of the waste: | No | one S | light | ✓ Strong | 5. | Physical Sta | te: | Li | quid | SI | udge/Slurry | ✓ Solid | |
| 6. | Describe Color: BROWN | 4 | | | | 7. | Liquid phas | es: | Si | ngle | | ouble Layer | Multi-la | yer |
| 8. | Knowledge is from: | √ La | b analysis | | MSDS | | Process | /genera | tor kr | owledge | | | | |
| 9. | Waste Type (US Ecology T | exas cu | istomers or | ıly): | □ N/A | | ✓ Indu | strial | | | Non-Ir | ndustrial | | |
| 10. | Is the waste restricted und | der EPA | Land Disp | osal Re | strictions (§26 | 8)? | ✓ Ye | 5 | ΠN | o | | | | |
| 11. | If LDR "Yes", is waste: | (| Wastew | ater | √ Non-was | tewa | ter De | bris (§2 | 68.2) | 12. Alt | . Stand | ards for soil | Yes | V No |
| 13. | Is the waste RCRA hazard | | | • | • | | - | | | • • | •- | | [7] _V | |
| | Manufacturing Plant (SIC: Operations Supplement Form | | • | | • | cover | y Plant (SIC | 3312)? | (If yes | , complete | Benzene | Waste | ✓ Yes | □No |
| 14. | VO Conc.(§264.1083): | | <500 ppmw | |]≥500ppmw | 15. | Has waste | been tr | reated | i after poi | nt of ge | neration? | Yes | √ No |
| 16. | CERCLA Regulated (Super | fund) V | Vaste: | ΠY | es 🔽 No | 17. | Butadiene | waste | regula | ted by §6 | 3 Subpa | art XX: | Yes | V No |
| | Waste contains UHC cons | tituent | (s) (§268.48 |), abov | | stan | dard, other t | han tho | se fo | r which th | e waste | exhibits a | Yes | VNo |
| 10 | characteristic. (If yes, list all UHC's in Section D): 19. Waste exempt from definition of "solid waste" or "hazardous | | | | | | /If you list a | | - 400 | ·co | | 1. | Yes | |
| | · · · · · · · · · · · · · · · · · · · | nazardous w | 1516 | (i) yes, list i | ejerenci | | | T |): | res | ☑ No | | | |
| | State Waste Codes: | | | | | | | | | | | | | |
| 21. | RCRA Waste Codes: | | D008 | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| 22. | Source Code: _ G | 19 (| _ | 23. F | orm Code: | W3 | 01 (_ | | 24 | 4. Manag | ement | Code: H | <u>132</u> (U | SE only) |

| | | **** | | | | | | Ra | nge tota | ≥ 10 | 0% |
|--------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------------|-------------|------------------|-----------|------|--------------|
| Con | stituent | | | | Units | TCLP | Totals | Typical | М | in | Max |
| Soil | | | | | % | | V | 100 | | | |
| Lead | | | | | mg/L | V | | 12.7 | | | |
| 2-Butanone | | | | | mg/Kg | | V | 0.019 | | | |
| Acetone | | | | | mg/Kg | | V | 0.10 | | | |
| Benzene | | | | | mg/Kg | | V | 0.0054 | | | |
| Chloroform | V., | | | | mg/Kg | | Ø | 0.045 | | | |
| Ethylbenzene | | | | | mg/Kg | | V | 0.0081 | | | |
| Isopropylbenzene | | | | | mg/Kg | | Ø | 0.0047 | | | |
| Xylenes, Total | | | | | mg/Kg | | V | 0.032 | | | |
| Methylcyclohexane | | **** | | | mg/Kg | | Ø | 0.013 | | | |
| Toluene | | | | | mg/Kg | | V | 0.021 | | | |
| E. WASTE CHARACTERISTICS | a de la companya de l | 78.07 ₈ 5.05 | | AND THE RESERVE OF TH | | | | | | | |
| 1. Oxidizer | Yes | √No | 9. | Reactive sulfic | desp | pm | | | | Yes | ✓ No |
| 2. Explosive | Yes | V No | 10. | Reactive cyan | idespp | m | | | | Yes | ✓ No |
| 3. Organic peroxide Yes V No 11. Water/air reactive | | | | | | | | | | | |
| 3. Organic peroxide | | | | | | | | | | | |
| 5. Tires | Yes | No | 13. | TSCA regulate | ed PCB waste (con | ntroi sheet re | quired with | shipment) | | Yes | ✓ No |
| 6. Pyrophoric | Yes | √ No | 14. | Medical/infec | tious waste | | | | | Yes | ✓ No |
| 7. Compressed gas | Yes | V No | 15. | Radioactive (i | f yes, complete Pro | ofile Supplem | ent for Rad | lioactive Waste) | | Yes | √ No |
| 8. Halogenated organics | Yes | V No | <u> </u> | | | | | | | | |
| 16. Possibility of incidental liquid | s from tran | sportation | on? | Yes | | No | | | | | |
| 17. Is waste a solid using the pain | nt filter test | ? | abla | Yes (solid) | No (not se | olid) | | | | | |
| 18. pH: (if soild, what is pH if mixed t | with water? |) | Range | 4 to 10 |) Typical | | ≤ | 2 🔽 2 < | 12.5 | _ ≥ | 12.5 |
| 19. Flash Point: >212 | R F | | | .40 º F | | | | | | | |
| 20. Is the waste oil bearing waste | from Petro | oleum Re | fining | , Production or | Transportation | practices? | | | | Yes | ✓ No |
| F. GENERATOR'S CERTIFICATION | ON | | | 711. | | | | | | | |
| Yes No I cert | tify this ma | terial ma | y be d | disposed witho | ut further treatn | nent. | | | | | |
| I authorize US Ecology to correct in | consistenci | es on the | wast | e profile form t | hat impact waste | managem | ent decisio | ns with my or | al or wri | tten | |
| authorization. US Ecology will requi | | | | | | | | | | | |
| that does not conform to specificat to by both parties. I certify, under | | | | | | | | | | | |
| information provided is true, accura | | | | | | | | | | | |
| completed in accordance with the i | | | | , , | | | | | | | |
| Print Name | | Sig- | ature | | 1 | Title | | | Date | | |
| Finit Maine | | 1 - | | 111 | | | | | | | |
| Edward L. Gunder | 50~ | Edi | u a u | at Hein | des- | Seuor III i | gr. A | 45 legal | 1/7 | 1/1 | 5 |

US Ecology Texas, Inc. P.O. Box 307 3277 County Road 69 Robstown, TX 78380

Phone: (800) 242 3209 (361) 387-3518 (361) 387 0794 (361) 387-0577

US Ecology Texas, Inc.

January 14, 2016

GARETT FERGUSON ARCADIS- US 211 N. FLORENCE STREET STE. 202 EL PASO, TX 79901

RE:

Generator

: HUNTSMAN INTERNATIONAL, LLC

Mailing Address

: 3010 OLD MCNUTT ROAD, SUNLAND PARK, NM 88063

US Ecology WS # : 090094510-0

Waste Stream Name: LEAD IMPACTED SOIL

Expiration Date

: 01/11/2017

Process

: Stabilization

Dear Garett Ferguson,

Your Waste Stream Disposal Information form for the above waste stream has been approved.

Under conditions of our operating permit, US Ecology Texas, Inc. is required to inform you that we have all the appropriate permits in order to manage your waste stream. We have received the requisite permits to operate a TSD facility. Our TCEQ permit was renewed on March 25, 2013 and our permit number is HW-50052.

The EPA Uniform Hazardous Waste Manifest (EPA Form 8700-22), appropriate LDR form/certification and Truck Inventory Sheet (if shipping in drums) must accompany each shipment. To obtain manifest, Please visit the EPA website for an approved vendor list

Please notify the Texas facility at (800) 242-3209 at least 48 hours prior to shipment and provide the facility with the following information:

- Date of Shipment
- Date of Delivery

Mykayla Jehmidgal

- U.S. EPA Generator ID Number
- Waste Stream Number(s)
- Total quantity of each waste stream number being shipped

Any shipment arriving at the facility without prior scheduling and/or all the appropriate paperwork will be subject to rejection.

Should you have any questions, please contact your US Ecology Texas, Inc. Technical Sales Representative at (800) 242-3209. Please refer to the US Ecology Texas, Inc. waste stream number above when making inquiries.

Sincerely,

MYKAYLA SCHMIDGALL

CUSTOMER SERVICE SPECIALIST



US Ecology Nevada (Beatty) US Ecology Idaho (Grand View) US Ecology Texas (Robstown) US Ecology Michigan (Detroit)

800-239-3943 800-274-1516 800-242-3209 800-396-3265

| PROFILE (| ¥ | | |
|-----------|---|-------|-------|
| | | _ | _ |

| A. GENERATOR INFORMATION | | | | | | | | | | |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------|---------------|--------------------|----------------|----------------|-----------------------------------------|-----------------|--------------|--|
| 1. Generator: HUNTSMAN INTERN | NATIONAL, | LLC | | Billing informat | ion is s | ame | P.O. required | d for payment | | |
| 2. Facility Address: | | | 12. | Billing Compan | y: AR | CADIS | | Ann | | |
| 3010 OLD McNUTT ROAD SUNLAND PARK, NM 88063 | | | 13. | Billing Address | : 630 [| PLAZA DRIVE | *************************************** | | | |
| 3. Mailing Address: 8600 GOSLING | ROAD | | 14. | City/State/Zip: | HIGH | LANDS RANG | CH / COLORADO | 1 | | |
| 4. City/State/Zip: THE WOODLAND | /TEXAS/ | 77381 | 15. | Billing Contact: | ACC | OUNTS PAYA | BLE - PO# - LA00 | 3185.2015 | 72 | |
| 5. Technical Contact: EDWARD L. G | UNDERSO |)N | 16. | Phone: 720-34 | 4-3500 | | 17. Fax: | | | |
| 6. Phone: 281-719-3039 | 7. Fax: | | 18. | Email: ACCOL | JNTSP | AYABLE.ADM | INISTRATION@A | ARCADIS.COM | | |
| 8. Generator Status: CESC | ie 🔲 | sqg 🔽 Lqg | | | | | | Antonio | | |
| 9. EPA ID#: NMR000022293 | | 10. State | ID#: I | 00035 | | | | | | |
| 11. SIC Codes: | | | | | | | | | | |
| B. SHIPPING INFORMATION | | | | | | | | | | |
| 1. US DOT Shipping name: Non-H | azardous, N | Non-DOT Regulate | d | | | | | | | |
| 2. Hazard Class: | 3. UN/I | NA #: | | 4. Packaging | Group | • | 5. RQ: | | | |
| 6. Container Type: | Tot | tes Pallet | Ē | Boxes |] Drum: | Othe | , Describe: | | | |
| 7. Frequency: Year | Qua | arterly Mor | t hl y | ✓ 1 time | | ther, Describ | e: | | | |
| 8. Shipment: Size: Tor | ns | Quantity: | 34 | | | | Import: Ye | _ | | |
| C. GENERAL MATERIAL & REGULA | GENERAL MATERIAL & REGULATORY INFORMATION (If yes, complete Waste Import Supplement) | | | | | | | | | |
| | | ted Soil (Non-Haza | rdous) | | | | | | | |
| 2. Process generating the material: | Loco IIIIpoo | | | | | | | | | |
| EXCAVATION OF SOILS NEAR A MOI | NITORING | WELL THAT SHO | NED E | IDENCE OF VI | scous | MATERIAL I | NSIDE WELL. RE | MOVAL OF SOI | L WAS | |
| TO LIMIT FUTURE IMPACTS TO THE | SITE. (See | ALS Environmenta | al analys | sis, Work Order: | HS151 | 10639, results | for bin 942 only) | | | |
| Describe physical appearance and BROWN SANDY CLAY SOIL WITH INC | | | V 6011 9 | S AND MINOD A | MOLIN | TS OF BI ACI | CARCOLIS MATE | EDIAL STRONG | | |
| HYDROCARBON ODOR WHEN MATE | | | 1 SOIL | AND WINOK A | NOON | 13 OF BLACE | VIGCOUG WIATE | INAL. STRONG | | |
| 4. Odor of the waste: Nor | ne 🔲 Sli | ight 🗸 Strong | 5. | Physical State: | | Liquid | Sludge/Slurr | ry 🔽 Solid | | |
| 6. Describe Color: BROWN | | | 7. | Liquid phases: | | Single | Double Laye | er 🔲 Multi-la | iyer | |
| 8. Knowledge is from: Lab | analysis | MSDS | | Process/ge | nerator | knowledge | | | | |
| 9. Waste Type (US Ecology Texas cus | tomers on | ly): 🔲 N/ | Ά | ✓ Industri | al | | Non-Industrial | | | |
| 10. Is the waste restricted under EPA | Land Dispo | sal Restrictions (§ | 268)? | Yes | Z | No | | | | |
| 11. If LDR "Yes", is waste: | Wastewa | | | | (§ 268. | | . Standards for so | oil? Yes | ☑ No | |
| 13. Is the waste RCRA hazardous was Manufacturing Plant (SIC 2800 thr | | | | | | | | Yes | ⊘ No | |
| Operations Supplement Form and The | - | • | tecover | y Plant (SIC 331 | .Z)r (1J | yes, complete | senzene waste | [1es | <u>140</u> | |
| 14. VO Conc.(§264.1083): | 500 ppmw | ≥500ppm | w 15. | Has waste be | en trea | ted after poi | nt of generation? | Yes | V No | |
| 16. CERCLA Regulated (Superfund) Wa | aste: | Yes V No | 17. | Butadiene wa | ste reg | ulated by §6 | 3 Subpart XX: | Yes | ✓ No | |
| 18. Waste contains UHC constituent(s | | | nt stan | dard, other tha | n those | for which th | e waste exhibits a | a ∐Yes | ☑ No | |
| characteristic. (If yes, list all UHC's li 19. Waste exempt from definition of | | | waste" | (If yes, list refe | rence 4 | IOCFR | |): Yes | √ No | |
| 20. State Waste Codes: OUTS3011 | | | | | | | | | | |
| 21. RCRA Waste Codes: | | | | | _ | | | | | |
| - | | | | | + | | | | | |
| _ | | | | | _ | | | | | |
| | | | | | | | | | | |
| 22. Source Code: G19 (| | 23. Form Code: | <u>_</u> | 01 (| | 24. Manag | ement Code: | H <u>132</u> (U | SE only) | |

| D. MATERIAL COMPOSITION (use additional for | m if necessary) | | | | | | | | |
|----------------------------------------------------------|-----------------------|----------------------------|----------------|-------------|------------------|------------------|-------------|--|--|
| | | | | | Ra | nge total ≥ 100 | 1% | | |
| Constituent | | Units | TCLP | Totals | Typical | Min | Max | | |
| Soil | | % | | V | 100 | | | | |
| Lead | | mg/L | Ø | | | 0.00668 | 0.0558 | | |
| 2-Butanone | | mg/Kg | | V | | 0 | 0.013 | | |
| Acetone | | mg/Kg | | V | | 0.0024 | 0.064 | | |
| Benzene | | mg/Kg | | V | | 0.0022 | 0.0024 | | |
| Chloroform | | mg/Kg | | V | | 0.0033 | 0.053 | | |
| Ethylbenzene | | mg/Kg | | V | | 0.0031 | 0.0051 | | |
| Isopropylbenzene | | mg/Kg | | V | | 0.0053 | 0.0077 | | |
| Xylenes, Total | | mg/Kg | | \ | | 0.013 | 0.018 | | |
| Methylcyclohexane | | mg/Kg | | V | | 0.013 | 0.018 | | |
| Toluene mg/Kg | | | | | | | | | |
| E. WASTE CHARACTERISTICS | | | | | | | | | |
| 1. Oxidizer Yes No 9. Reactive sulfides ppm Yes No | | | | | | | | | |
| 2. Explosive Yes No 10. Reactive cyanides ppm Yes No | | | | | | | | | |
| 3. Organic peroxide Yes No 11. Water/air reactive Yes No | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | al/infectious waste | | , | , | Yes | √ No | | |
| | | active (If yes, complete P | rofile Supplem | ent for Rad | lioactive Waste) | Yes | √ No | | |
| | No | | | | | | | | |
| 16. Possibility of incidental liquids from transp | ortation? |] Yes | No | | | | | | |
| 17. Is waste a solid using the paint filter test? | ✓ Yes (sol | id) No (not | solid) | | | | | | |
| 18. pH: (If solid, what is pH if mixed with water?) | Range 4 | to 10 Typic | al | ≤ | 2 🖸 2 < | 12.5 | 12.5 | | |
| 19. Flash Point: >212 g F | ☐ < 140 º F | | | | | | | | |
| 20. Is the waste oil bearing waste from Petrole | um Refining, Produ | ction or Transportation | n practices? | | | Yes | ✓No | | |
| F. GENERATOR'S CERTIFICATION | | | | | | | | | |
| Yes No I certify this mater | rial may be disposed | d without further treat | ment. | | | | | | |
| I authorize US Ecology to correct inconsistencies | on the waste profile | form that impact was | te manageme | ent decisio | ns with my ora | al or written | | | |
| authorization. US Ecology will require re-submitt | | | | | | | nd material | | |
| that does not conform to specifications describe | d in this profile may | be rejected by US Ecol | ogy unless ot | her contra | ctual arranger | nents have bee | en agreed | | |
| to by both parties. I certify, under penalty of lav | v, that I am familiar | with this waste stream | through ana | lysis and/o | or process know | wledge, and the | at ali | | |
| information provided is true, accurate, represent | | , that all known or susp | ected hazard | s have be | en disclosed, a | nd that this for | m was | | |
| completed in accordance with the instructions pr | ovidea. | | | | | | | | |
| Print Name | Signature | | Title | | | Date | | | |
| -4 , | 4 64 | 1/ 1 | | | , , | , , , | | | |
| Eduard L. Gunderson | Edward L. L | anders- | Sr Mrg. | r EH | s legal | 1/7/1 | 5 | | |

US Ecology Texas, Inc. P.O. Box 307 3277 County Road 69 Robstown, TX 78380

(800) 242 3209 (361) 387-3518 Phone: Fax: (361) 387 0794 (361) 387-0577

JS Ecology Texas, Inc.

a US Ecology Inc. company

January 14, 2016

GARETT FERGUSON ARCADIS-US 211 N. FLORENCE STREET STE, 202 EL PASO, TX 79901

RE:

Generator

: HUNTSMAN INTERNATIONAL, LLC

Mailing Address

: 3010 OLD MCNUTT ROAD, SUNLAND PARK, NM 88063

US Ecology WS # : 090094506-0

Waste Stream Name: LEAD IMPACTED SOIL (NON HAZARDOUS)

Expiration Date

: 01/11/2017

Process

: Direct Landfill

Dear Garett Ferguson,

Your Waste Stream Disposal Information form for the above waste stream has been approved.

Under conditions of our operating permit, US Ecology Texas, Inc. is required to inform you that we have all the appropriate permits in order to manage your waste stream. We have received the requisite permits to operate a TSD facility. Our TCEQ permit was renewed on March 25, 2013 and our permit number is HW-50052.

The EPA Uniform Hazardous Waste Manifest (EPA Form 8700-22), appropriate LDR form/certification and Truck Inventory Sheet (if shipping in drums) must accompany each shipment. To obtain manifest, Please visit the EPA website for an approved vendor list

Please notify the Texas facility at (800) 242-3209 at least 48 hours prior to shipment and provide the facility with the following information:

- Date of Shipment
- Date of Delivery

Mykayla Jehmidgal

- U.S. EPA Generator ID Number
- Waste Stream Number(s)
- Total quantity of each waste stream number being shipped

Any shipment arriving at the facility without prior scheduling and/or all the appropriate paperwork will be subject to rejection.

Should you have any questions, please contact your US Ecology Texas, Inc. Technical Sales Representative at (800) 242-3209. Please refer to the US Ecology Texas, Inc. waste stream number above when making inquiries.

Sincerely,

MYKAYLA SCHMIDGALL

CUSTOMER SERVICE SPECIALIST



WASTE PROFILE FORM

| PROFILE | # | |
|---------|---|--|
| | | |

BENZENE WASTE OPERATIONS SUPPLEMENT (BWON 40 CFR Part 61 Subpart FF) (Former Attachment 4)

This form must be completed for all hazardous waste containing benzene originating at a Petroleum Refinery (SIC 2911), Chemical Manufacturing Plant (SIC 2800 thru 2899) or Coke by-Product Recovery Plant (SIC 3312).

| Name of Facility where Waste Origina | ated: HU | NTSMAN INTERNATIONAL, LI | LC EPA Generator #: | NMR000022293 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| Common Name for this Waste: | ead Impacted | Soil | | |
| Process generating the material: | Excavation of | of soils near monitoring well that | t showed evidence of viscous materia | l inside well. |
| Type of Facility: | | Refinery (SIC 2911) | Coke by-products recovery (SIC 3312) | Chemical manufacturing (SIC 2800 thru 2899) |
| Facility Total Annual Benzene Status | (TAB): | √ < 1 Megagram (2,204 lbs) | ≥1 but <10 Megagram | ≥10 Megagram |
| Is the waste being transferred to US I | Ecology for offsi | ite treatment compliance with 40 | CFR Part 61.342(f)? | ☐Yes ✓ No* |
| By indicating "Yes", notice is provide Waste Operations). All shipments of CFR Part 61.342 (C)(1)(i). | ed that the was f waste under t | ste referenced in this profile is su his profile are being transferred t | ubject to 40 CFR Part 61 Subpart FF (Na to US Ecology for the destruction or rem | ational Emission Standards for Benzene loval of benzene in accordance with 40 |
| B. WASTE CHARACTER | ISTICS | | | |
| • | enzene content | by weight or process turnaround | total concentration of this waste is: 0.10 |)ppmw |
| (Benzene concentration data must be | total concentr | ation by weight. DO NOT USE TCL | P CONCENTRATIONS.) | |
| (Benzene concentration data must be The weighted average water content | | ✓ ≤10% | 10% | |
| | is? | | 10% | |
| The weighted average water content | is? I waste? | ✓ ≤10% | 10% | |
| The weighted average water content Is the waste Process Unit Turnaround | is? I waste? e treatment con | ✓ ≤10% | 10% | |
| The weighted average water content is the waste Process Unit Turnaround *Only if you answered "No" for offsit | Is? I waste? e treatment con : 0 Proces | Yes ✓ N mpliance above, please supply the | 10% | |
| The weighted average water content Is the waste Process Unit Turnaround *Only if you answered "No" for offsit Range of benzene total concentration | Is? I waste? e treatment con : 0 Proces | Yes ✓ N Tyes ✓ | 10% Io If following: | |
| The weighted average water content Is the waste Process Unit Turnaround *Only if you answered "No" for offsit Range of benzene total concentration This waste is classified as: C. CERTIFICATION | Is? I waste? e treatment cor n: 0 Proces Landfil | Yes ✓ N Tyes ✓ | 10% lo e following: ☐ Product tank drawdown ☐ None of the three s and/or process knowledge, and that all | |



US Ecology, Inc. Land Disposal Restriction Form

| Generato | or: HUNTSMAN INTERNATIONAL, LLC EPA ID Number: NMR000022293 |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Waste St | ream or Profile Number: Manifest Doc. No. Line No. |
| Waste is | a: Wastewater (<1% TSS and TOC) V Non-wastewater Debris |
| Notificat | on Frequency: One Time 🗸 Required with Each Shipment |
| Shipmen | t EPA Waste Codes (from 40 CFR 268.40) D008 |
| | |
| UHC's (U | nderlying Hazardous Constituents 40 CFR 268.48)? Yes 🗸 No |
| If yes, list | |
| | abcategory apply per 40 CFR 268.40? ☐ Yes ☑ No |
| If yes, list | |
| If yes, list | |
| | Profile for analysis (if any). |
| | erione to analysis in any. |
| A | Restricted Waste Meets Treatment Standards (40 CFR 268.7(a) (3)) The restricted waste identified above meets the treatment standards in 40 CFR 268.40 or Alternative LDR treatment standards for contaminated soil 40 CFR268.49 and can be landfill disposed without further treatment. |
| | If applicable, under 268.49, this contaminated soil does or does not contain listed hazardous waste and does or does not exhibit a characteristic of hazardous waste and compiles with the soil treatment standards as provided by 268.49 (c) or the universal treatment standards. |
| | I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste compiles with the treatment standards specified in 40 CFR Part 268 Subpart D. I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment. |
| В. 🗌 | Restricted Waste Treated To Treatment Standards (40 CFR 268.7(b) (I) & 268.7 (b) (2)) The treatment residue, or extract of such residue, or the restricted waste identified above has been tested to assure that the treatment residues or extract meet all applicable treatment standards in 40 CFR 268.40 and/or performance standards in 40 CFR 268.45. |
| | I certify under penalty of law that I personally have examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the treatment standards specified in 40 CFR 268.40 without impermissible dilution of the prohibited waste. I am aware there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment. |
| c. 📙 | Restricted Waste Soil treated to alternative standards (40 CFR 268.7 (b) (4)) I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification and believe that it has been maintained and operated properly so as to comply with treatment standards specified in 40 CFR 268.49 without impermissible dilution of the prohibited wastes. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment. |
| D | Restricted Waste Decharacterized But Requires Treatment For UHC (40 CFR 268.7 (b) (4) (iv)) I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 or 268.49 to remove the hazardous characteristic. This decharacterized waste contains Underlying Hazardous Constituents that require further treatment to meet treatment standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment. |
| E. 🚺 | Restricted Waste Subject To Treatment (40 CFR 268.7(a) (2)) The restricted waste identified above must be treated to the applicable treatment standards in 40 CFR 268.40, or treated to comply with applicable prohibitions set forth in Part 268.32 or RCRA Section 3004(d) and 268.49 (c). |
| | If applicable, under 268.49, this contaminated soil does or does not contain listed hazardous waste and does or does not exhibit a characteristic of hazardous waste and is subject to the soil treatment standards as provided by 268.49 (c) or the universal treatment standards. |
| F | Hazardous Debris Subject To Treatment (40 CFR 268.45) This hazardous debris identified above must be treated to the alternative treatment standards in 40 CFR 268.45. |
| my waste | is to be managed in accordance with 40 CFR 268. My certification is based on personal examination of the information submitted, or is my inquiries of those individuals responsible for obtaining the information. |
| Authorize | d Signature: Edward L. Glimalise Title: Sentor Marriago, Et Slage Date: 1/7/15 |

| Plea | ase p | rint or type. (Form design | ned for use on eli | te (12-pitch) typewriter | | | | | | | | | IB No. 2050-0039 |
|---------------------|-----------|-----------------------------------------------------------------|------------------------|-----------------------------|----------------------|-----------------|---------------|------------------|-----------------------------------------|---------------------------------------|--------------------------------------------------|-------------------|------------------|
| 1 | | FORM HAZARDOUS VASTE MANIFEST | Generator ID Nu | mber | | 2. Page 1 of | 3. Emerge | ency Response | Phone | 4. Manifest | Tracking Nu | 3782 | JJK |
| i | 5. G | enerator's Name and Mailing | g Address | | | | Generator | s Site Address | (if different that | n mailing addre | ss) | | |
| Ш | | | | | | | | | | | | | |
| | | | | | | 1 | | | | | | | |
| | | erator's Phone: ansporter 1 Company Name | 1 | | | | | | | U.S. EPA ID | Number | | |
| | | | | | | | . 5 | 4 | | 1 | | | |
| П | 7. Tr | ansporter 2 Company Name | 9 | | · | | | | | U.S. EPA ID | Number | | |
| П | | | | | | | | | | | | | |
| П | 8. D | esignated Facility Name and | Site Address | | | | | | | U.S. EPA ID | Number | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | Faci | lity's Phone: | | | | | | | | L | т т | | |
| | 9a. HM | 1 | | Shipping Name, Hazard C | Class, ID Number, | | | 10. Contain | Type | 11 Total Quantity | 12. Unit Wt./Vol. | 13. Was | te Codes |
| | - 11.77 | 1. | | | | | _ | 110. | Туре | | 1 | | |
| QR. | | | | | | | | | | | | | |
| RAI | | | | | | | | | | | | | |
| GENERATOR | | 2. | | | | 784 | | | | | | | |
| 5 | | | | | | | | | | | | | |
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| | | 3. | | | | | | | | | | | |
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| | _ | 4. | | | | w | | | | | | | |
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| | | | | | | | | | | | | | |
| 1 | 14. 5 | Special Handling Instructions | and Additional Info | ormation | | | | | <u> </u> | | | | |
| 1 | | e , , | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | 15 | GENERATOR'S/OFFEROF | R'S CERTIFICATIO | N: I hereby declare that t | he contents of this | consignment : | are fully and | accurately de | scribed above t | v the proper st | sipping name | and are classifie | nd packaged |
| | | marked and labeled/placard | ded, and are in all re | espects in proper condition | n for transport acco | rding to applic | cable interna | ational and nati | | | | | |
| | | Exporter, I certify that the collicertify that the waste mining | | | | | | | III quantity gene | rator) is true. | | | |
| | Gene | erator's/Offeror's Printed/Typ | ed Name | | | Sig | nature | - | سائند استان م | · · · · · · · · · · · · · · · · · · · | | Month | Day Year |
| ļ | | Sert Trees. | | Hickory | 1.34. | :11. | *, 2/ 1 | 7 | i S. Al Mariani President | w ₁ , | | 01 | 25 16 |
| Ţ | | nternational Shipments | Import to | U.S. | | Export from U | J.S. | Port of en | try/exit: | | | | |
| N N | | sporter signature (for export | ts only): | | | | | Date leavi | ng U.S.: | | | | |
| TRANSPORTER | | ransporter Acknowledgment sporter 1 Printed/Typed Nam | | als | | Sion | nature | | | | | Month | Day Year |
| PO | | , | 1 | | | | | | | | | 1 | 1 1 |
| ISN | Trans | sporter 2 Printed/Typed Nam | ne | | | Sigi | nature | | - | | | Month | Day Year |
| 꽃 | | | | | | | | | | | | | |
| † | 18. D | Discrepancy | | | | | | | | | | | |
| | 18a | Discrepancy Indication Space | ce Quan | itity | Туре | | | Residue | | Partial Re | jection | | Full Rejection |
| | | | | | | | | | | | | | |
| <u>'</u> | 18h | Alternate Facility (or Genera | ator) | | | | Mani | ifest Reference | Number. | U.S. EPA ID | Number | | |
| 5 | 100.1 | rate tracking (or Genera | nor, | | | | | | | 0.5. El Alb I | Hamoer | | |
| Ą | Facili | ity's Phone: | | | | | | | | 1 | | | |
| | | Signature of Alternate Facilit | ty (or Generator) | | · | | | | | L | | Month | Day Year |
| Ă | | | | | | | | | | | | | |
| DESIGNATED FACILITY | 19. H | lazardous Waste Report Ma | nagement Method | Codes (i.e., codes for haz | ardous waste treatr | ment, disposa | , and recycl | ling systems) | | | | | A |
| H | 1. | | | 2. | | 3. | | | *************************************** | 4. | ··· · · · · · · · · · · · · · · · · | | |
| i | | | | | | | | | | | | | |
| | | esignated Facility Owner or ed/Typed Name | Operator: Certifica | tion of receipt of hazardou | us materials covere | | | as noted in Item | n 18a | | | Month | Day Year |
| | F 119966 | он гурон нате | | | | aigi I | nature | | | | | MONIN | Day Year |

| Plea | uniform Hazardous Waste Manifest | 1. Generator ID No | | riter.) | 2. Page 1 of | 3. Emergency | y Response | Phone | 4. Manifes | t Tracking No | Approved. Of the state of the s | | |
|---------------------|---------------------------------------------------------------------------------------------------------------------|--------------------------------------------|----------------------------------------------|-----------------------------------------------------|-----------------------------------------------|----------------------------------------|-----------------------------|-----------------------|---------------------------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|--------|
| ` | 5. Generator's Name and Mailin | ng Address | | | | Generator's Si | te Address | (if different th | an mailing addr | | | | |
| | Generator's Phone: | | | | | | | | | | | | |
| | 6 Transporter 1 Company Nam | | in 400 " | / | · · · · · · · · · · · · · · · · · · · | | , | 729 2 | U.S. EPA ID | | | | |
| | 7 Transporter 2 Company Nam | | | | 15 | | * * | Lifab | U.S EPAID | Number | | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | |
| | Designated Facility Name an | d Site Address | | | | | | | U.S. EPA ID | Number | | | |
| | | | | | | | | | ı | | | | į |
| | Facility's Phone: 9a. 9b. U.S. DOT Descripti | on (including Proper | Shipping Name, Haza | ard Class, ID Number, | | | 10. Contain | ers | 11. Total | 12. Unit | 42 146 | | |
| | HM and Packing Group (if a | any)) | | | | | No. | Туре | Quantity | Wt./Vol. | 15 444 | ste Codes | |
| GENERATOR | 1. | | | | | | | | 16 | Y | | | |
| - GENE | 2 | | | | | | | | | | | | |
| | 3. | | | | | | | | · · · · · · · · · · · · · · · · · · · | | | | |
| | 4. | | | | | | | | | | | | |
| | | | | | | | | | | | - 14 | | |
| 5 | 14. Special Handling Instruction | is and Additional Inf | ormation | | | ······································ | | | | <u></u> | | | |
| | | | | | | | | | | | | | |
| | 15. GENERATOR'S/OFFERO marked and labeled/placar Exporter, I certify that the I certify that the waste min | ded, and are in all roomtents of this cons | espects in proper consignment conform to the | dition for transport acc ne terms of the attache | cording to applied EPA Acknow | icable internation wledgment of Co | nal and nations | onal governm | ental regulations | | | | |
| | Generator's/Offeror's Printed/Ty | | | (-),(-) | | gnature | | | | | Month | Day | Year |
| 1 | 16. International Shipments | | 6.21 / 11 M | · | <u>- (</u> | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | Z % | مسود منهمين والاعتمال | 97. | | 01 | 26 | 16 |
| INT.L | Transporter signature (for expo | | | L | Export from | U.S. | Port of ent Date leaving | | | | | | |
| TER | Transporter Acknowledgmen Transporter 1 Printed/Typed Na | | nals | w | Sic | gnature | | | | | Month | Day | Year |
| SPOF | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | | | | | | | | | | 1 | | 1 |
| TRANSPORTER | Transporter 2 Printed/Typed Na | me | | | Siç | gnature | | | | | Month | Day | Year |
| 1 | 18. Discrepancy | | | | | | | | | | | | |
| | 18a. Discrepancy Indication Spa | ace 🔲 Quar | ntity | Туре | | | sidue | Northea | Partial Re | ejection | | Full Reject | tion . |
| LITY | 18b. Alternate Facility (or Gener | ator) | | | | Warmest | Reference | Number. | U.S. EPA ID | Number | | | |
|) FAC | Facility's Phone: | | | | | | | | <u></u> | | | | |
| DESIGNATED FACILITY | 18c. Signature of Alternate Faci | ity (or Generator) | | | | | | | | | Month | Day | Year |
| SIG | 19. Hazardous Waste Report M | anagement Method | | hazardous waste trea | itment, disposa | al, and recycling | systems) | | 1, | | | | |
| ıద | 1. | | 2. | | 3 | | | | 4. | | | | |
| | 20. Designated Facility Owner of Printed/Typed Name | r Operator: Certifica | ition of receipt of haza | rdous materials cover | | ifest except as n | oted in Item | 18a | | | Month | Day | Year |
| | · ···································· | | | | JI. | gridiui C | | | | | NOTER | Lay | 1001 |

| 1 UN | HIFORM HAZARDOUS WASTE MANIFEST | ned for use on elite (12-pitch) typer 1. Generator ID Number | | e 1 of 3. Emergen | cy Respons | e Phone | | Tracking N | Approved. O umber 3 7 7 5 | | |
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| 5. 0 | Generator's Name and Mailin | ng Address | | Generator's | Site Address | (if different th | an mailing addr | | (4 May | | |
| $\ \cdot \ $ | | - 1 v | | | | | | | | | |
| - | | | | | | | | | | | |
| Ge | nerator's Phone: | | + 4 | er etg. et | | | | | 1 | | |
| 6. 1 | Fransporter 1 Company Nam | ne | | | | | U.S. EPA ID | Number | | | |
| | Aug. 17. | Allan Tre . A | 1. 1 1/2 / | - Water | | 1221 | $17\lambda B$ | 0000 | 33175 | ng pangan | |
| 7. 1 | Fransporter 2 Company Nam | ne . | | · · · · · · · · · · · · · · · · · · · | | · Conti | U.S. EPA ID | Number | | | |
| | | | | | | | | | | | |
| 8.0 | Designated Facility Name an | | | | | | U.S. EPA ID | Number | | | |
| | to the second | | | | | | | | | | |
| | er en | | | | | | 1 | 1.70 | | | |
| Fac | cility's Phone: | Control of the December Objects of the Mary 110 | O ID N | Т | 40.0 | | | 7 | ······································ | | |
| 9a HN | | on (including Proper Shipping Name, Ha any)) | zard Class, ID Number, | <u> </u> | 10. Conta | 7 | 11. Total Quantity | 12. Unit Wt./Vol. | 13. Wa | ste Codes | |
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| 14 | Special Handling Instruction | ns and Additional Information | | | | L | | | | | |
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| | 1000000 | · ~ 5 | | | | | | | | | |
| | 12141 5 | 14600 | | | | | | | | | |
| 15. | GENERATOR'S/OFFERD | R'S CERTIFICATION: I hereby declare | that the contents of this consist | ament are fully and s | occurately de | ecribed above | by the proper s | hinning name | and are clareif | od pookoo | od . |
| | marked and labeled/placa | rded, and are in all respects in proper co | ndition for transport according to | o applicable internat | ional and nat | ional governm | ental regulations | s. If export sh | ipment and I am | the Primary | su, / |
| | | contents of this consignment conform to imization statement identified in 40 CFR | | | | -N stil s | | | | | |
| Gor | nerator's/Offeror's Printed/Ty | | 262.27(a) (if i am a large quant | Signature | (IT I am a sm | all quantity gel | nerator) is true. | | Month | Day | Year |
| , 30 | 17 . | | 1 1 11 2 | 1 | | 3. | | | | 1361 | 1 7/ |
| 1 16 | International Shipments | to Martine & late | 30 1 1 1 6 1 6 Cm | | | 17-2 | arry p. | | <u> </u> | 5€ | 18 |
| = | | import to U.S. | Export | from U.S. | Port of er | | | | Printer of the Control of the Contro | | |
| | nsporter signature (for expo | | | | Date leav | ing U.S.: | | | | | |
| 17. Tron | Transporter Acknowledgmen rsporter 1 Printed/Typed Na | | | Signature | | | | | Month | Day | Von |
| Trar | 1 | Office Constant | •7 | | | r | | | Month 1 2 | Day I | Year |
| - Tran | nsporter 2 Printed/Typed Na | | ,' | Signature | | | | | Month | Davi | /(_ Year |
| [] "" | isporter 2 i fintedriyped Na | nie . | | Signature | | | | | I I | Day | real |
| 19 | Discrepancy | | | 1 | | | | | | | L |
| - | | | | | | | | | | | |
| 18a | . Discrepancy Indication Spa | Quantity | Туре | F | Residue | | Partial Re | ejection | | Full Rejecti | ion |
| | | | | | | | | | | | |
| 185 | . Alternate Facility (or General | atori | | Manife | st Reference | e Number: | U.S. EPA ID | Number | | | |
| 18b Fac 18c | | , | | | | | J.J. LIAID | | | | |
| | 25 1 B) | | | | | | 1 | | | | |
| 18c | ility's Phone: Signature of Alternate Faci | lity (or Generator) | | | | | | | Month | Day | Yea |
| 100 | . Organicale of Attentione 1'act | my (or obnotator) | | | | | | | Month | Day I | 165 |
| _ | | | | | | | | | | | |
| 19. | Hazardous Waste Report M | anagement Method Codes (i.e., codes fo | or hazardous waste treatment, d | | g systems) | | | | | | |
| 1. | | 2. | | 3. | | | 4. | | | | |
| | | | | 1 | | | | | | | |
| _ | | or Operator: Certification of receipt of haz | ardous materials covered by the | | noted in Iter | n 18a | | | | | |
| Prin | ted/Typed Name | | | Signature | | | | | Month | Day | Year |
| 1 | | | | 1 | | | | | 1 | 1 1 | 4 |



Attachment C

Photographic Documentation

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PHOTOGRAPHIC LOG

Former Huntsman Refinery - WP 14 Limited Excavation

Photo No.

Date: 11-11-2015

Direction Photo Taken:

Close up

Description:

"Tar" material encountered approximately 1.5 feet deep below ground surface.

Appears to be a seam of "tar" material.



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PHOTOGRAPHIC LOG

Former Huntsman Refinery - WP 14 Limited Excavation

Photo No.

Date: 11-11-2015

Direction Photo Taken:

Close up

Description:

Close up of "tar" material. All "tar" material was removed and placed into Bin # 942.



Photographic Log Page-1

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PHOTOGRAPHIC LOG

Former Huntsman Refinery - WP 14 Limited Excavation

Photo No.

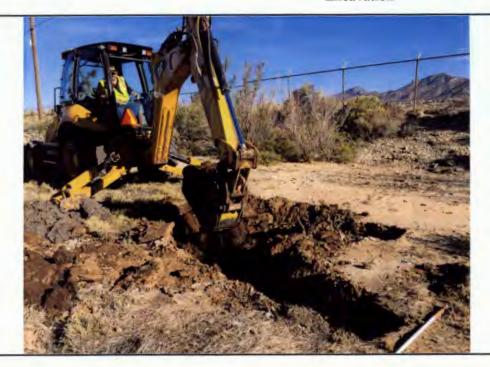
Date: 11-11-15

Direction Photo Taken:

Northeast

Description:

Excavating to remove all "tar" material near/at WP-14 well was located.



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PHOTOGRAPHIC LOG

Former Huntsman Refinery - WP 14 Limited Excavation

Photo No.

Date: 11-11-15

Direction Photo Taken:

Close up

Description:

Decontamination station.



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PHOTOGRAPHIC LOG

Former Huntsman Refinery - WP 14 Limited Excavation

Photo No. Date: 5 11-11-15

Direction Photo Taken:

Close up

Description:

Roll off bin containing excavated material.



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PHOTOGRAPHIC LOG

Former Huntsman Refinery - WP 14 Limited Excavation

Photo No. Date: 6 11-11-15 Direction Photo Taken:

Northeast

Description:

Excavation area was temporarily fenced for the over nights.



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PHOTOGRAPHIC LOG

Former Huntsman Refinery - WP 14 Limited Excavation

Photo No.

Date: 11-12-15

Direction Photo Taken:

Close up

Description:

Two extra roll offs were dropped at the site and used to continue the excavation.



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PHOTOGRAPHIC LOG

Former Huntsman Refinery - WP 14 Limited Excavation

Photo No.

Date: 11-12-15

Direction Photo Taken:

Close up

Description:

The source of the contamination was found. A damaged pipe that contained the contaminated material found on well.



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PHOTOGRAPHIC LOG

Former Huntsman Refinery - WP 14 Limited Excavation

Photo No.

Date: 11-12-15

Direction Photo Taken:

Southeast

Description:

Continue excavating.



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PHOTOGRAPHIC LOG

Former Huntsman Refinery - WP 14 Limited Excavation

Photo No.

Date: 11-12-15

Direction Photo Taken:

East

Description:

Excavation backfilling completed using onsite soils that were stockpiled to the north of the excavation area.



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PHOTOGRAPHIC LOG

Former Huntsman Refinery - WP 14 Limited Excavation

Photo No.

Date: 11-12-15

Direction Photo Taken:

Northwest

Description:

Roll off bin sampling using a hand auger. Auger was decontaminated between bin samples.



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PHOTOGRAPHIC LOG

Former Huntsman Refinery - WP 14 Limited Excavation

Photo No.

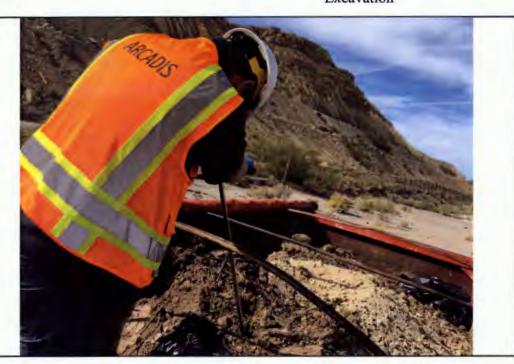
Date: 11-12-15

Direction Photo Taken:

Northwest

Description:

Sampling roll off bins.



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PHOTOGRAPHIC LOG

Former Huntsman Refinery - WP 14 Limited Excavation

Photo No.

Date: 1-26-16

Direction Photo Taken:

West

Description:

Bin # 1171 – non-hazardous leaving the site.



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PHOTOGRAPHIC LOG

Former Huntsman Refinery - WP 14 Limited Excavation

Photo No.

Date: 1-27-16

Direction Photo Taken:

West

Description:

Bin # 942 – Hazardous leaving the site.





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PHOTOGRAPHIC LOG

Former Huntsman Refinery - WP 14 Limited Excavation

Photo No. Date: 1-27-16

Direction Photo Taken:

West

Description:

Bin # 1168 – non-hazardous leaving the site.





Attachment D

Utility Clearance Information



ARCADIS Utilities and Structures Checklist

THIS FORM MUST BE COMPLETED IN ENTIRETY PRIOR TO BEGINNING ANY INTRUSIVE WORK

| Project: | Hustonaw Brickle | and Refinary | |
|--------------------------------------------|-------------------------------------|---------------------------------------------------------------------------------------|----------|
| Project Number: | LA003185.2015 | / | 1000 |
| Form Completion Date: | Now 10, 2015 | Form Expiration Date: 100 25 Dez | 1,2013 |
| Pre-Field Work | | (15 business days post form completion date) | |
| • | " notified 48-72 hours in adva | | <u> </u> |
| Ticket Expiration Date | | (Review State Requirements) | |
| Utility companies notified du | iring the One Call process | See attached ticket | |
| | | | |
| List any other utilities requiri | ing notification: XNone | | |
| | | | |
| Private Locator Contacted | Yes 💢 No | | |
| Plan private utility clearance su | bcontractor assignments, areas, r | required clearance equipment, depth of clearance | |
| needed, types of utilities. When | n possible re-clear 811 markings to | o confirm utility locations. | |
| Client provided utility maps | or "as built" drawings showing | utilities? | |
| Field Work - This must be o | completed on site, by staff who | have a minimum of one year of field experience | |
| | | PM or designee prior to beginning intrusive work | |
| List Soil Boring / Wel | LIDs or Excavation Location | is applicable to this clearance checklist: | |
| _ | | • • | |
| urea imme | dialy around pra | er wp-14 loration which | |
| hus heen - | Id by reba-place | d into plus + abandoned loration | |
| | , | any Subsurface Intrusive Work | |
| | | vorking in public right of way or easement) | |
| Utility Markings Present: | : Paint Pin flags/sta | akes Other Ione | |
| Client Provided Maps/D | rawings OR | ☐ Maps/Drawings requested but not provided | |
| Client Clearance | Name(s)/Affiliation(s) | | |
| Interview(s): | Name(s)/Affiliation(s) | ED GUNDERSON - Huntson Ent'L. L | LC |
| Did person(s) intentiews | ed indicate depths of any utiliti | es in the subsurface? | |
| Yes, depths provide | | Did not know or refused to answer | |
| Additional Commen | | | |
| | | | |
| Site Inspection (Comple | ete Page 2 & Photo Docume | nt Marked Utilities & Utility Structures) | |
| Public Records / Maps / | | • | |
| Private Locator: (Name | | | |
| Ground Penetrating Rad | , , | | |
| Radiofrequency (RFLoc Electromagnetic (EM) | 1. Don't forget to | sful Utility Location: | |
| Metal Detector | | Private Utility Locators | |
| Soft Dig Methods | 5 | cators to "confirm" other's markings | |
| Termination Depth | ft has 4. Select alternate | e/backup locations during clearance process own utilities. Leave nothing to question | |
| Potholing / Vacuum Ext | raction 6. No hammering | j - no pickaxes - no digging bars - no shortcutting | |
| Air-Knife Hydro-Kn | nife 7. No excessive to | turning or downward force of hand augers/shovels | |
| Probing | 8. Utilities may ru | in in or directly under asphalt/concrete | |
| Hand Auguring | | | |
| ☐ Other: ☐ Marine Locator: (Name | and Company) | | |
| L. IVIADDE LOCATOR UNAME | and Company) | | |





Utilities and Structures Checklist

During the site inspection look for the following: ("YES" requires additional investigation and the utility must be marked properly prior to beginning subsurface intrusive work):

| Site Inspection | Utility Color Codes | Pres | ent | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------------|--|--|--|
| a) Natural gas line present (evidence of a gas meter)? | Yellow | Yes | ≥ No | | | |
| i) Feeder Lines to buildings or homes? | | Yes | ∑ No | | | |
| b) Evidence of electric lines: | | | | | | |
| i) Conduits to ground from electric meter or along wall? | | Yes | □ No | | | |
| iii) Conduits from power poles running into ground? | | Yes Yes | ĭ No | | | |
| ii) Light poles, electric devices with no overhead lines? | | | ☑ No | | | |
| iii) Overhead electric lines present? (See Section I) | | | ☐ No | | | |
| c) Evidence of sewer drains: | AND Folding St. | | | | | |
| i) Restrooms or kitchen on site? | applied to a subject of the contract of the contract of the section of the contract of the con | Yes | ¥ No | | | |
| ii) Sewer cleanouts present? | | Yes | ∑ Nø | | | |
| iii) Combined sewer /storm lines or multiple sewer lines? | | Yes | ∑ No | | | |
| d) Evidence of water lines: | Blue | | / | | | |
| i) Water meter on site or multiple water lines? | | Yes | ≅No | | | |
| ii) Fire hydrants in vicinity of work? | | Yes | No | | | |
| iii) Irrigation systems? (Sprinkler heads, valve boxes, conf | trols in building) | Yes | ☑ No | | | |
| e) Evidence of storm drains: | Y Hanni | | _/ | | | |
| i) Open curbside or slotted grate storm drains | \$400 year or managed to \$400 to \$500 and the same defined associated. | Yes | ☑ Nø | | | |
| ii) Gutter down spouts going into ground | | Yes | No | | | |
| f) Evidence of telecommunication lines: | | | | | | |
| i) Fiber optic warning signs in areas? | | Yes | Mo | | | |
| iv) Aboveground cable boxes or housings or wires in work | area? | Yes | No | | | |
| g) Underground storage tanks: | | | | | | |
| i) Tank pit present, tank vent present? | | Yes | Mo | | | |
| ii) Product lines running to dispensers/buildings? | | Yes | No | | | |
| h) Do utilities enter or exit existing structures/buildings? | | | | | | |
| If Yes, confirm the utility markings outside of structure/ | huilding match up | Yes | ∆ No | | | |
| i) Proposed excavation marked in white? | White | Yes | □ No | | | |
| j) Unclassed utilities / anomalies marked in pink? | Pink *** | Yes | No | | | |
| k) Overhead Utilities/Communication Lines - Look Up: | A STATE OF THE STA | | E 140 | | | |
| i) Overhead electrical conduit, pipe chases, cable trays, | product lines? | Yes | □ No | | | |
| ii) Overhead electrical conduit, pipe chases, cable trays, pipe chases, pipe chases | product intes: | Yes | IJNo | | | |
| Overhead Power lines in or near the work area: | - leaders - | 162 | | | | |
| i) < 50 kV within 10 ft. of work area? | lines of the | Yes | No | | | |
| ii) >50 - 200 kV within 15 ft. of work area? | UN VOITAGE | Yes | No | | | |
| iii) >200-350 kV within 13 ft. of work area? | 1. than 19 | Yes | No | | | |
| iv) >350-500 kV within 25 ft. of work area? | MATCHE ! | Yes | No | | | |
| v) >500-750 kV within 35 ft. or work area? | on excavation | Yes | □ No | | | |
| vi) >750-1000 kV within 45 ft. of work area? | lines orteal- in Voltage rate tran 15 for execution | Yes | No | | | |
| vi) >750-1000 kV within 45 ft. of work area? m) Other: | ν. | 03 | | | | |
| i) Evidence of linear asphalt or concrete repair? | | Yes | 'YNo | | | |
| ii) Evidence of linear ground subsidence or change in veg | netation? | Yes | TVO | | | |
| iii) Unmarked manholes or valve covers in work area? | jetation: | Yes | Ner | | | |
| iv) Warning signs ("Call Before you Dig", etc.) on or adjace | ent to site? | Yes | Ne | | | |
| v) Utility color markings not illustrated in this checklist? | | Yes | No | | | |
| v) Othery color markings not mustrated in this checklist? | i.e. Purple | Lites | - INO | | | |
| n) Has the Utilities & Structures Checklist been reviewed by the PM or Designee Name: 6, Fennscor | he PM or Designee | Yes | ∐No | | | |
| Name and Signature of person completing the checklist: 69- | ett Fernico - | Ctt M. | 1- | | | |
| Date: 10,7015 | 21.15) | | 1 | | | |
| Do not perform mechanized intrusive work within 30 inches of a utility marking without receiving pre- | | | | | | |
| approval by Corporate H&S | | | | | | |



 From:
 eticket@nm811.org

 To:
 Ferguson, Garett

Subject: DO NOT REPLY: Request 2015450364

Date: Monday, November 2, 2015 2:11:52 PM

New Mexico One Call

Locate Request Confirmation Header Code: STANDARD LOCATE

Request Type:

Ticket No: 2015450364 Seq. No: 0

Update of:

Original Call Date: 11/02/2015 Time: 02:05:04 PM OP: 240

Transmit Date: 11/02/2015 Time: 02:11:39 PM Work to Begin Date: 11/04/2015 Time: 02:05:00 PM

Company: ARCADIS

Contact Name: GARETT FERGUSON Contact Phone: (915)433-1761

Alternate Contact: Alternate Phone: Best Time to Call: Fax No:

Cell Phone: (915)433-1761 Pager No:

Email: garett.ferguson@arcadis.com

State: NM County: DONA ANA City: SUNLAND PARK

Address: , BRICKLAND RD

To Address:

Nearest Intersecting Street: MCNUTT RD (NM-273)

2nd Intersecting Street:

Subdivision:

Latitude: 31.79605300 Longitude: -106.53542700

Zip Code: Grid:

Township: 29S Range: 04E Section 1/4: 09 SW

Location of Work: FROM ANAPRA RD AND BRICKLAND ROAD TRAVEL SOUTH ON BRICKLAND TO ENTRY GATE APPROXIMATELY 0.5MI, FROM ANAPRA RD TO RIGHT FORK IN RD. DIG SITE IS LOCATED WITHIN FENCE ALONG EAST FENCELINE. 100' X 100' AREA. SPOT AREAS MARKED IN WHITE.

Remarks: PLEASE CALL GARETT FERGUSON AT 915-433-1761 FOR ACCESS AND DIRECTION TO EXCAVATION LOCATION AS FENCE IS LOCKED - HAZARDS - POSS. SNAKES/BEES

Type of Work: SOIL REMEDIATION

Private Property: Y Street: Overhead Lines: Blasting:

Easement: Mechanical Boring: Premarked: Y

Work Being Done For: CLIENT

The following utility owners have been notified:

QEST NML3 EP24 ELEL ATT1

COSP TWCAB

IMPORTANT CONFIRMATION NOTICE

Your fax request has been received and processed. It is your

responsibility to review the information provided on this faxback confirmation ticket and ensure it has been correctly interpreted from your request. Notify us immediately of any corrections or errors. Acceptance of this faxback confirmation ticket means you accept responsibility for the accuracy of the information contained in the ticket and you agree to indemnify New Mexico One Call Systems, Inc. of all liability, claims, fees, or damages, including reasonable attorney fees arising from or resulting from the use of the information provided on this confirmation ticket.

New Mexico Law requires you to wait two working days from the date and time of this confirmation notice before you begin excavation. This request is valid for ten working days. Only the facility owners listed on this ticket will be notified.

You can check the Locate Status of this ticket and request other tickets by visiting the our website at www.nmonecall.org.

Caller Into Caller -Caller name: GARETT FERGUSO Title: PROJECT GEOLOGIST Contractor code: 61406 Alternate Phone #: contact: - Communication -Contractor Phone #: (915) 433-1761 Company name: ARCADIS Fax #: Suite: 400 Address: 401 Cell phone #: (915) 433-1761 Street: EAST MAIN Street type: ST Direction: Pager: City: EL PASO Email: garett.ferguson@arcadis.com Zip code: 79901 State: TX Best time to Type: CONTRACTOR call back:

| Ticket # | City or County | Address | Street/Well/Location Name | Intersection 1 | Intersection 2 | | |
|---------------|--------------------------------|---------|---------------------------|----------------|----------------|--|--|
| Notifications | | | | | | | |
| 2015450364 | SUNLAND PARK ,DONA ANA M | - Color | MCNUTT RD (NM-273) | ANAPRA RD | BRICKLAND RD | | |
| Suspended | | | | | | | |