



Monitored Natural Attenuation Report No. 11 March 2020 Groundwater Monitoring Event

Many Diversified Interests, Inc. Superfund Site Operable Unit 1 3617 Baer Street Houston, Harris County, Texas

Prepared for:

Fenway Development, Inc. 1520 Oliver Street Houston, Texas 77007

July 31, 2020

Project No. 39004-0003

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# 1.0 Introduction

This section describes the purpose and objectives of this report and a brief history of the site.

### 1.1 Purpose and Objectives

SKA Consulting, L.P. (SKA) was retained by Fenway Development, Inc. (the "Respondent") to prepare Monitored Natural Attenuation (MNA) Report No. 11 for the Many Diversified Interests, Inc. (MDI) Superfund Site Operable Unit 1 (OU1) (subject property) located in Houston, Harris County, Texas. This report summarizes groundwater monitoring and sampling activities conducted in 2020 in accordance with the following:

- Agreed Order on Consent and Covenant Not to Sue (AO) dated September 29, 2006;
- Remedial Action Monitored Natural Attenuation Plan dated July 17, 2007;
- Response to United States Environmental Protection Agency's (EPA's) April 20, 2009 Approval with Comments Letter and addendum to Monitored Natural Attenuation Report No. 3 dated June 15, 2009 and EPA's approval letter dated September 2, 2009;
- Addendum to Monitored Natural Attenuation Report No. 7/Request to Implement Groundwater Remedial Action dated November 11, 2011 and EPA's approval letter dated January 12, 2012;
- *Final Interim Groundwater Remedial Action Report (IGRA)* dated July 3, 2012 and EPA's approval letter dated August 2, 2012;
- Monitoring Natural Attenuation Sampling Events Schedule for the Many Diversified Interests Superfund Site letter prepared by the EPA dated February 9, 2018; and
- Second Five-Year Review Report for Many Diversified Interests, Inc. Superfund Site Harris County, Texas prepared by the EPA and dated June 7, 2018.

In accordance with the January 2012 and February 2018 EPA letters and the July 2012 Final IGRA Report, MNA monitoring is being performed by the EPA and the Respondent at alternating 30-month intervals. The most recent MNA monitoring event was conducted by EA Engineering, Science, and Technology, Inc. (EA), contractor to EPA, in August 2017.

Similar to previous MNA reports, this report evaluates the natural attenuation processes occurring in the uppermost groundwater-bearing unit (GWBU) beneath the subject property. This report also contains documentation for the installation of monitoring well MW-27R2, which was installed to replace monitoring well MW-27R that was found destroyed in January 2020.

### 1.2 Site History

The subject property, OU1, is an approximately 36-acre tract of vacant land addressed at 3617 Baer Street in Houston, Texas, approximately 2 miles east of downtown Houston in the Fifth Ward neighborhood. The subject property was utilized as a metal foundry from 1926 to 1992, and most on-site structures and facilities were demolished in early 1996. Following demolition activities, the EPA oversaw the removal of waste drums and contaminated soil from OU1.

The July 30, 2004 Record of Decision (ROD) for OU1 On-site Soils and Groundwater prepared by the EPA stated that the selected groundwater remedy actions for OU1 include:

- Implementation of MNA for the groundwater, which includes source removal and longterm monitoring for the groundwater to ensure that constituents of concern (COCs) above cleanup goals are naturally attenuating, and
- Implementation of institutional controls for OU1 to prevent exposure to soil contamination above acceptable cleanup levels and to prevent exposure to contaminated groundwater in the uppermost GWBU. A developer/contractor or owner for the subject property must agree to provide deed restrictions to the affected property, as appropriate or as allowed by law, addressing soil and groundwater.

The AO for the MDI Superfund site was entered into by the EPA and the Respondent in September 2006. In response to the AO, ENTACT Services (ENTACT) prepared a Remedial Action Work Plan for OU1, a Groundwater MNA Plan, and an Operation and Maintenance (O&M) Manual in July 2007. These plans and manuals describe the measures required to maintain the effectiveness of the completed remedial actions at OU1 through a scheduled process of maintenance, inspection, and corrective action, if necessary. In 2007 and 2008, ENTACT conducted source removal remedial actions. The EPA approved final completion of soil remedial actions in December 2008.

As part of the groundwater remedial actions for OU1, ENTACT conducted a baseline groundwater sampling event in July 2008 followed by the first quarterly groundwater sampling event in October 2008. Additional groundwater monitoring events were conducted by SKA and others in 2009, 2010, 2011, 2012, 2013, and 2017.

Following the January 2011 groundwater sampling event, SKA prepared MNA Report No. 7 dated October 31, 2011. This report contained an evaluation of field and laboratory analytical data from all groundwater monitoring events for OU1 since the completion of soil remedial activities. According to information presented in the report, the groundwater contaminant plumes of OU1 were stable and/or decreasing and, on behalf of the Respondent, SKA submitted a request to implement IGRA. On January 12, 2012, the EPA approved the request to implement IGRA indicating that the groundwater monitoring frequency could be reduced to an annual basis and every 30 months following the first five-year review. In response to additional groundwater monitoring conducted by SKA in 2012, the EPA issued a Certificate of Completion for IGRA to the Respondent in January 2013.

The Second Five-Year Review Report for the MDI Superfund site issued by the EPA in 2018 concluded that the remedial actions performed on the subject property have been effective at protecting human health and the environment. In the report, the EPA recommended continuing groundwater monitoring on the subject property to monitor the effectiveness of MNA as the chosen groundwater remedy.

# 2.0 Monitored Natural Attenuation Program

The following sections present the goals and criteria utilized to verify that MNA is effective for groundwater impacts associated with OU1.

#### 2.1 Monitored Natural Attenuation Goals

As outlined in the ROD, the MNA program being implemented on the subject property is designed to accomplish the following goals:

- "Demonstrate that natural attenuation is occurring according to expectations;"
- "Detect changes in environmental conditions that may reduce the efficacy of any of the natural attenuation processes;"
- "Identify any potentially toxic and/or mobile transformation products;"
- "Verify that the plume(s) is not expanding (either downgradient, laterally, or vertically);"
- "Verify no unacceptable impact to downgradient receptors;"
- "Detect new releases of contaminants to the environment that could impact the effectiveness of the natural attenuation remedy;"
- "Demonstrate the efficacy of the institutional controls that were put in place to protect potential receptors;" and,
- "Verify attainment of remediation objectives."

#### 2.2 Remedy Assessment Criteria

To effectively manage groundwater contamination beneath OU1, the following three Plume Management Zones (PMZs) were established in accordance with Texas Commission on Environmental Quality (TCEQ) Texas Risk Reduction Program (TRRP) rules and regulations:

- PMZ 1 addresses manganese (Mn) and molybdenum (Mo) concentrations in the uppermost GWBU beneath the central portion of OU1. In addition, the Respondent is monitoring arsenic (As) concentrations in PMZ 1 at the request of the EPA;
- PMZ 2 addresses benzo(a)pyrene (BaP) concentrations in the uppermost GWBU beneath the northeastern portion of OU1; and
- PMZ 3 addresses total petroleum hydrocarbon (TPH) constituent concentrations in the uppermost GWBU beneath the northwestern portion of OU1.

The monitoring well network for the three PMZs includes attenuation monitoring point (AMP) wells and point of compliance (POC) wells. The AMP wells are utilized to monitor COC concentration trends within the PMZs and evaluate the effectiveness of the MNA processes.

The POC wells are utilized to demonstrate that the groundwater contaminant plume has not migrated laterally beyond the limits of each PMZ at concentrations above their critical screening levels. The three PMZs and associated AMP and POC wells are depicted in *Figure 1* and described as follows:

- PMZ 1 is monitored with five AMP wells (MW-04<sup>a</sup>, MW-08, MW-13, MW-23, and MW-24<sup>b</sup>) and two POC wells (MW-28 and MW-29).
- PMZ 2 is monitored with two AMP wells (MW-03R and MW-25) and two POC wells (MW-04 and MW-24).
- PMZ 3 is monitored with two AMP wells (MW-01 and MW-20R) and two POC wells (MW-26 and MW-27R2).

The 2006 AO stated that: (1) MNA would be applied as part of the selected remedy for PMZ 2 and PMZ 3 and (2) MNA will be discontinued when the concentrations of BaP and TPH in groundwater in PMZs 2 and 3, respectively, are less than their applicable screening levels.

Unlike PMZ 2 and PMZ 3, MNA is not the selected groundwater remedy for PMZ 1 per the AO, and no specific criteria were given for discontinuing groundwater monitoring for PMZ 1. In email correspondence dated October 5, 2011, the EPA stated that "the intent of the ROD was to continue monitoring PMZ 1 for manganese and molybdenum until the cleanup levels are reached in PMZs 2 and 3 for BaP and TPH, respectively." In a letter dated February 9, 2018, the EPA stated that the Respondent should also monitor for arsenic in groundwater in PMZ 1. As such, while the concentrations of arsenic, manganese, and molybdenum in groundwater are compared to specified screening levels, there are no target groundwater concentrations for discontinuing groundwater monitoring in PMZ 1.

The applicable screening levels for COCs in groundwater beneath OU1 are a combination of federal Maximum Contaminant Levels (MCLs), EPA Regional Screening Levels (RSLs) for tap water (EPA 2016), TCEQ TRRP Tier 1 Residential Groundwater Ingestion (<sup>GW</sup>GW<sub>Ing</sub>) Protective Concentration Levels (PCLs) (TCEQ 2019), and/or site-specific calculated critical TRRP PCLs. The applicable screening levels for COCs in groundwater beneath the subject property are listed below:

- BaP in PMZ 2, federal MCL and TCEQ TRRP Tier 1 Residential <sup>GW</sup>GW<sub>Ing</sub> PCL = 0.0002 milligrams per liter (mg/L);
- TPH in PMZ 3, site-specific calculated critical TRRP PCL = 4.1 mg/L.
- Arsenic in PMZ 1, federal MCL and TCEQ TRRP Tier 1 Residential <sup>GW</sup>GW<sub>Ing</sub> PCL = 0.01 mg/L.
- Manganese in PMZ 1, EPA RSL for tap water = 0.43 mg/L; and
- Molybdenum in PMZ 1, TCEQ TRRP Tier 1 Residential <sup>GW</sup>GW<sub>Ing</sub> PCL = 0.12 mg/L;

<sup>&</sup>lt;sup>a</sup> Monitoring well MW-04 is utilized as an AMP well in PMZ 1 and as a POC well in PMZ 2.

<sup>&</sup>lt;sup>b</sup> Monitoring well MW-24 is utilized as an AMP well in PMZ 1 and as a POC well in PMZ 2.

The COC concentrations exhibited by groundwater samples collected in March 2020 from AMP wells and POC wells were compared to their respective screening levels. Exceedances exhibited by groundwater samples collected from AMP wells may indicate the continued presence of groundwater impacts, but as long as groundwater concentrations in the applicable POC wells are less than their respective screening levels, the PMZs are interpreted to be functioning as intended.

# 3.0 Sampling and Analysis Procedures\_

Groundwater samples were collected from the AMP and POC wells listed in **Section 2.2**. The sampling and testing activities were conducted in accordance with the RA MNA Plan and other applicable EPA approval letters and documents for the subject property.

#### 3.1 Pre-Sampling Activities and Monitoring Well Installation

On January 21, 2020, SKA personnel conducted an initial site inspection and groundwater gauging event to measure the static depth to groundwater and the thickness of light, non-aqueous phase liquids (LNAPL) or free product, if present, in each of the AMP and POC wells with an electronic oil/water interface meter. During the gauging event, SKA personnel measured 0.02 feet of LNAPL in monitoring well MW-20R. In addition, SKA found that monitoring well MW-27R had been destroyed. In email correspondence on January 23, 2020, SKA requested that monitoring well MW-28 be used as a POC well for PMZ 3 as a replacement for the destroyed monitoring well MW-27R. In email correspondence on January 24, 2020, the EPA stated that monitoring well MW-28 could not be used as a POC well for PMZ 3 and that MW-27R would need to be replaced with a new monitoring well.

On March 10, 2020, Mr. John Sanders, Project Geologist with SKA, supervised the installation of monitoring well MW-27R2 in the City of Houston (COH) right-of-way (ROW) for Capron Street. The monitoring well drilling and installation activities were performed by Envirotech Drilling Services, LLC, (Envirotech) a State-of-Texas licensed water well driller, using a truck-mounted CME-75 drilling rig equipped with 8-inch outside diameter (OD) hollow-stem augers and 5-foot-long continuous sample barrels. Prior to mobilizing to the site, Envirotech obtained a COH ROW permit for the installation of the groundwater monitoring well (COH ROW Permit No. MW-20-02-08, issued 02/28/2020).

The borehole for monitoring well MW-27R2 was advanced to a total depth of 30 feet-below ground surface (ft-bgs). The borehole was converted to a permanent groundwater monitoring well by installing 10 feet of 2-inch diameter, Schedule 40, 0.010-inch slotted polyvinylchloride (PVC) screen (well screen) and 20 feet of 2-inch diameter, Schedule 40, solid PVC riser. A gravel pack consisting of 20/40-grade silica sand was installed in the borehole annulus around the well screen from 18 to 30 ft-bgs followed by a 2-foot thick bentonite seal and bentonite grout. A concrete seal and a flush concrete pad were completed at the surface. Monitoring well construction details are provided in the State of Texas Well Report and SKA Monitoring Well Log provided in *Appendix 1*.

Soil samples were collected continuously using the 5-foot-long continuous sample barrels. Equipment decontamination was performed during all drilling activities in accordance with applicable TCEQ, EPA, and Occupational Safety & Health Administration (OSHA) guidelines. All recovered soil samples were given to SKA's geologist for classification utilizing the Unified Soils Classification System (USCS). Soils encountered during the monitoring well installation included fill materials beneath the road surface, unsaturated sandy clay (CL) and clay (CH) soils above the water table, and saturated soils comprised of silty sand (SM) and clayey sand (SC). Since the monitoring well was not installed in a source area and was a replacement well, soil samples were not field screened for organic vapors using a photo-ionization detector (PID) and were not submitted for laboratory analysis. SKA personnel did not observe any visual or olfactory indicators of obvious contamination in the collected soil samples. Soil descriptions and classifications are provided on the SKA Monitoring Well Log included in **Appendix 1**. Following the monitoring well installation, SKA developed monitoring well MW-27R2 by purging the well of at least five casing volumes using a submersible pump and dedicated, disposable tubing to remove fine particles from the well screen and ensure proper groundwater recharge into the well. Finally, SKA surveyed the top-of-casing elevation of replacement monitoring well MW-27R2 and tied this well into the existing monitoring well network.

#### 3.2 Groundwater Gauging and Sampling Procedures

On March 10, 2020, SKA personnel conducted a site-wide groundwater gauging event and measured the static depths to groundwater and LNAPL thicknesses, if present, in the OU1 AMP and POC wells using an electronic oil/water interface meter. Measured depths to groundwater ranged from 11.07 feet below the top-of-casing (TOC) in monitoring well MW-08 to 20.83 feet below the TOC in monitoring well MW-04. A summary table of groundwater gauging data is included as **Table 1**.

During the site-wide groundwater gauging event, SKA measured 0.01 foot of LNAPL in monitoring well MW-20R. According to TCEQ guidance, any LNAPL thickness less than 0.10 foot is considered non-recoverable. Therefore, SKA removed the LNAPL from the well by purging three (3) well volumes from monitoring well MW-20R using a dedicated, disposable bailer on March 11, 2020. The monitoring well was then allowed to recharge overnight to return to static conditions. On March 12, 2020, SKA gauged monitoring well MW-20R, and measurable LNAPL was not encountered. Groundwater samples were then collected from monitoring well MW-20R using the sampling procedures described in the following paragraphs.

On March 11-12, 2020 and on March 18, 2020, SKA personnel collected groundwater samples from the POC and AMP wells using low-flow groundwater sampling techniques in general accordance with guidance contained in EPA publication EPA/540/S-95/504, *Low-Flow (Minimal Drawdown) Groundwater Sampling Procedures (April 1996)*. During low-flow groundwater purging, the groundwater from each POC and AMP well was continuously monitored in the field for pH, specific conductivity, dissolved oxygen, temperature, and oxidation/reduction potential (ORP) with a YSI Professional Plus portable water quality meter equipped with an in-line flow-through cell and dedicated, disposable polyethylene tubing. Additionally, turbidity was monitored using a separate turbidity meter, the depth to water was monitored using an electronic oil/water interface meter, and flow (pumping) rate controlled by on-site SKA personnel so as not to exceed allowable rates. The data collected during low-flow sampling activities were recorded on SKA Groundwater Sampling Logs and are provided in *Appendix 2*. Equipment decontamination was performed during all groundwater sampling activities in accordance with applicable TCEQ, EPA, and OSHA guidelines.

Once a minimum of one well volume was removed and at least three parameters were stable (within their respective variances) for three consecutive measurements, groundwater samples were collected from the monitoring wells, placed into appropriately preserved laboratory-supplied containers, labeled, and stored in an ice-filled chest for preservation and delivery to the testing laboratory. Groundwater samples collected for the analysis of dissolved metals (manganese and molybdenum) were field filtered by SKA personnel using a disposable 0.45-micron filter prior to collection. Appropriate chain of custody documentation was maintained for all samples shipped to the testing laboratory.

### 3.3 Analytical Testing

The groundwater samples collected from the POC and AMP wells were submitted to ALS Laboratory Group (ALS) in Houston, Texas, which is a National Environmental Laboratory Accreditation Conference (NELAC)-accreditied laboratory under the Texas Laboratory Accreditation Program. All analyses conducted at ALS were performed in accordance with EPA-approved methods, including those referenced in Title 40 of the Code of Federal Regulations (40 CFR) and/or "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (EPA SW-846), except for the TPH analysis, which was performed in accordance with Texas (TX) Method 1005, Revision 03, dated June 1, 2001. The analytical methods for all of the groundwater analyses were performed based on achieving laboratory sample detection limits (SDLs) that are at or below the federal MCLs and/or TCEQ TRRP Tier 1 <sup>GW</sup>GW<sub>Ing</sub> PCLs for residential land use.

Summary tables of groundwater COC analytical results and MNA parameter data are included as **Tables 2 and 3**, respectively. Laboratory certificates of analysis and chain of custody documentation are provided in **Appendix 3**, and a Data Validation Report evaluating the field procedures and laboratory analytical data is included in **Appendix 4**.

### 3.4 Post-Sampling Activities

On April 15, 2020, SKA personnel conducted a site inspection and completed a Post-Remedial Action Inspection Form in accordance with the 2007 O&M Manual prepared by ENTACT. SKA observed damage to the perimeter fencing at four locations. All groundwater monitoring wells associated with the subject property were observed to be in good condition and properly secured with a lock with one exception. The hinge on the stick-up cover for monitoring well MW-01 was broken and should be repaired. Following the site inspection, SKA notified the Respondent regarding the damages observed for the perimeter fence and the stick-up cover for monitoring well MW-01. A copy of the Post-Remedial Action Inspection Form completed by SKA is included in *Appendix 5.* 

On June 8, 2020, SKA personnel supervised a welder make repairs to the hinge on the stick-up cover for monitoring well MW-01. On June 30, 2020, SKA personnel conducted a site inspection and completed an additional Post-Remedial Action Inspection Form. SKA observed that the perimeter fence was intact and had been repaired in the previously documented damaged locations. A copy of the additional Post-Remedial Action Inspection Form completed by SKA is included in *Appendix 5*.

### 3.5 Investigation-Derived Waste Management

Excess soil cuttings, purged groundwater, and decontamination wash water generated during monitoring well installation and groundwater sampling activities were placed into properly labeled and sealed 55-gallon drums and temporarily stored on site. In total, two soil drums, three water drums, and one empty drum were generated and temporarily stored on the subject property. On May 12, 2020, these six drums were transported to Envirotech's secure facility for temporary storage while the drums are being profiled for proper off-site disposal at a landfill/recycling facility. On July 20, 2020, the one empty drum was transported to Southern Core Supply, a scrap-metal recycling facility in Houston, Texas, and the two soil and three water drums were transported to the Fort Bend Regional Landfill in Needville, Texas. Copies of the final bill of lading for the empty drum and the waste disposal manifest signed by the transporter

for the soil and water drums are included in *Appendix 6*. SKA will submit a copy of the final waste disposal manifest for the soil and water drums to the EPA in a subsequent submittal.

### 4.0 Presentation and Evaluation of Monitoring Data\_

The following sections discuss the groundwater data collected during the March 2020 MNA monitoring event and includes comparisons with historical data collected during prior events including the 2017 MNA monitoring event conducted by EA. Comparisons of COC concentrations with their respective screening levels (see **Section 2.2**) are provided in the following sections.

#### 4.1 Groundwater Gradient and Flow Direction

Based on the groundwater elevation data collected on March 10, 2020, the groundwater beneath the subject property generally flows toward the center of the subject property and then to the north toward Hare Street, which is consistent with previously reported groundwater flow directions. A groundwater gradient map prepared by SKA is included as *Figure 2*, and the summary table of groundwater gauging data is included as *Table 1*.

#### 4.2 Groundwater Analytical Results

The following sections describe the results of analytical testing performed on groundwater samples collected during the March 2020 groundwater monitoring event. The COCs being monitored in the uppermost GWBU beneath the subject property are arsenic, manganese, and molybdenum in PMZ 1, BaP in PMZ 2, and TPH in PMZ 3. A groundwater COC map prepared by SKA is included as *Figure 3*, and the summary table of groundwater analytical data is included as *Table 2*. Graphical depictions of COC concentrations versus time are included as *Figures 4 through 32*. The graphical depictions include non-detectable results at the values of their respective detection limits.

#### <u>PMZ 1</u>

Groundwater samples were collected from AMP wells MW-04, MW-08, MW-13, MW-23, and MW-24 and POC wells MW-28 and MW-29 for PMZ 1. These samples were analyzed in the testing laboratory for total and dissolved arsenic, manganese, and molybdenum by EPA Method 6020. Detected concentrations of total and dissolved arsenic, manganese, and molybdenum were exhibited by groundwater samples collected from all AMP wells and POC wells. Concentrations of total arsenic, manganese, and molybdenum and dissolved arsenic, manganese, and molybdenum were essentially the same, respectively. Therefore, the following discussions of groundwater concentrations and trends refer to total arsenic, manganese, and molybdenum concentrations only.

Of the detected arsenic concentrations, only the total arsenic concentration exhibited by a groundwater sample collected from AMP well MW-04 exceeded the federal MCL and TRRP Tier 1 Residential <sup>GW</sup>GW<sub>Ing</sub> PCL of 0.01 mg/L. Of the detected molybdenum concentrations, only the total molybdenum concentrations exhibited by groundwater samples collected from AMP wells MW-13 and MW-24 exceeded the TRRP Tier 1 Residential <sup>GW</sup>GW<sub>Ing</sub> PCL of 0.12 mg/L. None of the detected total manganese concentrations exceeded the applicable EPA RSL for tap water of 0.43 mg/L.

Concentrations of total arsenic in groundwater samples collected from the AMP wells and POC wells in PMZ 1 have demonstrated stable (MW-04, MW-23, and MW-28) or decreasing (MW-08, MW-13, MW-24, and MW-29) trends since 2003 or, in the case of monitoring wells MW-28 and MW-29, since 2017 (see *Figures 4 through 10*).

Concentrations of total manganese in groundwater samples collected from the AMP wells and POC wells in PMZ 1 have demonstrated stable (MW-08 and MW-29) or decreasing (MW-04, MW-13, MW-23, MW-24, and MW-28) trends since 2013 (see *Figures 11 through 17*).

Concentrations of total molybdenum in groundwater samples collected from the AMP wells and POC wells in PMZ 1 have demonstrated stable (MW-28 and MW-29) or decreasing (MW-04, MW-08, MW-13, MW-23, and MW-24) trends since 2013 (see *Figures 18 through 24*).

### <u>PMZ 2</u>

Groundwater samples were collected from AMP wells MW-03R and MW-25 and POC wells MW-04 and MW-24 for PMZ 2. These samples were analyzed in the testing laboratory for BaP by EPA Method 8270. None of the groundwater samples collected from AMP well MW-25 or POC wells MW-04 and MW-24 exhibited detectable concentrations of BaP. The groundwater sample collected from AMP well MW-03R exhibited a detectable concentration of BaP (0.000748 mg/L) that exceeded the federal MCL and TRRP Tier 1 Residential <sup>GW</sup>GW<sub>Ing</sub> PCL of 0.0002 mg/L.

Although the groundwater sample collected from AMP well MW-03R during the March 2020 sampling event exhibited a BaP concentration that exceeded the applicable screening level and indicates an increase since the 2017 groundwater sampling event (see *Table 2*), this reported concentration (0.000748 mg/L) does not represent a historical maximum for this well, which was 0.00087 mg/L reported in 2008. While BaP concentrations in groundwater samples collected from AMP well MW-03R have fluctuated over time, the overall trend since 2003 is stable (see *Figure 25*).

Concentrations of BaP in groundwater samples collected from AMP well MW-25 and POC wells MW-04 and MW-24 in PMZ 2 have demonstrated stable trends since 2003 (see *Figures 26 through 28*). No BaP concentrations have ever been detected in groundwater samples collected from AMP well MW-25 or POC wells MW-04 and MW-24 (see *Table 2*).

### <u>PMZ 3</u>

Groundwater samples were collected from AMP wells MW-01 and MW-20R and POC wells MW-26 and MW-27R2 for PMZ 3. These samples were analyzed in the testing laboratory for TPH by TX Method 1005. None of the groundwater samples collected from the AMP wells or POC wells for PMZ 3 exhibited detectable concentrations of TPH.

Concentrations of TPH in groundwater samples collected from the AMP wells and POC wells in PMZ 3 have demonstrated stable (MW-01, MW-26, and MW-27R2) or decreasing (MW-20R) trends since 2013 (see *Figures 29 through 32*). In fact, other than the presence of LNAPL in MW-20R, no detected TPH concentrations have been reported for PMZ 3 since 2011. Furthermore, groundwater samples collected from AMP well MW-01 and POC wells MW-26 and MW-27 (including MW-27R and MW-27R2) have never exhibited detectable concentrations of TPH (see *Table 2*).

### 4.3 Natural Attenuation Parameters

To further evaluate the effectiveness of natural attenuation in the uppermost GWBU beneath OU1, multiple natural attenuation parameters including dissolved oxygen, ORP, and pH were monitored in the field for all the AMP and POC wells. The natural attenuation data is presented in *Table 3*, and discussions of selected natural attenuation parameters are presented below.

Dissolved oxygen concentrations ranged from 0.04 mg/L in monitoring well MW-13 to 0.33 mg/L in monitoring well MW-28. A dissolved oxygen concentration of 3.47 mg/L was recorded for monitoring well MW-26; however, that was most likely an erroneous measurement and not representative of dissolved oxygen concentrations in groundwater beneath the subject property. Dissolved oxygen is a favored electron acceptor in the natural attenuation process and concentrations will generally decrease as an indication of biodegradation activities. The relatively low dissolved oxygen concentrations measured in the monitoring wells during the March 2020 groundwater monitoring event were consistent with historical dissolved oxygen measurements in the uppermost GWBU beneath OU1.

ORP readings ranged from -193.30 millivolts (mV) in monitoring well MW-13 to 75.30 mV in monitoring well MW-25. An ORP reading of 135.50 mV was recorded for monitoring MW-26; however, this ORP reading was likely an erroneous measurement and related to the elevated dissolved oxygen concentration recorded for this monitoring well. ORP provides the tendency for electron transfer in a media and can be utilized as an indicator of oxidizing or reducing conditions in groundwater. In accordance with discussions presented in previous groundwater monitoring reports prepared for the subject property, ORP readings collected in the field were converted to redox equilibria (Eh) by adding the standard potential of the reference electrode (199 mV) to each ORP reading, and positive Eh readings typically indicate oxidizing conditions, while negative Eh readings typically indicate reducing conditions. As a result, the calculated Eh readings for the March 2020 monitoring event ranged from 5.70 mV in monitoring well MW-13 to 274.30 mV in monitoring well MW-25, which are consistent with the positive Eh readings and suggested oxidizing conditions beneath OU1 reported in previous groundwater monitoring reports.

The pH readings in groundwater beneath the subject property ranged from 6.55 in monitoring well MW-20R to 9.23 in monitoring well MW-13. The pH measurements indicate acidity levels with 7 being neutral, less than 7 representing acidic conditions, and greater than 7 representing basic or alkaline conditions. Ideal pH levels for microbial activity in groundwater have been determined to be in the 6 to 8 range. All pH measurements were within this range except for AMP wells MW-08 and MW-13. The pH readings for AMP wells MW-08 and MW-13 were slightly alkaline at 9.21 and 9.23, respectively. Overall, the pH measurements in the AMP wells and POC wells were consistent with past pH measurements for these monitoring wells.

# 5.0 Conclusions and Recommendations

The groundwater analytical data collected during the March 2020 monitoring event indicate that, since completion of the soil remedial actions, BaP and TPH concentrations are being effectively controlled by the monitored natural attenuation program being implemented for OU1. For example, although BaP concentrations increased in AMP well MW-03R, none of the other AMP wells or POC wells for PMZ 2 exhibited detectable concentrations of BaP. As such, the BaP plume in groundwater is contained within PMZ 2. In addition, none of the AMP wells or POC wells for PMZ 3 exhibited detectable concentrations of TPH, and the LNAPL thickness in AMP well MW-20R has decreased over time.

The analytical data collected during the March 2020 monitoring event also indicate that total arsenic, manganese, and molybdenum concentrations in groundwater are stable and/or decreasing in PMZ 1 on OU1. Only the groundwater sample collected from AMP well MW-04 exhibited an arsenic concentration that exceeded the applicable screening level (federal MCL and TCEQ TRRP Tier 1 Residential <sup>GW</sup>GW<sub>Ing</sub> PCL). None of the AMP wells or POC wells in PMZ 1 exhibited a manganese concentration that exceeded the applicable screening level (EPA RSL), and only the groundwater samples collected from AMP wells MW-13 and MW-24 exhibited total molybdenum concentrations that exceeded the applicable screening level (TCEQ TRRP Tier 1 Residential <sup>GW</sup>GW<sub>Ing</sub> PCL).

In accordance with previous EPA documents issued for the subject property, groundwater monitoring will continue for the three PMZs until the following target goals are achieved:

- The BaP concentrations in groundwater samples collected from the AMP wells and POC wells in PMZ 2 are less than the applicable screening level (federal MCL and TCEQ TRRP Tier 1 Residential <sup>GW</sup>GW<sub>ing</sub> PCL),
- The TPH concentrations in groundwater samples collected from the AMP wells and POC wells in PMZ 3 are less than the applicable screening level (site-specific calculated critical TRRP PCL), and
- LNAPL has been recovered to the maximum practicable extent in AMP well MW-20R in PMZ 3.

Based on the results of the March 2020 groundwater monitoring event, the target goals of TPH concentrations less than the applicable screening level and the recovery of LNAPL to the maximum practicable extent have been achieved for groundwater in PMZ 3. As concentrations of BaP in groundwater in PMZ 2 still exceed the applicable screening level, additional groundwater monitoring is required for the subject property.

According to the EPA approval letter dated January 12, 2012, the groundwater MNA monitoring events will be performed by the EPA and the Respondent at alternating 30-month intervals. Therefore, the next groundwater monitoring event should be conducted by the EPA in September 2022.

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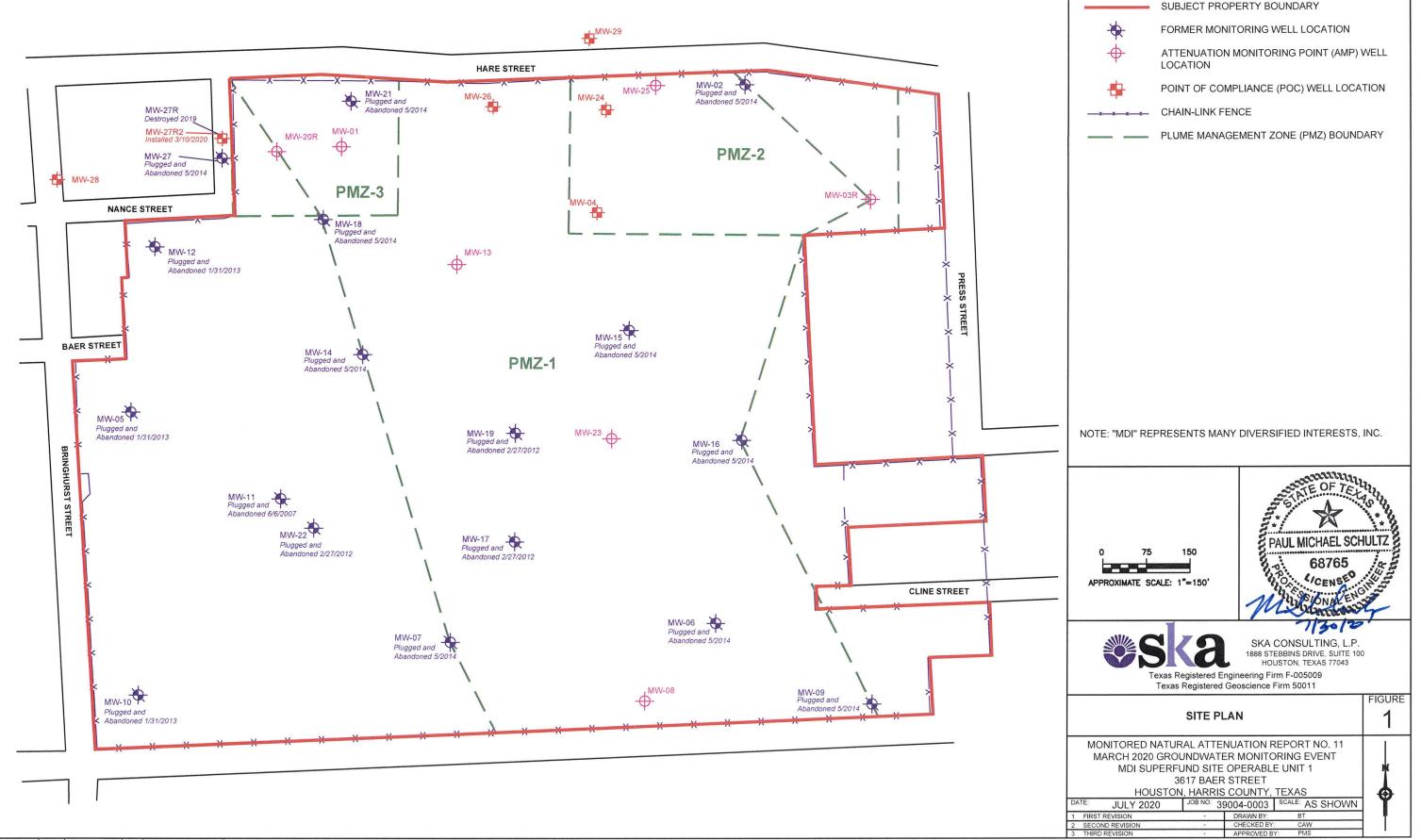
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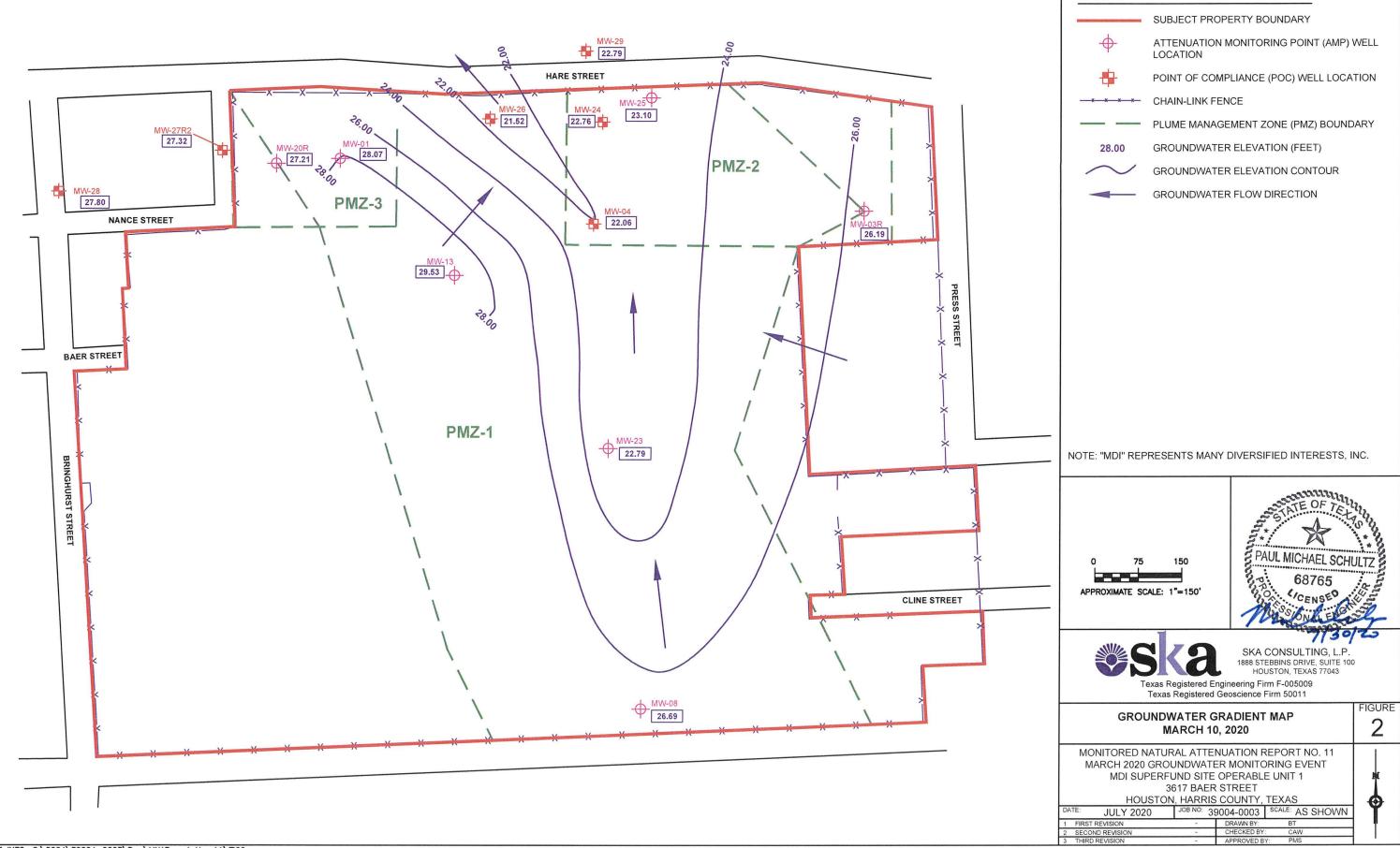
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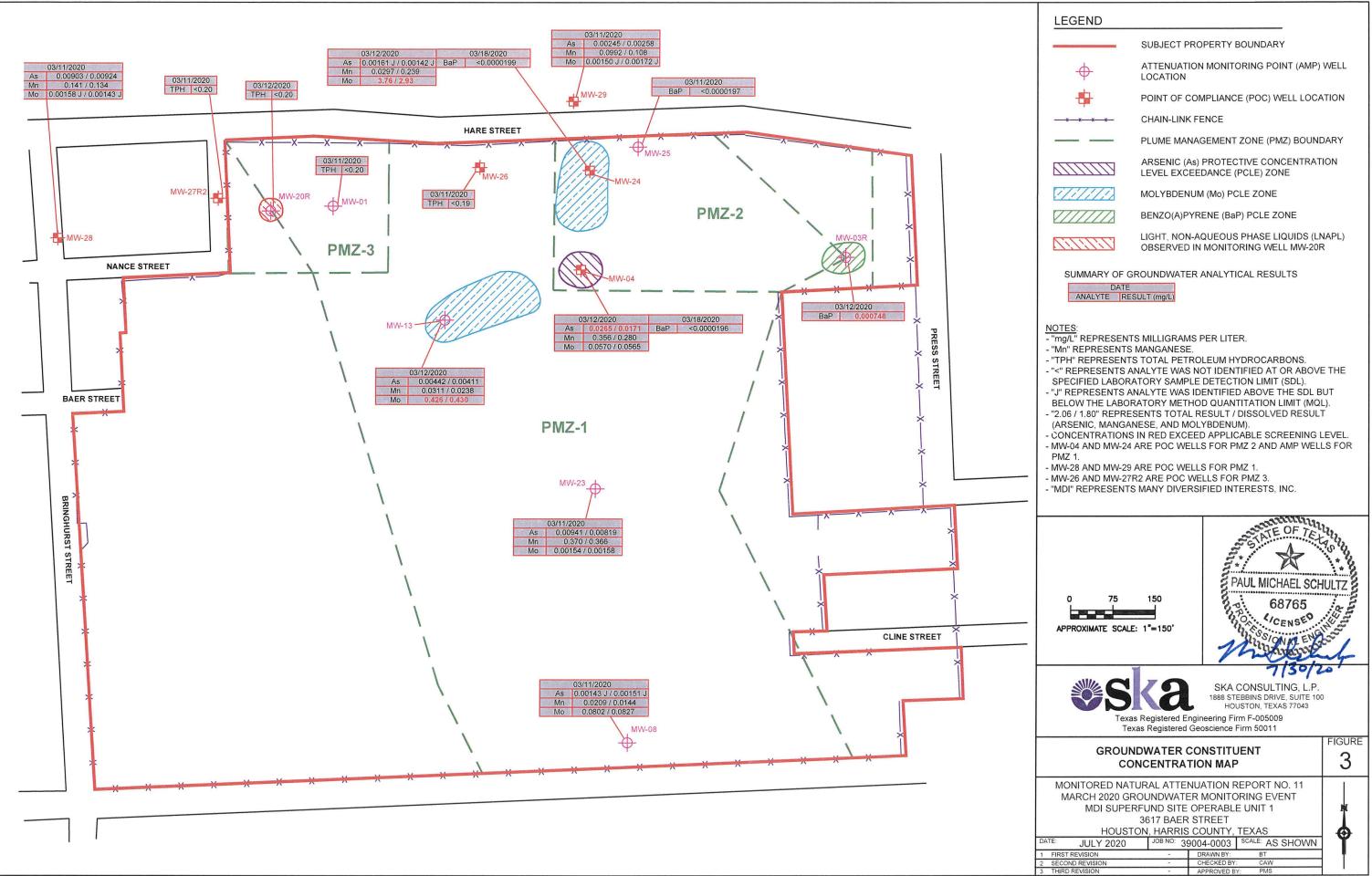
FIGURES

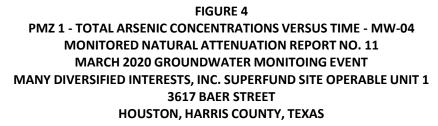


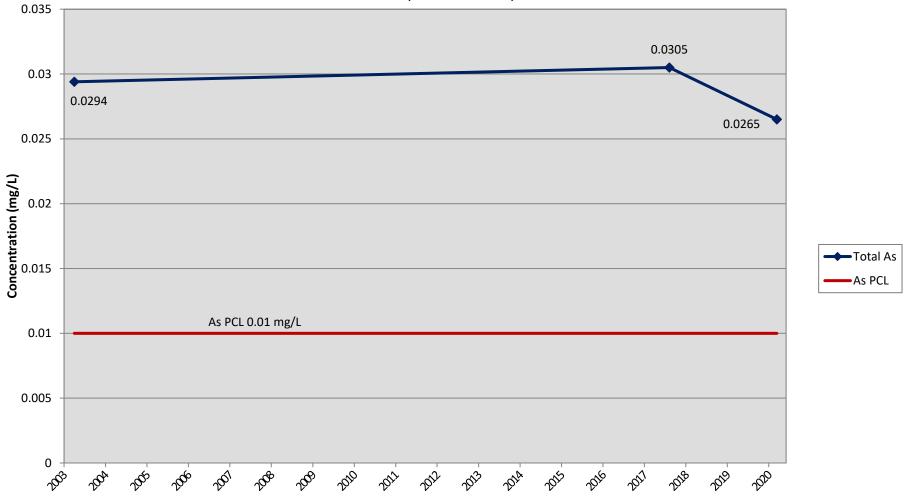
LEGEND	
	SUBJECT PROPERTY BOUNDARY
*	FORMER MONITORING WELL LOCATION
- <del>0</del> -	ATTENUATION MONITORING POINT (AMP) WELL LOCATION
+	POINT OF COMPLIANCE (POC) WELL LOCATION
<u> </u>	CHAIN-LINK FENCE
	PLUME MANAGEMENT ZONE (PMZ) BOUNDARY

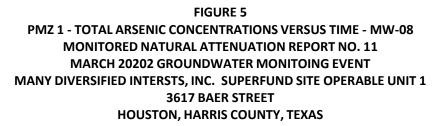


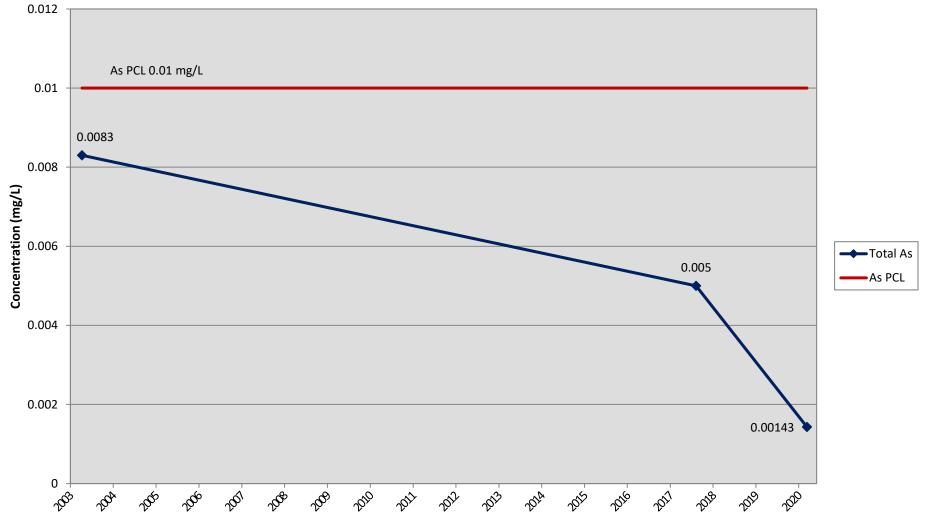
LEGEND				
	SUBJECT PROPERTY BOUNDARY			
- <del>0</del> -	ATTENUATION MONITORING POINT (AMP) WELL LOCATION			
+	POINT OF COMPLIANCE (POC) WELL LOCATION			
<u> </u>	CHAIN-LINK FENCE			
	PLUME MANAGEMENT ZONE (PMZ) BOUNDARY			
28.00	GROUNDWATER ELEVATION (FEET)			
$\sim$	GROUNDWATER ELEVATION CONTOUR			
	GROUNDWATER FLOW DIRECTION			

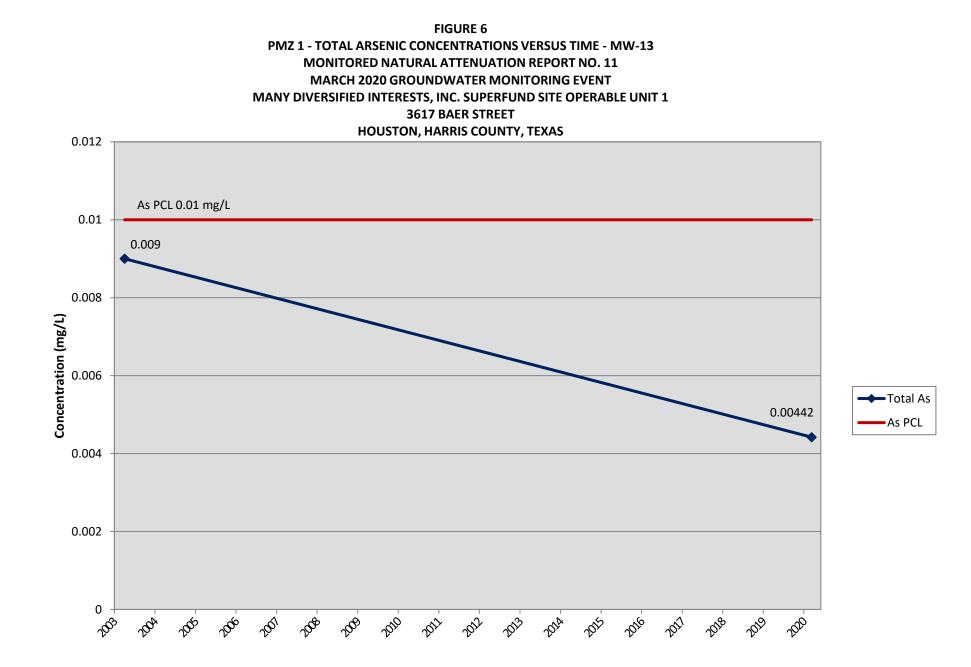


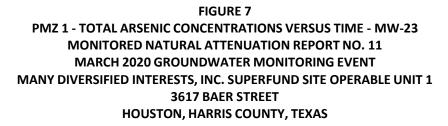


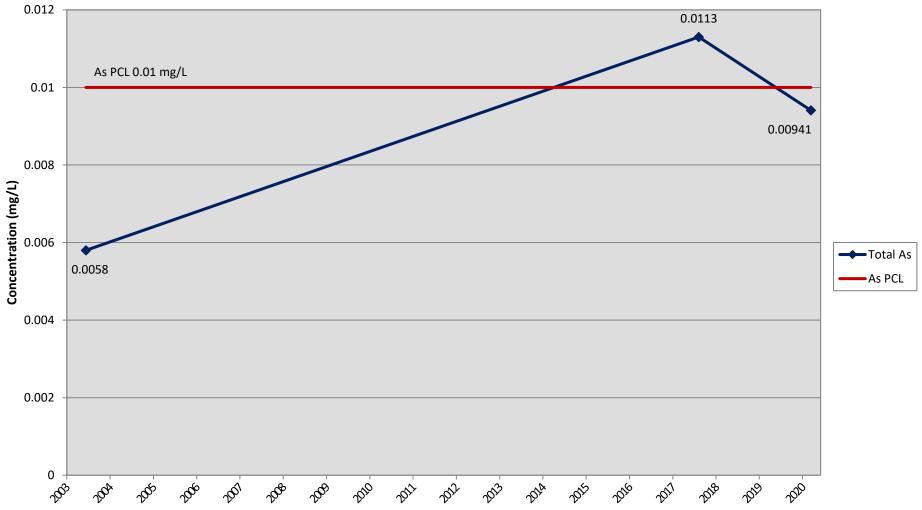


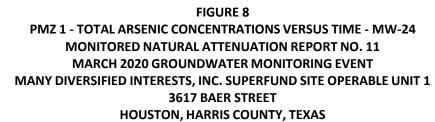


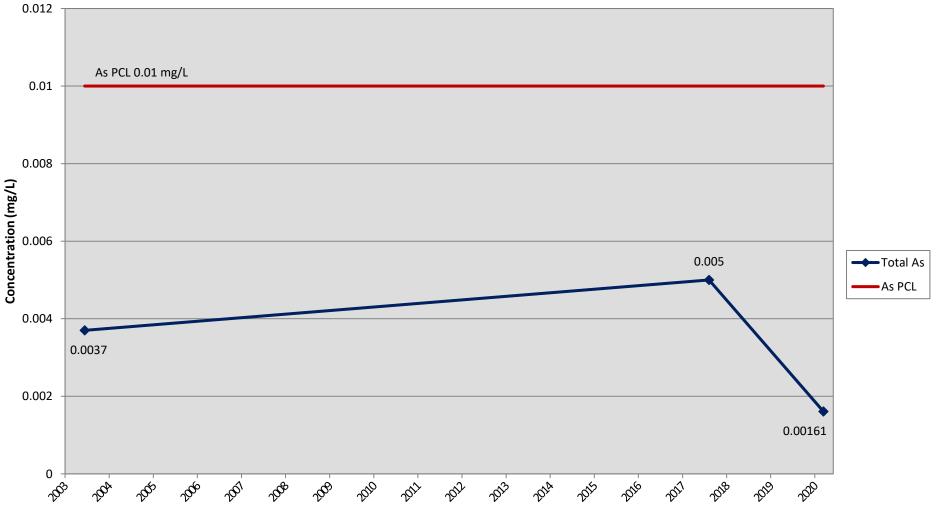




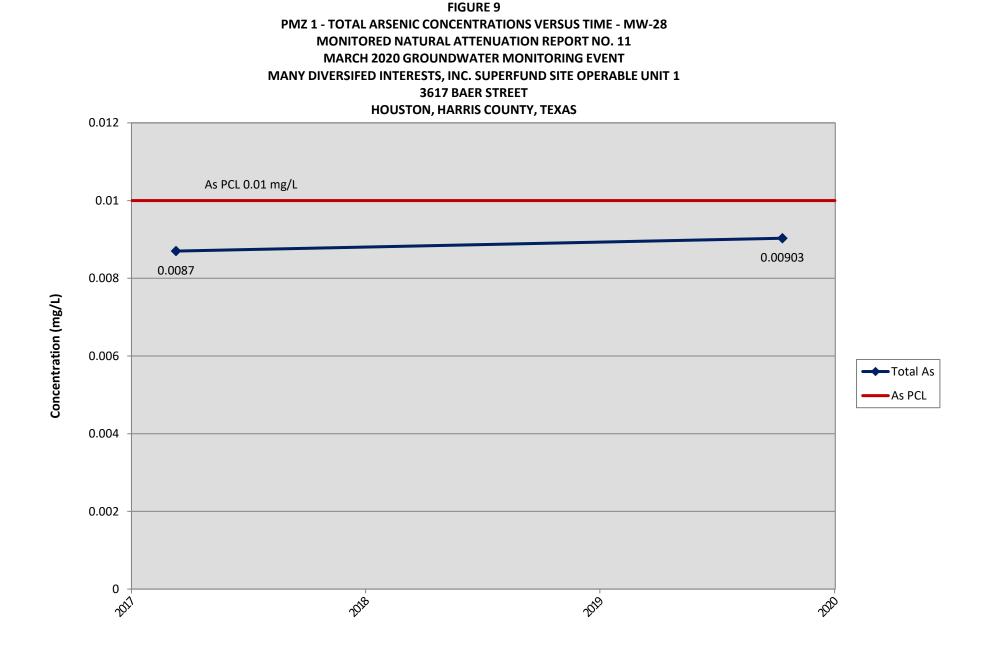


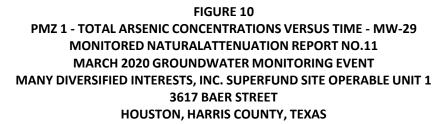


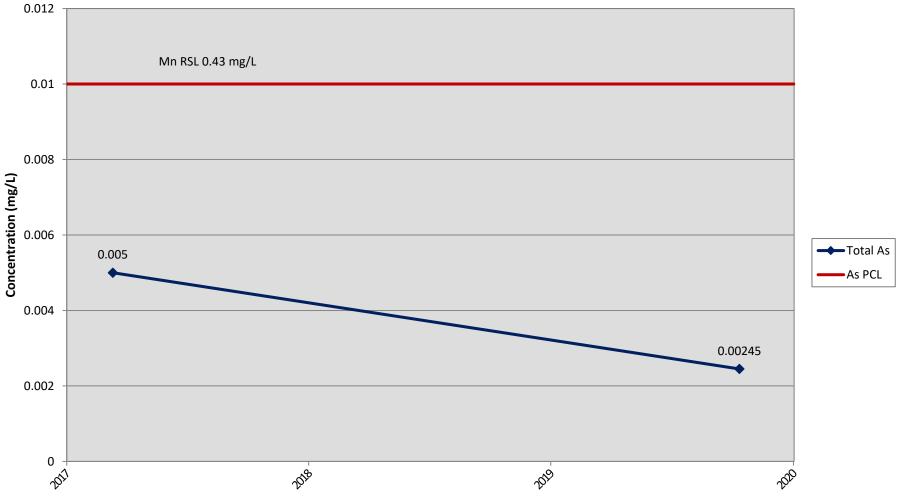


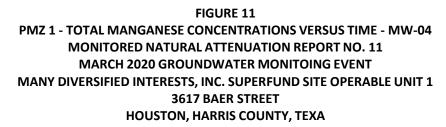


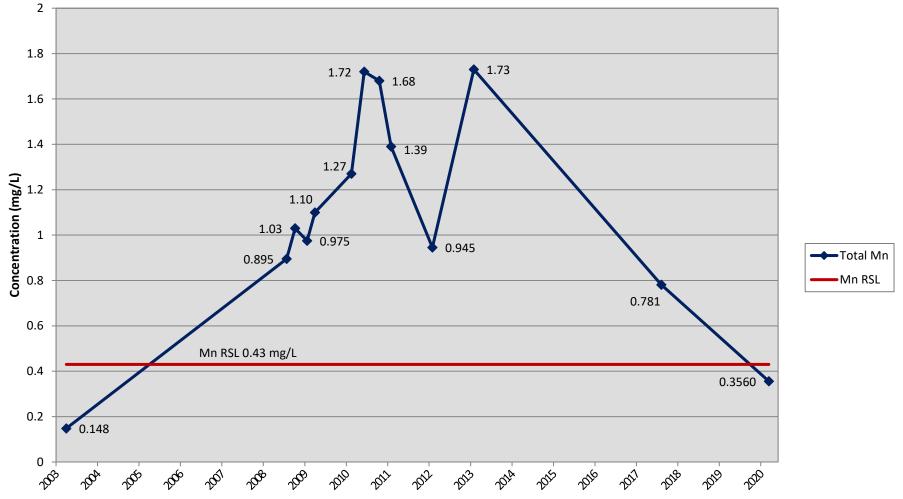
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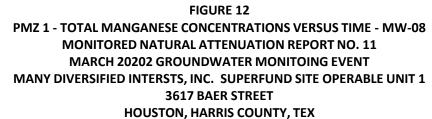


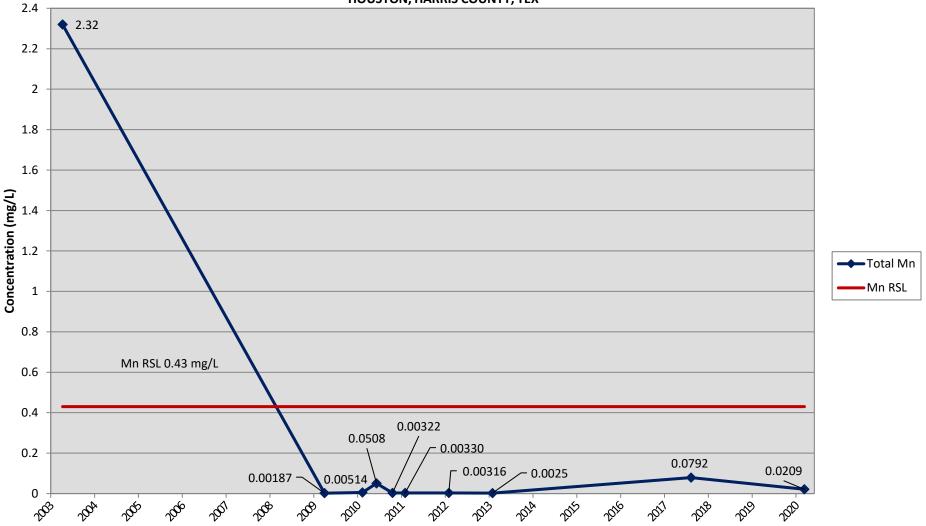


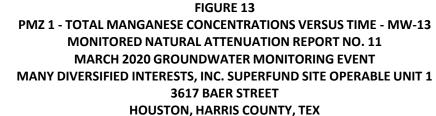


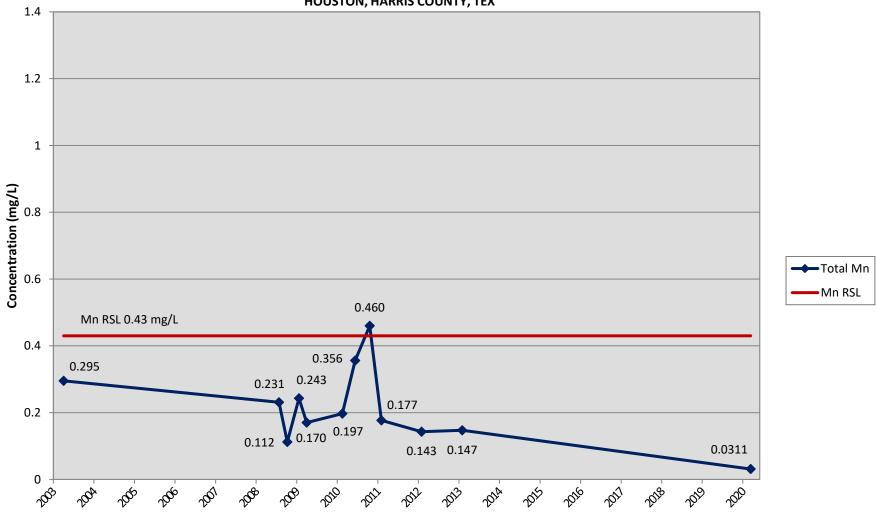


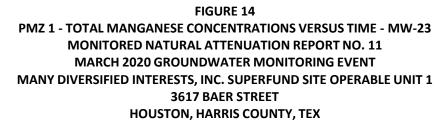


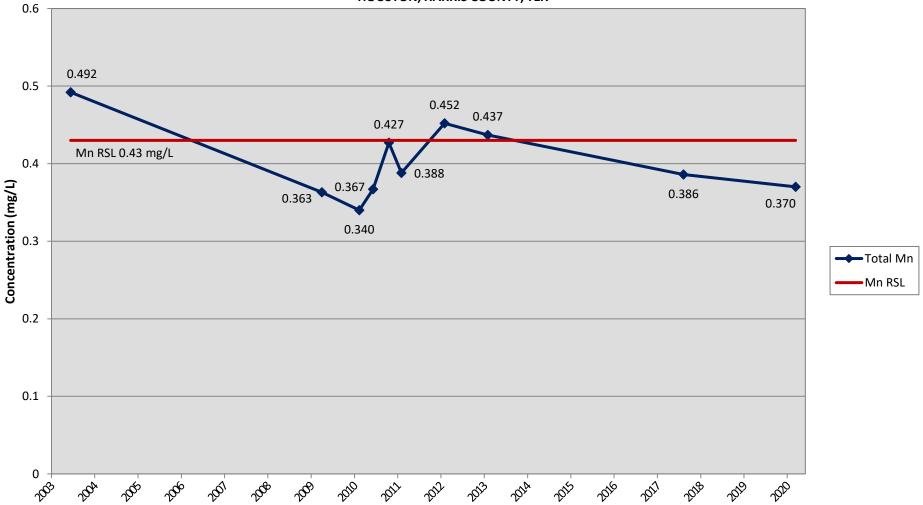


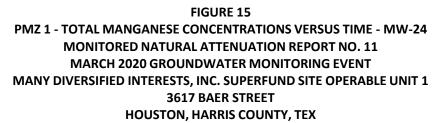


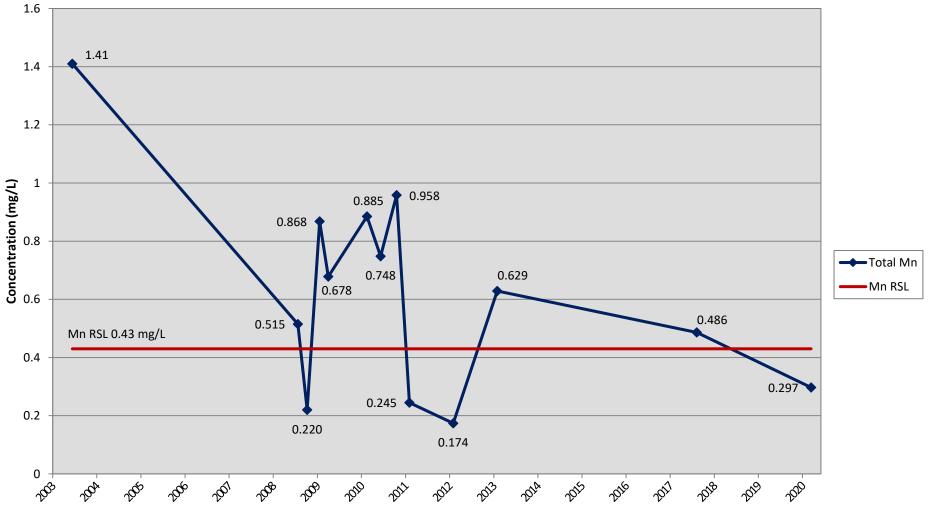




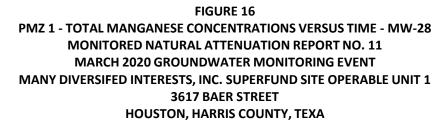


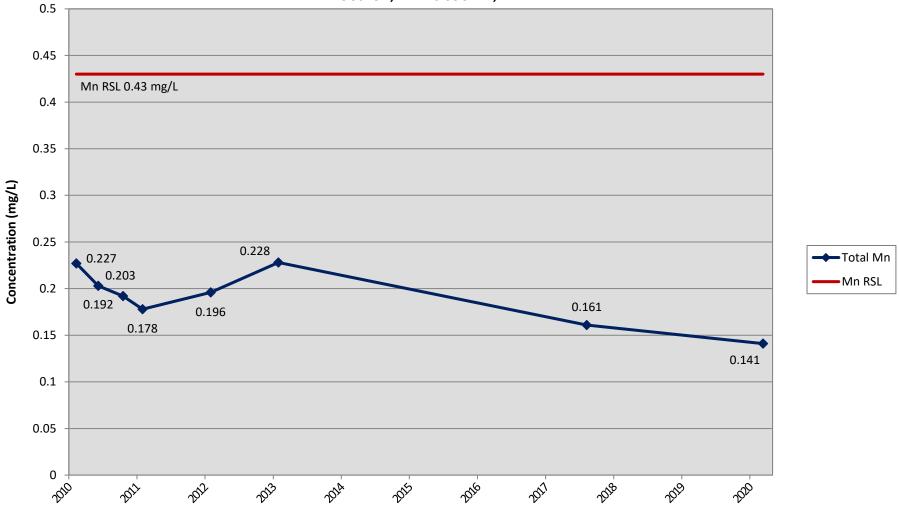


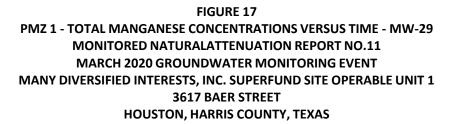


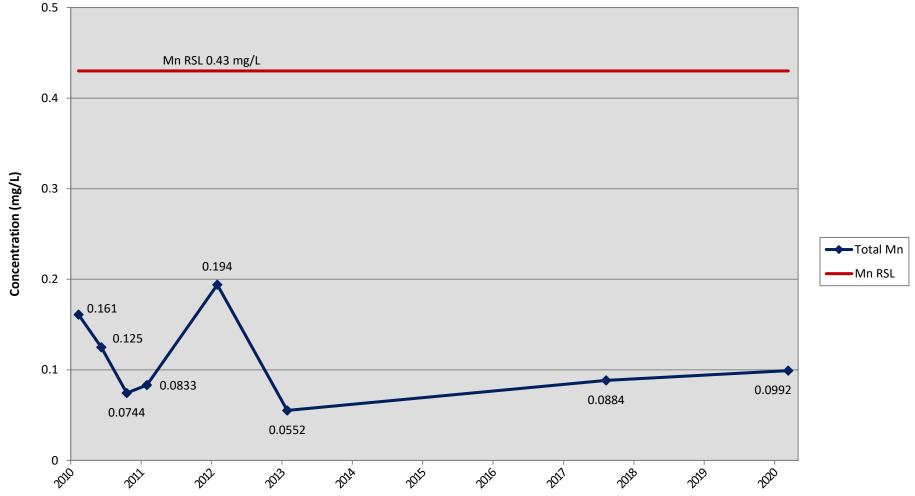


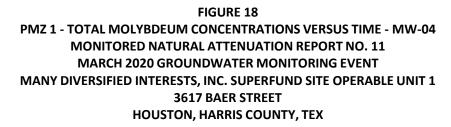
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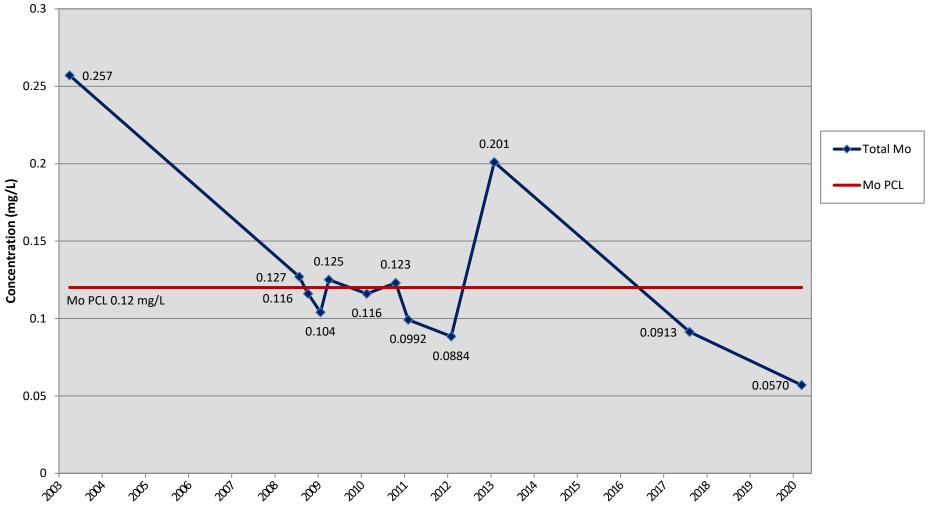


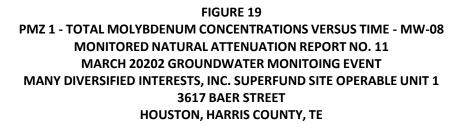


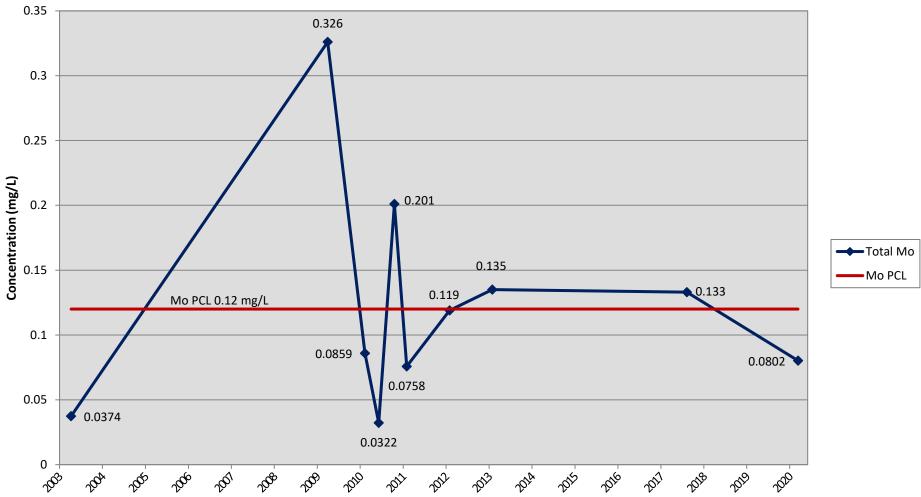


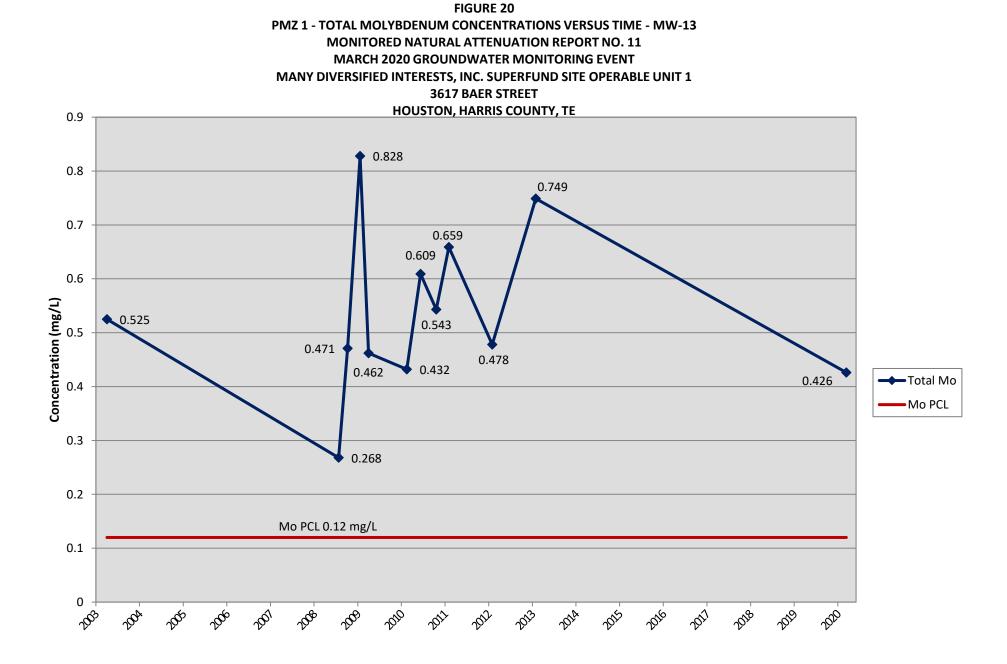


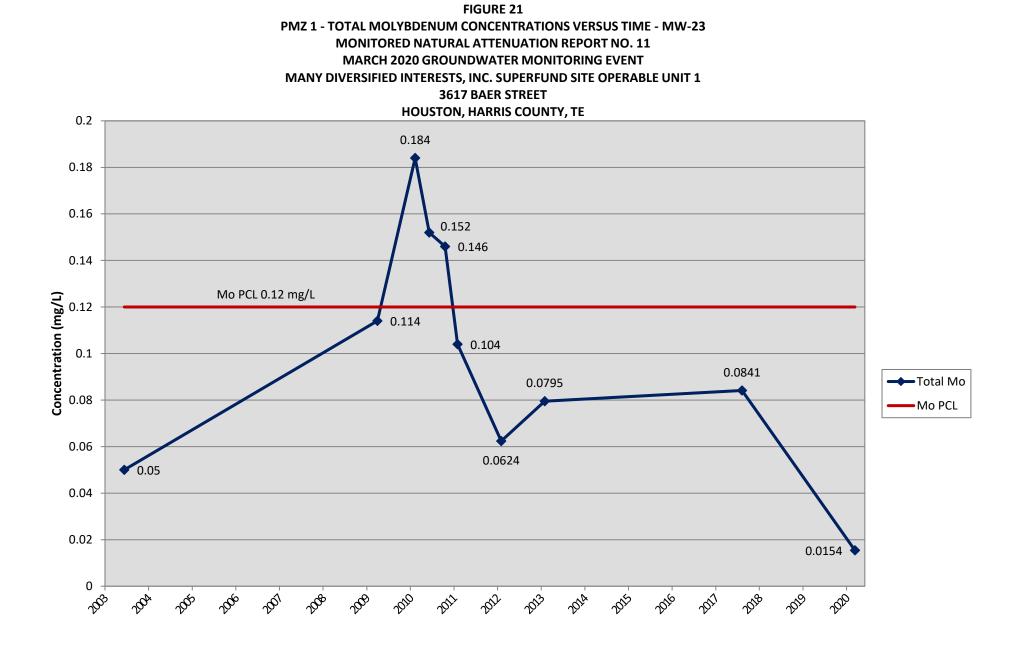


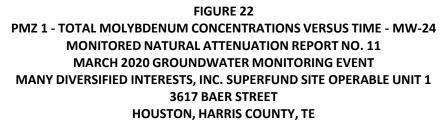


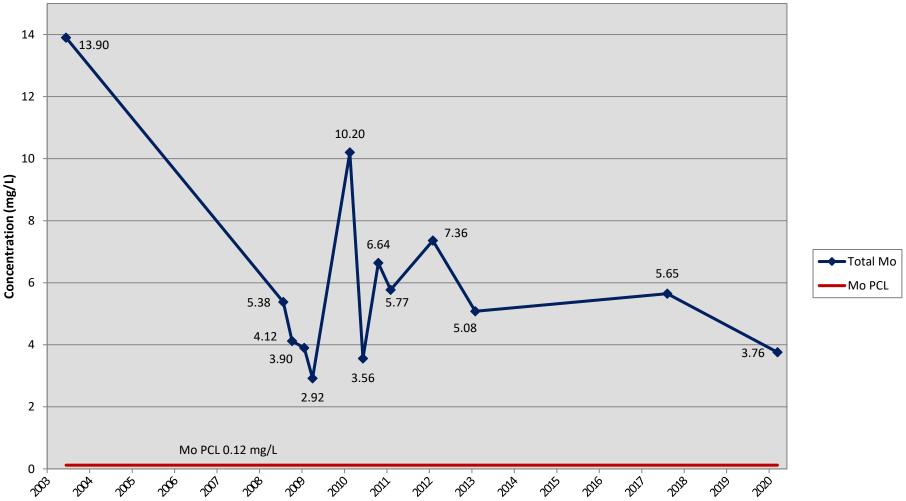




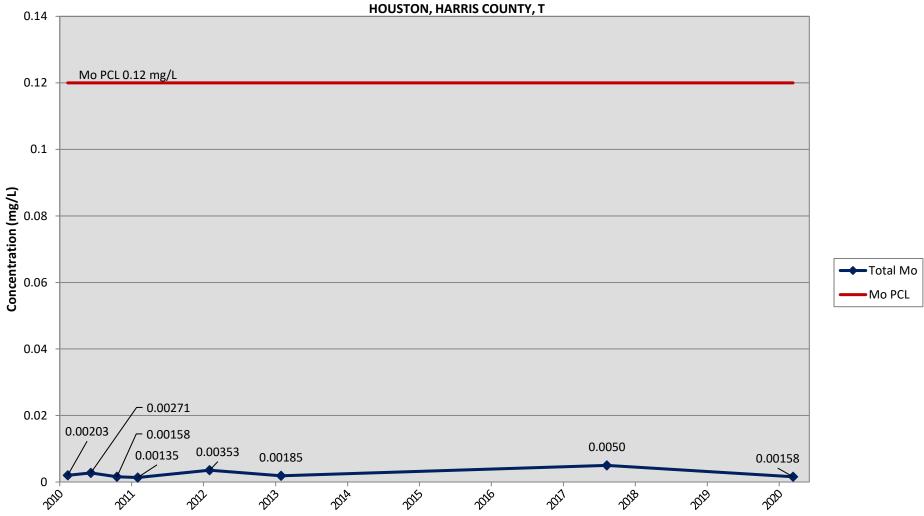




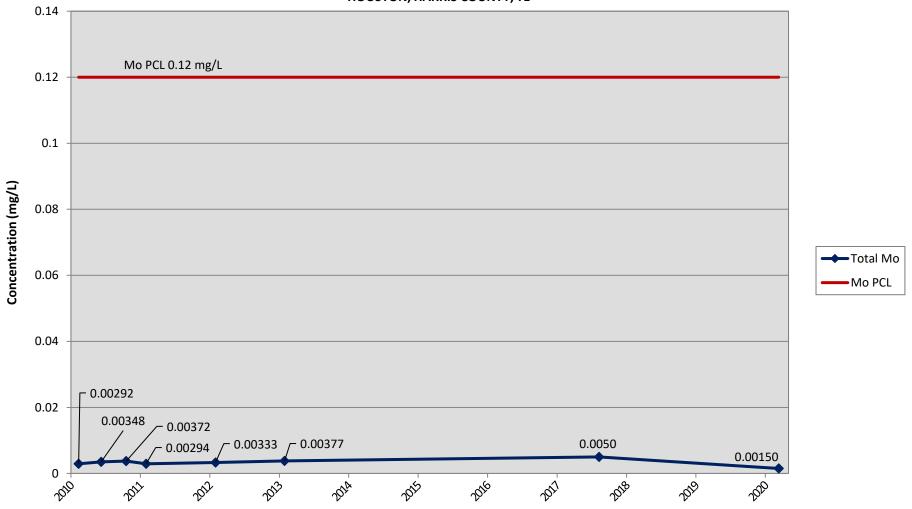


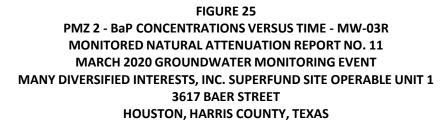


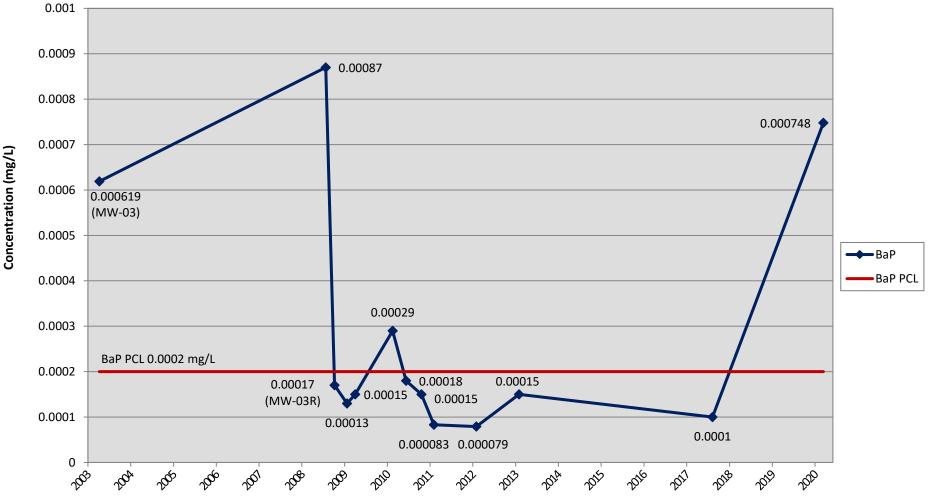
## FIGURE 23 PMZ 1 - TOTAL MOLYBDENUM CONCENTRATIONS VERSUS TIME - MW-28 MONITORING NATRUAL ATTENUATION REPORT NO.11 MARCH 2020 GROUNDWATER MONITORING EVENT MANY DIVERSIFIFED INTERESTS, INC. SUPERFUND SITE OPERABLE UNIT 1 3617 BAER STREET



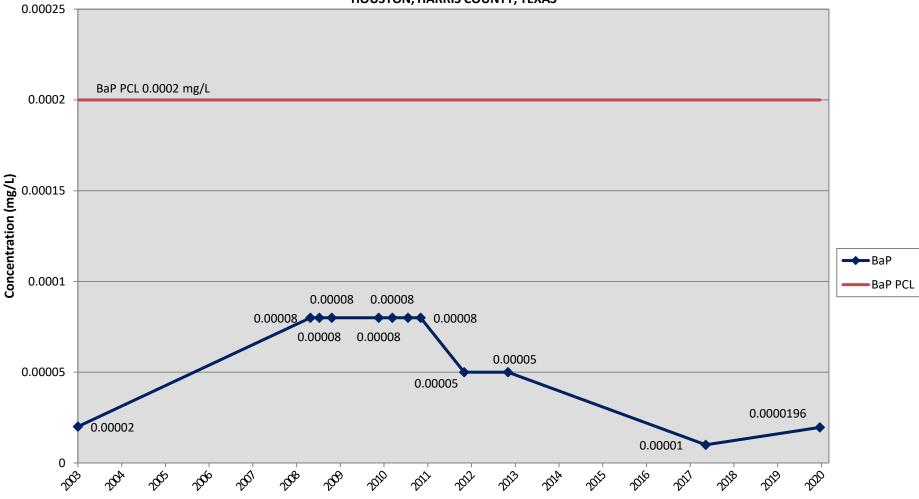
## FIGURE 24 PMZ 1 - TOTAL MOLYBDENUM CONCENTRATIONS VERSUS TIME - MW-29 MONITORED NATURAL ATTENUATION REPORT NO. 11 MARCH 2020 GROUNDWATER MONITORING EVENT MANY DIVERSIFIED INTERESTS, INC. SUPERFUND SITE OPERABLE UNIT 1 3617 BAER STREET HOUSTON, HARRIS COUNTY, TE

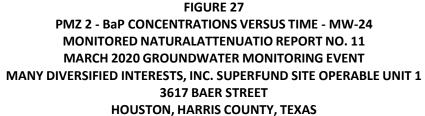


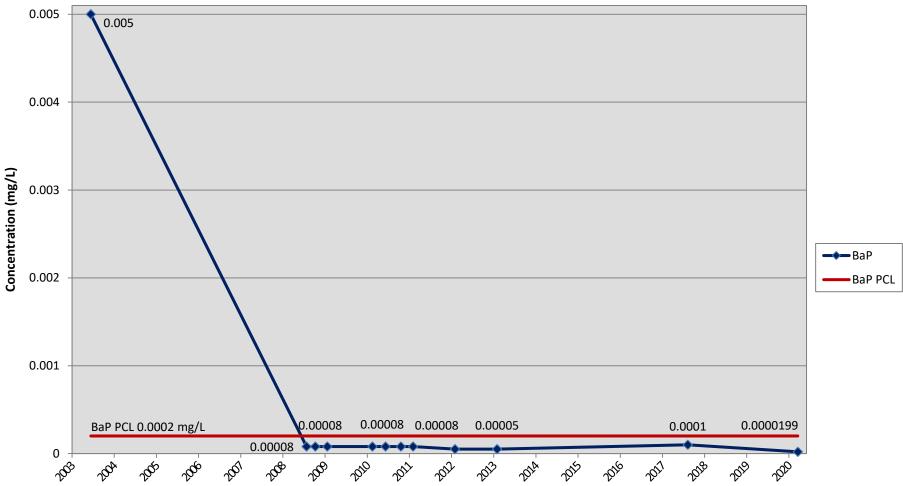


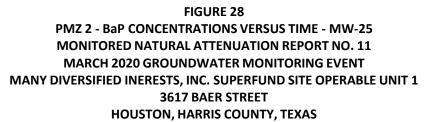


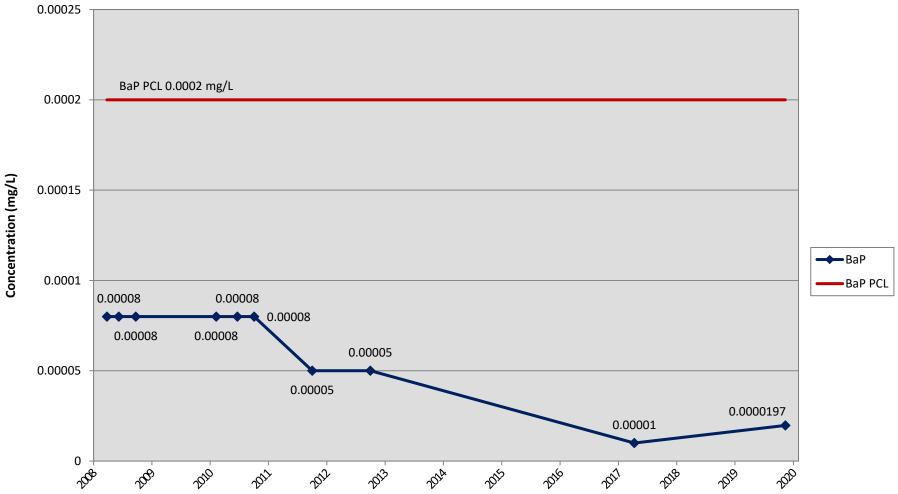
## FIGURE 26 PMZ 2 - BaP CONCENTRATIONS VERSUS TIME - MW-04 MONITORED NATURAL ATTENUATION REPORT NO. 11 MARCH 2020 GROUNDWATER MONITORING EVENT MANY DIVERSIFIED INTERESTS, INC. SUPERFUND SITE OPERABLE UNIT 1 3617 BAER STREET HOUSTON, HARRIS COUNTY, TEXAS

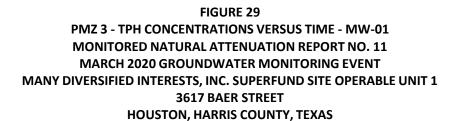


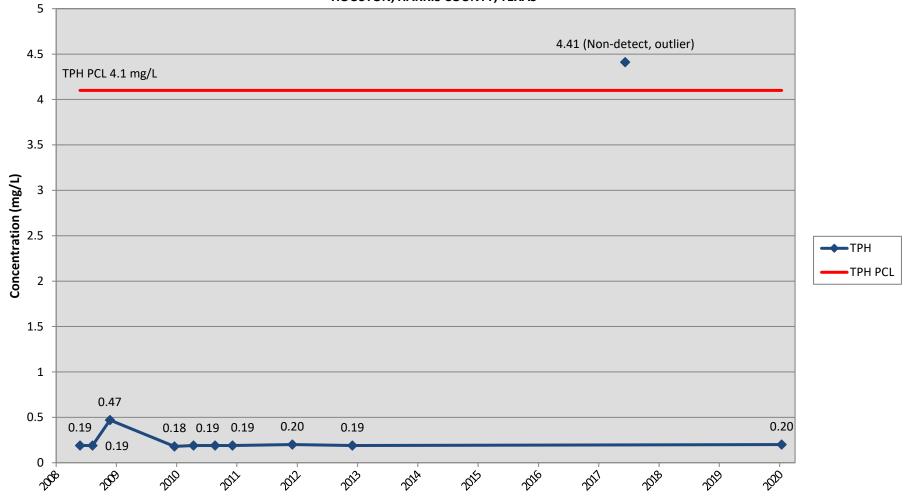






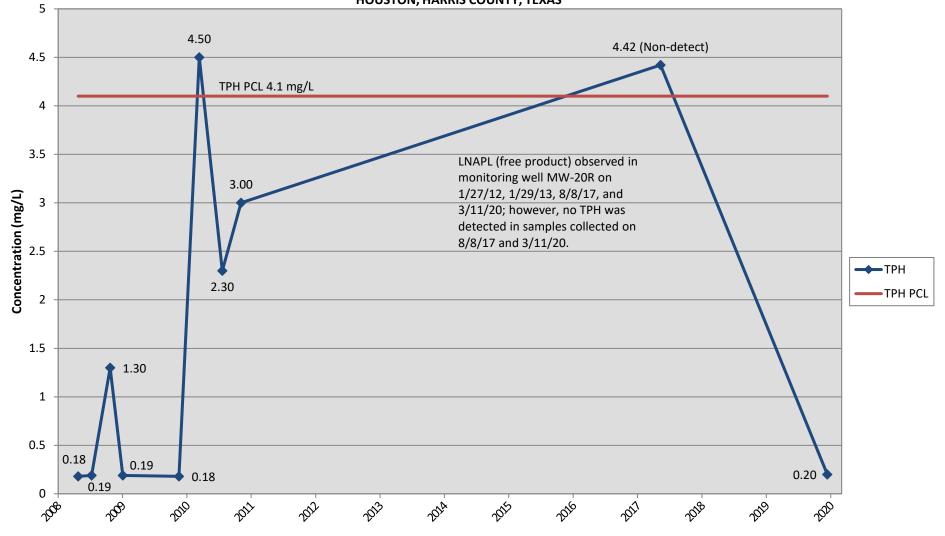


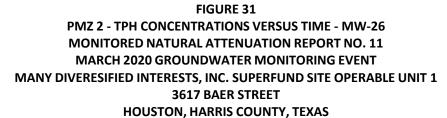


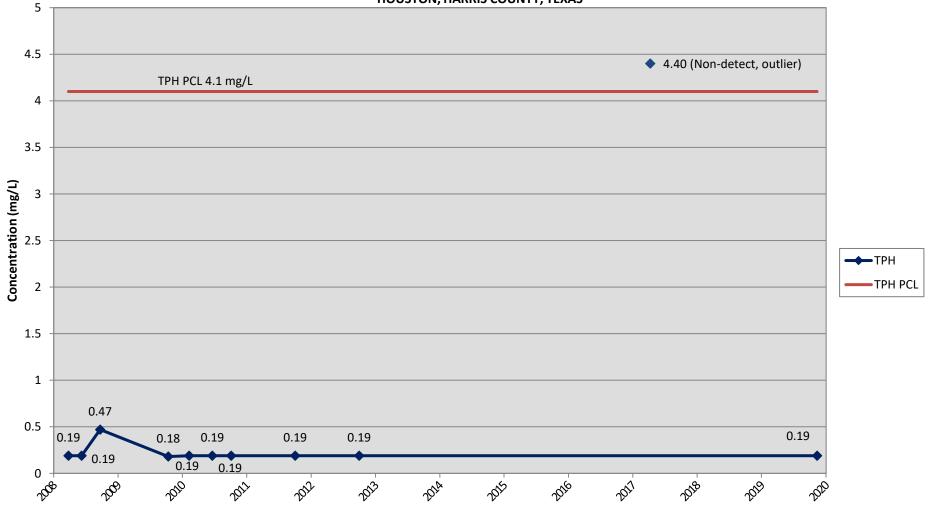


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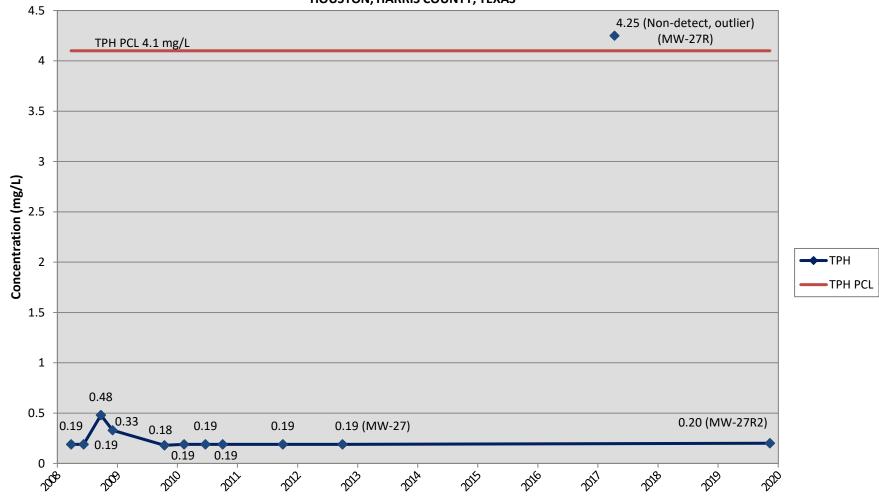
## FIGURE 30 PMZ 3 - TPH CONCENTRATIONS VERSUS TIME - MW-20R MONITORED NATURAL ATTENUATION REPORT NO. 11 MARCH 2020 GROUNDWATER MONITORING EVENT MANY DIVERSIFIED INTERESTS, INC. SUPERFUND SITE OPERABLE UNIT 1 3617 BAER STREET HOUSTON, HARRIS COUNTY, TEXAS







## FIGURE 32 PMZ 3 - TPH CONCENTRATIONS VERSUS TIME - MW-27R2 MONITORED NATURAL ATTENUATION REPORT NO. 11 MARCH 2020 GROUNDWATER MONITORING EVENT MANY DIVERSIFIFED INTERESTS, INCSUPERFUND SITE OPERABLE UNIT 1 3617 BAER STREET HOUSTON, HARRIS COUNTY, TEXAS



TABLES

Monitoring Well ID No.	Sample Date	Ground Elevation	TOC Elevation	Standpipe Stickup (+)	Total Well Depth	Casing/ Screen Diameter	Screened Interval	Depth to Water	Depth to LNAPL	LNAPL Thickness	Water Elevation
		(ft amsl)	(ft amsl)	Stickdown (-)	(ft)	(inches)		(ft from TOC)	(ft from TOC)	(ft)	(ft amsl)
	06/03/03	20.50	42.23	0.54	22.00	2.00	11-21	15.29	NA	0.00	26.94
	07/23/08	38.50	41.01	2.51	26.40			15.22 11.87	NA NA	0.00	25.79 29.14
	01/20/09				26.00 26.00			15.59	NA	0.00	29.14
	03/24/09				25.93			16.95	NA	0.00	24.06
	01/25/10				25.93			13.67	NA	0.00	27.34
MW-01	06/04/10				25.93			15.26	NA	0.00	25.75
(repaired on 4/12/16)	10/15/10				25.93			14.01	NA	0.00	27.00
4/12/10)	01/21/11				25.93			14.01	NA	0.00	27.00
	01/27/12				24.49			13.01	NA	0.00	28.00
	01/25/13				NM			16.54	NA	0.00	24.47
	08/09/17	38.56	41.58	3.02	NM 05.00			13.10	NA	0.00	28.48
	01/21/20 03/10/20				25.20 25.20			14.25 13.51	NA NA	0.00	27.33 28.07
	03/10/20		41.64		25.20	2.00	16.5-24	19.16	NA	0.00	28.07
	07/23/08	38.70	41.60	2.90	28.10	2.00	10.3-24	19.18	NA	0.00	22.40
	10/06/08	00.10	11.00	2.00	28.00			18.06	NA	0.00	23.54
	01/19/09				28.00			19.13	NA	0.00	22.47
	03/24/09				28.20			19.59	NA	0.00	22.01
MW-02	01/25/10				28.20			18.12	NA	0.00	23.48
10100-02	06/04/10				28.20			18.88	NA	0.00	22.72
	10/15/10				28.20			18.96	NA	0.00	22.64
	01/21/11				28.20			18.09	NA	0.00	23.51
	01/27/12				28.01			18.90	NA	0.00	22.70
	01/25/13 05/07/14				NM	aitoring well	plugged and	19.68	NA	0.00	21.92
MW-03	06/03/03		42.86		25.00	2.00	9-24	18.57	NA	0.00	24.29
11111 00	07/24/08	37.00	39.91	2.91	27.75	2.00	10-25	16.12	NA	0.00	23.79
	10/06/08	01.00	00.01	2.0 .	27.60	2.00		14.66	NA	0.00	25.25
	01/19/09				27.60			15.99	NA	0.00	23.92
	03/24/09				27.20			16.39	NA	0.00	23.52
	01/25/10				27.20			13.95	NA	0.00	25.96
	06/04/10				27.20			15.47	NA	0.00	24.44
MW-03R	10/15/10				27.20			15.87	NA	0.00	24.04
	01/21/11				27.20			14.23	NA	0.00	25.68
	01/27/12 01/25/13				27.29 NM			15.07 16.42	NA NA	0.00	24.84 23.49
	01/23/13	37.00	39.91	2.91	NM			13.36	NA	0.00	26.55
	01/21/20	07.00	00.01	2.51	27.15			13.08	NA	0.00	26.83
	03/10/20				27.15			13.72	NA	0.00	26.19
	06/03/03		42.94		25.00	2.00	16.5-24	21.51	NA	0.00	21.43
	07/24/08	39.60	42.89	3.29	28.18			22.18	NA	0.00	20.71
	10/06/08				28.18			20.17	NA	0.00	22.72
	01/19/09				28.18			22.18	NA	0.00	20.71
	03/24/09				28.20			22.89	NA	0.00	20.00
	01/25/10				28.20			21.21	NA	0.00	21.68
MW-04	06/04/10 10/15/10				28.20 28.20			21.86	NA NA	0.00	21.03 21.59
	01/21/11				28.20			20.88	NA	0.00	21.39
	01/27/12				28.23			20.89	NA	0.00	22.00
	01/25/13				NM			22.45	NA	0.00	20.44
	08/08/17	39.60	42.89	3.29	NM	1		20.17	NA	0.00	22.72
	01/21/20				28.20			20.97	NA	0.00	21.92
	03/10/20				28.20			20.83	NA	0.00	22.06
	06/03/03		45.39		26.00	2.00	20-25	19.52	NA	0.00	25.87
	10/06/08	41.60	45.38	3.78	29.09			17.75	NA	0.00	27.63
	01/19/09 03/24/09				29.09			20.27 20.96	NA	0.00	25.11
	03/24/09 01/25/10				29.11 29.11			20.96	NA NA	0.00	24.42 27.05
MW-05	01/25/10				29.11			19.44	NA	0.00	27.05
	10/15/10				29.11			19.44	NA	0.00	26.21
	01/21/11				29.11			18.69	NA	0.00	26.69
	01/27/12				28.31	1		19.30	NA	0.00	26.08
	01/25/13				NM	1		20.70	NA	0.00	24.68
	01/31/13				Mor	nitoring well	plugged and	abandoned.			

1000008         38.20         42.19         3.99         31.70         16.10         NA         0.00         26.00           032409         31.61         31.61         31.61         31.61         17.20         NA         0.00         24.99           MW-06         0604/10         31.61         31.61         31.61         16.10         NA         0.00         25.49           01/27/12         31.69         31.61         31.61         17.05         NA         0.00         25.37           01/27/12         31.69         17.00         31.61         17.65         NA         0.00         25.30           01/27/12         01/27/12         01.61.0         NM         0.00         25.00         10.5-23         16.44         NA         0.00         25.00           01/25/10         01/25/10         27.38         21.00         10.5-23         16.44         NA         0.00         26.00           01/25/10         27.38         27.38         13.80         NA         0.00         28.40           01/27/12         27.41         20.00         2.00         7.17         14.78         NA         0.00         28.40           01/27/12         27.71	Monitoring Well ID No.	Sample Date	Ground Elevation (ft amsl)	(ft amsl)	Standpipe Stickup (+) Stickdown (-)	Total Well Depth (ft)	Casing/ Screen Diameter (inches)		Depth to Water (ft from TOC)	· · ·	LNAPL Thickness (ft)	Water Elevation (ft amsl)
MV-06 012510 012511 012711 0		06/03/03		42.20		28.00	2.00	14.5-27	17.08	NA	0.00	25.12
MV-06         002400 060470 060470 01/21/11 01/21/11 01/21/11 01/27/12         NA         0.00         22.371 31.61			38.20	42.19	3.99							
MW-06 MW-06 MW-07         Objection (10/10/10 01/27/12 01/27/12         NA         0.00         25.49 25.77           01/27/12 01/27/12         31.61 31.61 31.61 31.61 01/27/12         17.05 31.69 31.61 31.62 31.64 41.44 0.00         0.00         25.35 16.44 NA         0.00         25.35 16.44 NA         0.00         25.35 16.44 NA         0.00         25.43 30.01 27.38 31.61 11.43 NA         0.00         25.43 16.44 11.43 NA         0.00         25.43 20.00           MW-07         0.604/10 0.604/10 0.604/10 0.604/10 0.604/10 0.604/10 0.604/10 0.604/10 0.72/11 0												
MW-06 0107010 0127112 0127112 0127712 0127712 0127712 0127712 0127712         NA         0.00         25.14 16.4           060303         41.44         24.00 010608         38.40         41.44         3.04 27.35         21.05 16.8         16.4         NA         0.00         25.93 18.26           060303         41.44         3.04 01/1900         27.35 27.35         16.4         NA         0.00         25.00 14.42           060303         41.44         3.04 01/25/13         27.35 27.38         16.44         NA         0.00         25.00 16.52           016608         38.0         41.44         3.04 27.38         27.38         16.44         NA         0.00         22.42           01725/10 0172711           27.38         13.39         NA         0.00         28.42           0172712 0172711           27.38         13.42         NA         0.00         28.42           0106003         37.81         2.71         20.01         27.34         13.42         NA         0.00         28.42           0106003         37.81         2.71         20.01         27.41         14.76         NA         0.00         28.42           0106006         37.61 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>												
Investigation         Investrestigation         Investigation         Inve												
Image: bit of the second sec	MW-06											
Internal option         Internal o												
O1(2513         NM         NM         Res         NA         0.00         23.93           060303         41.44         24.00         27.35         27.36         11.43         NA         0.00         25.00           01(90608         38.40         41.44         3.04         27.35         27.38         11.43         NA         0.00         25.00           01(2510         27.38         27.38         27.38         27.38         11.44         NA         0.00         26.42           10(2711         27.38         27.38         27.38         27.38         11.66         NA         0.00         28.42           10(2712)         27.38         27.38         27.38         11.66         NA         0.00         28.42           10(2711         27.38         27.38         27.38         27.38         11.66         NA         0.00         28.42           10(2712)         27.38         27.38         27.38         27.38         11.67         NA         0.00         23.03           10(2712)         35.10         37.81         2.71         20.70         2.00         14.76         NA         0.00         23.93           10(2700         20.74			-				-					
MW-07         Of 507/14         Add         Add <th< td=""><td></td><td></td><td>-</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>			-									
060303         -         41.44         -         24.00         2.00         10.523         16.44         NA         0.00         25.00         30.01           MW-07         007570         -         -         7.35         7.38         7.34         0.00         2.80         7.38         7.34         0.00         2.80         7.38         7.34         0.00         2.80         7.38         7.34         0.00         2.80         7.4         14.7         NA         0.00         2.80         7.4         14.7         NA         0.00         2.80         7.4         14.7         NA         0.00         2.80         7.4         14.9         NA         0.00         2.80         7.4         14.7         NA         0.00         2.80         13.9         NA         0.00         2.80         13.9         NA         0.00         2.80         13.9         NA         0.00         2.80         13.9         NA         0.00<										NA	0.00	23.93
International method         38.40         41.44         3.04         27.35 27.38         11.43         NA         0.00         30.01           MW-07         0604/10 01/25/10 01/27/12 01/25/13         -												
Image: biological of the second sec							2.00	10.5-23				
03/24/09 01/25/10 01/25/10 01/25/11 01/57/0         NA         0.00         22.42 27.38 27.4 27.4 27.78 27			38.40	41.44	3.04		-					
MW-07         01/25/10 00/04/10 01/21/11 01/25/13         NA         0.00         29.49           01/37/10 01/21/11 01/25/13         27.38 27.38 27.38         11.95         NA         0.00         28.02           01/25/172         01/25/13         27.38         27.38         13.42         NA         0.00         28.02           01/25/13         01/25/13         27.41         NM         0.00         28.28         13.16         NA         0.00         28.28           01/25/14         monitoring well plugged and abandroed.         14.73         NA         0.00         28.02           01/25/10         37.81         27.1         20.07         10.22         NA         0.00         28.82           01/25/10         20.74         20.74         13.99         NA         0.00         28.82           01/25/10         20.74         20.74         12.38         NA         0.00         28.49           01/25/10         20.74         13.93         NA         0.00         24.98           01/25/10         20.74         13.93         NA         0.00         24.98           01/25/10         27.78         19.93         11.07         NA         0.00         24.98 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>												
MW-07         06/04/10 10/15/10 01/27/12 01/27/12 01/27/12 01/27/14         PT-38 27.38 27.38 27.38 27.38 27.38 27.38 27.41         13.89         NA         0.00         22.802 28.42 13.16           01/27/12 01/27/14         NM         0.00         28.02 12.02         NA         0.00         28.02 12.02         NA         0.00         28.02 28.42           05/07/14         Monitoring well plugged and abandoned.         HA.78         NA         0.00         28.02           05/07/14         Z2.07         20.74         14.78         NA         0.00         22.03           01/25/10         37.81         2.71         20.74         13.99         NA         0.00         22.33           01/25/10         20.74         20.74         13.91         NA         0.00         22.82           01/25/10         20.74         20.74         13.28         NA         0.00         24.98           01/25/10         20.74         13.42         NA         0.00         24.98           01/25/11         20.74         12.83         NA         0.00         24.98           01/25/10         27.76         NM         10.08         NA         0.00         24.98           01/25/10         27.78         19.93			4				-					
Invision 01/27/12 01/27/12 01/27/12 01/27/12 01/27/13         Image: Product of the second secon	104/07						-					
012/11 01/27/12 01/25/13         27.38 27.41         12.02 13.6         NA         0.00         29.42 28.28           05/07/14         Monitoring well plugged and abandoned.         14.79         NA         0.00         28.28           06/03/03         37.81         2.00         2.00         7.17         14.78         NA         0.00         28.28           06/03/03         37.81         2.01         7.17         14.78         NA         0.00         28.28           03/24/09         35.10         37.81         2.07         20.74         13.99         NA         0.00         22.82           03/24/09         20.74         20.74         13.91         NA         0.00         22.82           01/25/10         20.74         20.74         13.39         NA         0.00         24.98           01/27/12         20.74         19.93         11.24         NA         0.00         24.98           01/25/13         10.72/13         19.93         11.42         NA         0.00         24.33           01/25/10         27.76         19.93         11.42         NA         0.00         26.53           01/25/10         27.76         27.78         19.93         11.07<	IVIVV-07											
01/27/12 01/25/13         01/27/13 01/25/13         1         27.41 NM         13.16 NM         NA         0.00         28.28 28.65           06/03/03         37.81         22.00         2.00         7.17         14.78         NA         0.00         28.03           01/27/13         00/06/08         35.10         37.81         2.01         7.17         14.78         NA         0.00         28.03           01/27/109         03/24/09         20.74         20.74         20.74         13.99         NA         0.00         28.39           01/27/10         07/27/10         20.74         20.74         20.74         12.38         NA         0.00         24.09           01/27/11         01/27/11         20.74         20.74         19.93         11.24         NA         0.00         24.98           01/27/12         7         19.93         11.42         NA         0.00         24.98           01/27/12         7         19.93         11.42         NA         0.00         24.93           01/27/12         7         19.93         27.78         11.42         NA         0.00         28.93           01/27/12         7         19.93         27.78			-									
01/25/13         NM         14.79         NA         0.00         26.65           05/07/14         37.81         22.00         2.00         7.17         14.78         NA         0.00         28.65           06/03/03         37.81         22.00         2.00         7.17         14.78         NA         0.00         23.03           01/25/10         37.81         2.71         20.74         2.00         10.02         10.22         NA         0.00         23.82           01/25/10         20.74         20.74         20.74         13.99         NA         0.00         24.98           01/25/10         20.74         20.74         20.74         13.27         NA         0.00         24.98           01/25/10         20.74         19.93         11.24         NA         0.00         24.98           01/25/13         3.05         37.76         2.71         NM         10.06         NA         0.00         24.98           01/25/10         19.93         11.42         NA         0.00         26.69           01/21/20         40.43         2.778         11.42         NA         0.00         26.69           01/25/10         27.78			-				-					
Obj07/14         Monitoring well plugged and abandoned.           06/03/03         37.81         22.00         2.01         7.17         14.78         NA         0.00         23.03           01/12/109         37.81         2.71         20.70         20.70         10.22         NA         0.00         23.82           03/24/09         20.74         20.74         13.99         NA         0.00         23.82           06/04/10         20.74         20.74         13.91         NA         0.00         24.98           06/04/10         20.74         20.74         13.91         NA         0.00         24.98           01/12/10         20.74         20.74         11.24         NA         0.00         24.98           01/12/12         19.93         10.08         NA         0.00         24.98           01/27/12         19.93         11.42         NA         0.00         24.93           01/27/12         19.93         11.42         NA         0.00         25.93           01/27/12         35.05         37.76         2.71         NM         10.08         NA         0.00         25.93           01/27/12         27.78         19.93         <			-									
06/03/03         37.81         22.00         7.17         14.78         NA         0.00         23.03           10/06/08         35.10         37.81         2.71         20.70         10.22         NA         0.00         27.59           01/25/10         20.74         20.74         20.74         13.99         NA         0.00         23.90           01/25/10         20.74         20.74         20.74         11.24         NA         0.00         24.99           01/25/10         20.74         20.74         11.24         NA         0.00         24.99           01/25/13         01/25/13         20.74         19.93         11.24         NA         0.00         24.99           01/25/13         35.05         37.76         2.71         NM         0.00         24.91           01/21/20         19.93         11.42         NA         0.00         24.93           01/21/20         19.93         27.78         11.42         NA         0.00         25.30           01/19/09         3024/09         27.78         2.00         16.524         15.77         NA         0.00         26.53           01/25/10         27.78         27.78 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>NA</td><td>0.00</td><td>26.65</td></t<>										NA	0.00	26.65
1006/08         35.10         37.81         2.71         20.70         10.22         NA         0.00         27.59           01/21/09         03/24/09         0         20.74         20.74         13.91         NA         0.00         23.90           06/04/10         20.74         20.74         20.74         13.91         NA         0.00         24.99           10/15/10         20.74         20.74         20.74         13.81         NA         0.00         24.99           01/21/12         10/25/13         20.74         20.74         11.24         NA         0.00         24.99           01/21/12         10/25/13         NM         20.74         19.93         10.08         NA         0.00         27.73           01/25/13         35.05         37.76         2.71         NM         19.93         11.42         NA         0.00         26.34           03/10/20         10.93         27.78         27.78         13.88         NA         0.00         25.30           01/12/01         27.78         27.78         27.78         15.77         NA         0.00         24.80           01/25/10         27.78         27.78         14.99 <td< td=""><td></td><td></td><td></td><td>27.04</td><td></td><td></td><td></td><td></td><td></td><td>NIA</td><td>0.00</td><td>22.02</td></td<>				27.04						NIA	0.00	22.02
OI(21/09) 03/24/09 01/25/10 06/04/10 10/15/10 01/21/11 01/27/12 01/25/13         Na         0.00         23.82 20.74 20.74           MW-08         01/25/10 01/21/11 01/27/12 01/25/13         Na         0.00         23.92 13.91           01/25/10 01/21/11 01/27/12 01/25/13         NA         0.00         23.92 13.81           01/25/10 01/25/13         NA         0.00         24.98 11.24           01/25/13         NA         0.00         24.98 11.24           01/25/10         19.93         10.06         NA         0.00         26.97 11.42           01/19/09 03/24/09         37.40         40.43         3.03         27.85 27.78 27.78         13.88         NA         0.00         26.97 13.88           01/25/10         27.78 01/25/13         27.78 27.78         13.88         NA         0.00         24.66 15.63           05/07/14         27.78 10/25/13         NM         0.00         24.81 14.79         NA         0.00         24.82 20.32			25.40		0.74		2.00	7-17				
03/24/09 01/25/10 06/04/10 10/15/10         20.74 20.74 20.74         13.91         NA         0.00         23.90           MW-08         10/15/10 01/27/12         20.74 20.74         20.74 20.74         12.38         NA         0.00         24.98           01/21/11         20.74         20.74         12.38         NA         0.00         24.98           01/21/11         20.74         20.74         12.83         NA         0.00         24.98           01/21/11         20.74         19.93         11.24         NA         0.00         24.98           08/09/17         35.05         37.76         2.71         NM         13.48         NA         0.00         24.98           03/020         19.93         11.42         NA         0.00         25.30         11.42         NA         0.00         26.39           01/25/10         27.78         27.78         11.88         NA         0.00         26.30           01/25/10         27.78         27.78         15.63         NA         0.00         24.80           01/25/10         27.78         27.78         15.63         NA         0.00         24.80           01/25/13         27.78         27.78			35.10	37.01	2.71		-					
MW-08         0//25/10 06/04/10 01/25/13         k         20.74 20.74 20.74         12.38         NA         0.00         24.09 24.09           01/25/13 01/25/13         20.74 20.74         20.74 19.93         13.72         NA         0.00         24.09           01/25/13         20.74         20.74         19.93         11.24         NA         0.00         24.39           01/25/13         01/25/13         NM         19.93         13.48         NA         0.00         24.33           01/21/10         19.93         11.42         NA         0.00         24.33           03/10/20         11.93         11.07         NA         0.00         26.57           01/21/10         19.93         11.42         NA         0.00         26.58           01/06/08         37.40         40.43         27.85         13.88         NA         0.00         26.51           01/25/10         27.78         27.78         14.33         NA         0.00         24.69           01/25/10         27.78         27.78         14.79         NA         0.00         24.63           01/25/13         NM         27.78         31.00         15.84         NA         0.00			-									
MW-08         06/04/10 10/15/10 01/21/11 01/27/12         Na         0.00         24.09 20.74           01/21/11 01/27/12         19.93         13.72         NA         0.00         24.98           01/21/11 01/27/12         19.93         10.06         NA         0.00         24.98           01/21/10 01/21/20         35.05         37.76         2.71         NM         10.08         NA         0.00         24.33           08/09/17         35.05         37.76         2.71         NM         11.42         NA         0.00         24.33           06/03/02         06/03/03         40.43         25.00         2.00         16.5-24         15.13         NA         0.00         26.55           01/19/09         01/25/10         27.78         27.78         15.83         NA         0.00         26.69           01/05/10         27.78         27.78         15.83         NA         0.00         26.61           01/25/13         27.78         27.78         15.84         NA         0.00         26.61           01/25/13         27.78         27.78         14.33         NA         0.00         24.63           01/25/13         27.78         27.78         27.78			-				-					
MW-08         10/15/10 01/21/11 01/27/12         20.74 20.74         12.83         NA         0.00         24.98           01/21/12 01/27/12         11.22/13         NM         10.08         NA         0.000         27.73           01/27/12         35.05         37.76         2.71         NM         10.08         NA         0.000         22.73           01/21/20         35.05         37.76         2.71         NM         10.08         NA         0.000         22.39           06/03/10/20         11.93         11.42         NA         0.000         26.59           06/03/03         40.43         3.03         27.85         11.6524         15.13         NA         0.00         26.69           01/06/08         37.40         40.43         3.03         27.85         15.77         NA         0.00         24.63           03/24/09         27.78         27.78         16.54         NA         0.00         24.63           01/25/10         27.78         27.78         27.78         15.80         NA         0.00         24.63           01/25/13         VM         44.36         28.00         2.00         2.01         15.84         NA         0.00			-				-					
01/21/11 01/27/12 01/27/13         01/22/14 19.93         11.24         NA         0.00         26.57           08/09/17 01/21/20 03/20/20         35.05         37.76         2.71         NM         13.48         NA         0.00         24.33           08/09/17 01/21/20         35.05         37.76         2.71         NM         13.48         NA         0.00         24.33           08/09/17 03/20/20         35.05         37.76         2.71         NM         11.07         NA         0.00         26.34           06/03/03         40.43         25.00         2.00         16.5-24         15.13         NA         0.00         25.30           01/19/09         27.78         27.78         27.78         15.77         NA         0.00         24.66           03/24/09         27.78         27.78         15.83         NA         0.00         24.80           01/12/11         27.78         27.78         27.78         15.83         NA         0.00         24.80           01/25/13         NM         27.78         21.00         15.84         NA         0.00         24.80           01/25/13         NM         0.00         24.81         11.77         NA <td< td=""><td>MW-08</td><td></td><td>-</td><td></td><td></td><td></td><td>-</td><td></td><td></td><td></td><td></td><td></td></td<>	MW-08		-				-					
01/27/12 01/25/13         19.93 NM         NM         10.08         NA         0.00         27.73           08/09/17 01/21/20         35.05         37.76         2.71         NM         797         NA         0.00         24.33           03/30/20         19.93         19.93         11.42         NA         0.00         26.34           03/30/20         40.43         25.00         2.00         16.5-24         15.13         NA         0.00         26.69           06/03/03         40.43         3.03         27.85         15.77         NA         0.00         24.30           01/19/09         27.78         27.78         16.5-24         15.13         NA         0.00         26.69           01/25/10         27.78         27.78         14.33         NA         0.00         24.60           01/27/12         27.78         27.78         15.80         NA         0.00         24.60           01/25/10         27.78         27.78         27.78         15.84         NA         0.00         24.60           01/27/12         27.78         27.92         NM         17.77         NA         0.00         24.60           01/25/10         NM	10100 000											
01/25/13         NM           08/09/17         35.05         37.76         2.71         NM           19.93         11.42         NA         0.00         29.79           01/21/20         19.93         11.42         NA         0.00         29.79           01/00/00         40.43         25.00         2.00         16.5-24         15.13         NA         0.00         26.34           10/06/08         37.40         40.43         3.03         27.85         27.85         13.88         NA         0.00         25.30           01/25/10         27.78         27.78         15.57         NA         0.00         26.55           01/15/10         27.78         27.78         14.33         NA         0.00         24.80           01/25/10         27.78         27.78         15.63         NA         0.00         24.80           01/25/10         27.78         27.78         14.33         NA         0.00         24.63           01/25/13         27.92         NM         27.78         14.79         NA         0.00         24.63           01/25/13         01/25/13         27.92         NM         0.000         22.66         15.84							-					
08/09/17         35.05         37.76         2.71         NM         7.97         NA         0.00         29.79           01/12/120         19.93         11.42         NA         0.00         26.34           06/03/03         40.43         25.00         2.00         16.5-24         15.13         NA         0.00         26.34           10/06/08         37.40         40.43         3.03         27.85         13.88         NA         0.00         26.34           10/06/08         37.40         40.43         3.03         27.85         15.77         NA         0.00         26.35           01/19/09         27.78         27.78         14.33         NA         0.00         24.66           01/25/10         27.78         27.78         15.80         NA         0.00         24.63           01/21/11         27.78         27.78         11.479         NA         0.00         24.63           01/25/10         27.78         NM         27.78         11.77         NA         0.00         24.63           01/25/13         NM         27.78         27.92         17.77         NA         0.00         24.63           01/25/13         44.36							-					
01/21/20 03/10/20         19.93 19.93         11.42         NA         0.00         26.34           06/03/03         40.43         25.00         2.00         16.5-24         15.13         NA         0.00         26.39           10/06/08         37.40         40.43         3.03         27.85         13.88         NA         0.00         26.50           01/19/09         01/25/10         27.78         27.78         15.77         NA         0.00         24.66           01/21/11         27.78         27.78         15.63         NA         0.00         24.60           01/25/10         27.78         27.78         15.80         NA         0.00         24.60           01/25/10         27.78         27.78         15.80         NA         0.00         24.60           01/25/10         27.78         27.78         15.80         NA         0.00         24.63           01/25/13         NM         27.78         15.84         NA         0.00         24.59           01/25/13         NM         27.92         NM         0.00         24.59           01/25/13         NM         28.00         20.2         19.14         NA         0.00			35.05	37 76	2 71							
MW-09         MMM-09         MMM-00         44.36         25.00         2.00         16.5-24         15.13         NA         0.00         26.69           MW-09         00/06/08         37.40         40.43         3.03         27.85         13.88         NA         0.00         26.55           03/24/09         03/24/09         27.78         27.78         16.524         15.77         NA         0.00         24.66           01/25/10         27.78         27.78         14.33         NA         0.00         24.80           01/25/10         27.78         27.78         15.63         NA         0.00         24.80           01/25/10         27.78         27.78         15.63         NA         0.00         24.80           01/25/10         27.78         27.78         15.83         NA         0.00         24.80           01/25/13         NM         27.78         27.78         15.83         NA         0.00         24.63           01/25/13         NM         27.92         NM         17.77         NA         0.00         22.66           05/07/14         X         X         27.93         X         16.01         NA         0.00			00100	01110			-					
MW-09         06/03/03         40.43         25.00         2.00         16.5-24         15.13         NA         0.00         25.30           01/19/09         37.40         40.43         3.03         27.85         27.85         13.88         NA         0.00         26.55           03/24/09         01/25/10         27.78         27.78         27.78         16.5-24         15.63         NA         0.00         24.66           01/25/10         01/25/10         27.78         27.78         27.78         14.33         NA         0.00         24.60           01/25/10         01/21/11         27.78         27.78         15.80         NA         0.00         24.60           01/27/12         01/27/12         27.78         27.78         15.80         NA         0.00         24.63           01/27/12         01/25/13         NM         27.78         27.92         15.84         NA         0.00         24.63           01/25/13         01/25/13         NM         27.92         NM         15.84         NA         0.00         22.66           01/25/13         NM         0.00         22.87         19.14         NA         0.00         25.22												
10/06/08         37.40         40.43         3.03         27.85         13.88         NA         0.00         26.55           03/24/09         01/25/10         27.78         27.78         16.54         NA         0.00         24.66           06/04/10         27.78         27.78         14.33         NA         0.00         24.60           10/15/10         27.78         27.78         14.33         NA         0.00         24.80           10/15/10         27.78         27.78         15.63         NA         0.00         24.60           10/12/11         27.78         27.78         15.80         NA         0.00         24.63           01/27/12         27.78         27.78         15.80         NA         0.00         24.63           01/25/13         01/25/13         27.78         27.78         17.77         NA         0.00         24.63           01/25/13         01/25/13         28.00         28.00         17.77         NA         0.00         25.22           10/06/08         41.90         44.77         2.87         31.00         30.94         19.85         NA         0.00         24.92           01/25/10         30.94				40.43			2.00	16.5-24				
03/24/09 01/25/10 06/04/10 10/15/10 01/21/11 01/27/12         27.78 27.78 27.78 01/21/11 01/27/12         16.54         NA         0.00         23.89 23.89           MW-09         06/04/10 01/21/10 01/21/11 01/27/12         27.78 27.78         14.33         NA         0.00         24.80           01/25/13 01/25/13         27.78         14.79         NA         0.00         24.63           01/25/13         01/25/13         NM         0.00         24.63           05/07/14         27.78         15.84         NA         0.00         24.63           05/07/14         27.78         NM         0.00         24.63           05/07/14         27.78         NM         0.00         24.63           05/07/14         28.00         28.00         2.00         22.27         19.14         NA         0.00         25.22           10/06/08         41.90         44.77         2.87         31.00         22.27         19.14         NA         0.00         24.92           03/24/09         01/25/10         30.94         30.94         19.07         NA         0.00         26.56           01/25/13         01/25/13         30.94         30.94         19.07         NA         0.00         26.51			37.40	40.43	3.03					NA		
MW-09         01/25/10 06/04/10 10/15/10 01/21/12         MA         0.00         26.10           01/21/11 01/27/12         10/12/11         15.63         NA         0.00         24.80           01/21/11 01/27/12         01/21/11         27.78         15.80         NA         0.00         24.61           01/21/12         01/25/13         27.78         27.78         15.80         NA         0.00         24.63           01/25/13         01/25/13         NM         27.78         15.84         NA         0.00         24.59           01/25/13         NM         27.78         27.77         NA         0.00         24.59           01/25/13         NM         27.78         27.77         NA         0.00         24.59           01/25/13         NM         27.78         27.92         15.84         NA         0.00         24.59           01/25/10         NM         28.00         2.00         22.07         19.14         NA         0.00         26.72           01/25/10         30.94         30.94         30.94         30.94         19.85         NA         0.00         24.45           01/25/13         01/25/13         NM         0.00         25.68<		01/19/09				27.85			15.77	NA	0.00	24.66
MW-09         06/04/10 10/15/10 01/21/11 01/27/12 01/25/13         27.78 27.78 27.78         27.78 27.78         15.63         NA         0.00         24.80           01/21/11 01/27/12 01/25/13         27.78         27.78         14.79         NA         0.00         24.63           01/27/12 01/25/13         01/27/12         NM         0.00         24.63           05/07/14         27.78         27.92         15.84         NA         0.00         24.59           05/07/14         05/07/14         Monitoring well plugged and abandoned.         17.77         NA         0.00         22.60           06/03/03         44.36         28.00         2.00         22-27         19.14         NA         0.00         25.22           10/06/08         41.90         44.77         2.87         31.00         30.94         19.85         NA         0.00         24.45           01/25/10         01/25/10         30.94         30.94         30.94         19.15         NA         0.00         25.72           01/25/13         01/25/13         0.94         30.94         19.07         NA         0.00         26.56           01/25/13         01/25/13         0.94         30.94         19.09         NA		03/24/09				27.78			16.54	NA	0.00	23.89
10/15/10 01/21/11 01/27/12 01/25/13         27.78 27.92         15.80         NA         0.00         24.63           01/27/12 01/25/13         27.78 27.92         27.78 27.92         14.79         NA         0.00         25.64           01/25/13         05/07/14         27.92         NM         17.77         NA         0.00         24.59           05/07/14         06/03/03         44.36         28.00         22.02         19.14         NA         0.00         25.22           10/06/08         41.90         44.77         2.87         31.00         22-27         19.14         NA         0.00         26.76           01/19/09         03/24/09         01/25/10         30.94         30.94         20.02         NA         0.00         24.59           01/25/10         01/25/10         30.94         30.94         19.15         NA         0.00         26.76           01/25/10         01/25/10         30.94         30.94         19.07         NA         0.00         26.56           01/25/13         01/25/13         NM         0.00         25.68         19.09         NA         0.00         25.68           MW-10         01/25/13         NM         0.00         2		01/25/10				27.78			14.33	NA	0.00	26.10
01/21/11 01/27/12 01/25/13         27.78 27.92         14.79         NA         0.00         25.64           01/25/13         01/25/13         NM         15.84         NA         0.00         24.59           01/25/13         NM         0.00         24.59         17.77         NA         0.00         24.59           05/07/14         Monitoring well plugged and abandoned.         17.77         NA         0.00         25.62           06/03/03         44.36         28.00         2.00         22-27         19.14         NA         0.00         25.22           10/06/08         41.90         44.77         2.87         31.00         18.01         NA         0.00         24.92           03/24/09         01/25/10         30.94         30.94         30.94         18.21         NA         0.00         26.56           01/25/10         01/25/10         30.94         30.94         19.07         NA         0.00         25.72           01/25/13         NM         30.94         19.09         NA         0.00         25.72           01/25/13         NM         0.00         25.68         19.09         NA         0.00         26.76           01/25/13	MW-09	06/04/10					]	1	15.63	NA	0.00	24.80
01/27/12 01/25/13         27.92 NM         15.84         NA         0.00         24.59           05/07/14         NM         17.77         NA         0.00         22.66           06/03/03         44.36         28.00         2.00         22-27         19.14         NA         0.00         25.22           10/06/08         41.90         44.77         2.87         31.00         22-27         19.14         NA         0.00         26.67           01/19/09         03/24/09         44.77         2.87         31.00         18.01         NA         0.00         24.59           01/25/10         01/25/10         30.94         30.94         30.94         18.21         NA         0.00         26.62           10/15/10         01/25/13         01/27/12         30.94         19.07         NA         0.00         25.62           01/25/13         NM         NM         20.13         NA         0.00         25.68		10/15/10				27.78			15.80	NA	0.00	24.63
01/25/13         NM         17.77         NA         0.00         22.66           05/07/14         Monitoring well plugged and abandoned.         0.00         25.22           06/03/03         44.36         28.00         2.00         22-27         19.14         NA         0.00         25.22           10/06/08         41.90         44.77         2.87         31.00         31.00         19.85         NA         0.00         24.92           03/24/09         01/25/10         30.94         30.94         30.94         20.32         NA         0.00         26.56           MW-10         06/04/10         30.94         30.94         30.94         19.15         NA         0.00         25.72           10/15/10         01/25/13         0.00         25.66         30.94         19.07         NA         0.00         25.67           01/25/13         NM         0.00         25.70         19.07         NA         0.00         25.70           01/25/13         NM         0.94         30.94         19.07         NA         0.00         25.68           01/25/13         NM         NM         0.00         25.68         19.09         NA         0.00         2		01/21/11				27.78			14.79	NA	0.00	25.64
05/07/14         Monitoring well plugged and abandoned.           06/03/03         44.36         28.00         2.00         22-27         19.14         NA         0.00         25.22           10/06/08         41.90         44.77         2.87         31.00         31.00         19.85         NA         0.00         24.92           03/24/09         03/24/09         30.94         30.94         30.94         20.32         NA         0.00         26.56           01/25/10         06/04/10         30.94         30.94         30.94         19.15         NA         0.00         25.62           10/15/10         01/21/11         01/21/11         30.94         30.94         19.07         NA         0.00         25.70           01/25/13         NM         NM         0.00         25.70         19.07         NA         0.00         25.62           01/25/13         NM         NM         30.94         19.09         NA         0.00         25.68           01/25/13         NM         NM         20.13         NA         0.00         25.68		01/27/12				27.92			15.84	NA	0.00	24.59
06/03/03         44.36         28.00         20.0         22-27         19.14         NA         0.00         25.22           10/06/08         41.90         44.77         2.87         31.00         31.00         31.00         20.32         NA         0.00         24.92           03/24/09         01/25/10         30.94         30.94         30.94         30.94         20.32         NA         0.00         24.45           10/15/10         06/04/10         30.94         30.94         30.94         30.94         19.15         NA         0.00         26.56           10/127/12         01/27/12         30.94         30.94         30.94         19.07         NA         0.00         25.70           01/25/13         NM         NM         0.00         25.70         19.09         NA         0.00         25.68						NM			17.77	NA	0.00	22.66
10/06/08         41.90         44.77         2.87         31.00         31.00         18.01         NA         0.00         26.76           01/19/09         03/24/09         03/24/09         30.94         30.94         30.94         20.32         NA         0.00         24.92           01/25/10         01/25/10         06/04/10         30.94         30.94         30.94         18.21         NA         0.00         26.56           10/15/10         01/21/11         01/21/11         30.94         30.94         19.15         NA         0.00         25.70           01/25/13         01/25/13         NM         0.00         25.68         19.09         NA         0.00         25.68							nitoring well	plugged and	abandoned.			
01/19/09         31.00         19.85         NA         0.00         24.92           03/24/09         30.94         30.94         20.32         NA         0.00         24.45           01/25/10         30.94         30.94         30.94         18.21         NA         0.00         26.56           10/15/10         30.94         30.94         19.15         NA         0.00         25.62           01/21/11         01/27/12         30.94         19.09         NA         0.00         25.68           01/25/13         NM         NM         0.00         25.68         20.13         NA         0.00         24.45							2.00	22-27				
03/24/09 01/25/10         30.94         20.32         NA         0.00         24.45           MW-10         06/04/10         30.94         30.94         18.21         NA         0.00         26.56           10/15/10         30.94         30.94         19.15         NA         0.00         25.62           01/21/11         01/27/12         30.94         19.07         NA         0.00         25.76           01/25/13         NM         NM         0.00         25.68         19.09         NA         0.00         25.68			41.90	44.77	2.87							
01/25/10 06/04/10 10/15/10 01/21/11 01/27/12 01/25/13         30.94         18.21         NA         0.00         26.56           30.94         30.94         30.94         19.15         NA         0.00         25.62           10/12/11         30.94         30.94         19.07         NA         0.00         26.31           01/27/12         01/25/13         NM         0.00         25.68         20.13         NA         0.00         24.64			l									
MW-10         06/04/10           10/15/10         30.94           01/21/11         30.94           01/27/12         30.94           01/25/13         NM			4				1	1				
10/15/10         30.94         19.07         NA         0.00         25.70           01/21/11         30.94         30.94         18.46         NA         0.00         26.31           01/27/12         30.94         19.09         NA         0.00         25.68           01/25/13         NM         20.13         NA         0.00         24.64								1				
01/21/11         30.94         18.46         NA         0.00         26.31           01/27/12         30.94         19.09         NA         0.00         25.68           01/25/13         NM         20.13         NA         0.00         24.64	MW-10		l				l					
01/27/12         30.94         19.09         NA         0.00         25.68           01/25/13         NM         20.13         NA         0.00         24.64								1				
01/25/13 NM 20.13 NA 0.00 24.64												
			-				-	1				
01/31/13 Monitoring well plugged and abandoned.		01/25/13 01/31/13						L		NA	0.00	24.64

Monitoring Well ID No.	Sample Date	Ground Elevation (ft amsl)	TOC Elevation (ft amsl)	Standpipe Stickup (+) Stickdown (-)	Total Well Depth (ft)	Casing/ Screen Diameter (inches)		Depth to Water (ft from TOC)	Depth to LNAPL (ft from TOC)	LNAPL Thickness (ft)	Water Elevation (ft amsl)
	06/03/03		43.80		25.00	2.00	18-24	17.88	NA	0.00	25.92
	10/06/08	41.00	43.57	2.57	27.10			15.78	NA	0.00	27.79
	01/19/09				27.10			18.52	NA	0.00	25.05
	03/24/09				26.88	-		19.30	NA	0.00	24.27
	01/25/10				26.88	-		16.66	NA	0.00	26.91
MW-12	06/04/10				26.88 26.88	-		17.79	NA NA	0.00	25.78 26.19
	01/21/11				26.88			17.38 17.11	NA	0.00	26.19
	01/27/12				25.84			16.86	NA	0.00	26.71
	01/25/13				NM			18.79	NA	0.00	24.78
	01/20/10					nitoring well	plugged and		1477	0.00	24.70
	06/03/03		42.35		30.00	2.00	9-29	14.00	NA	0.00	28.35
	07/24/08	39.90	42.32	2.42	32.01	2.00	0 20	16.39	NA	0.00	25.93
	10/06/08		-		32.00			14.15	NA	0.00	28.17
	01/19/09				32.00			15.82	NA	0.00	26.50
	03/24/09				32.03			17.18	NA	0.00	25.14
	01/25/10				32.03			13.98	NA	0.00	28.34
MW-13	06/04/10				32.03			13.98	NA	0.00	28.34
10100	10/15/10				32.03			13.54	NA	0.00	28.78
	01/21/11				32.03			13.91	NA	0.00	28.41
	01/27/12				32.45	-		14.97	NA	0.00	27.35
	01/25/13	10.05	10.00		NM	-		15.36	NA	0.00	26.96
	08/08/17	40.25	42.33	2.08	NM	-		NM	NM	NM	NM
	01/21/20				32.05	-		13.10	NA	0.00	29.23
	03/10/20 06/03/03		44.80		32.05 27.00	2.00	18.5-26	12.80 20.02	NA NA	0.00	29.53 24.78
	10/06/08	42.00	44.80	2.77	30.00	2.00	10.5-20	17.78	NA	0.00	26.99
	01/19/09	42.00	44.77	2.11	30.00			21.17	NA	0.00	23.60
	03/24/09				30.00			22.02	NA	0.00	23.00
	01/25/10				30.00			19.01	NA	0.00	25.76
MW-14	06/04/10				30.00	-		20.23	NA	0.00	24.54
	10/15/10				30.00			19.51	NA	0.00	25.26
	01/21/11				30.00			18.94	NA	0.00	25.83
	01/27/12				30.25			18.99	NA	0.00	25.78
	01/25/13				NM			21.03	NA	0.00	23.74
	05/07/14					nitoring well	plugged and	abandoned.			
	06/03/03		42.43		27.00	2.00	17.5-22.5	20.87	NA	0.00	21.56
	10/06/08	40.10	42.43	2.33	30.30			20.22	NA	0.00	22.21
	01/21/09				30.30	-		21.83	NA	0.00	20.60
	03/24/09				30.28			22.33	NA	0.00	20.10
MW-15	01/25/10				30.28	-		20.39	NA	0.00	22.04
10100-15	06/04/10				30.28	-		21.02	NA	0.00	21.41
	10/15/10 01/21/11				30.28 30.28			20.41 20.28	NA NA	0.00	22.02 22.15
	01/27/12				30.28			20.28	NA	0.00	22.15
	01/25/13				NM			20.89	NA	0.00	20.81
	05/07/14					nitoring well	plugged and			0.00	20.01
	06/03/03		41.69		24.00	2.00	17.5-22	17.22	NA	0.00	24.47
	10/06/08	38.80	41.70	2.90	26.55			17.09	NA	0.00	24.61
	01/19/09		-		26.55	1	1	18.12	NA	0.00	23.58
	03/24/09				26.58	1	1	18.56	NA	0.00	23.14
	01/25/10				26.58	1		16.85	NA	0.00	24.85
MW-16	06/04/10				26.58	1		17.50	NA	0.00	24.20
	10/15/10				26.58	]		17.70	NA	0.00	24.00
	01/21/11				26.58	]		17.36	NA	0.00	24.34
	01/27/12				26.62			18.22	NA	0.00	23.48
	01/25/13				NM		L	18.65	NA	0.00	23.05
	05/07/14				Moi	nitoring well	plugged and	abandoned.			

Monitoring Well ID No.	Sample Date	Ground Elevation (ft amsl)	TOC Elevation (ft amsl)	Standpipe Stickup (+) Stickdown (-)	Total Well Depth (ft)	Casing/ Screen Diameter (inches)	Screened Interval (ft from gs)	Depth to Water (ft from TOC)	Depth to LNAPL (ft from TOC)	LNAPL Thickness (ft)	Water Elevation (ft amsl)
	06/03/03		41.19		25.00	2.00	15-22.5	16.34	NA	0.00	24.85
	10/06/08	39.00	41.16	2.16	25.10			14.39	NA	0.00	26.77
	01/19/09				NM <sup>1</sup>			17.55	NA	0.00	23.61
	03/24/09				NM <sup>1</sup>			NM	NM	NM	NM
MW-171	01/25/10				NM <sup>1</sup>			NM	NM	NM	NM
	06/04/10				NM <sup>1</sup>	-		NM	NM	NM	NM
	10/15/10				NM <sup>1</sup>	-		NM	NM	NM	NM
	01/27/12				NM <sup>1</sup>		I	NM	NM	NM	NM
	Feb 2012		44.00				plugged and				
	06/03/03	00.50	41.06	0.54	24.00	2.00	15-22.5	15.41	NA	0.00	25.65
	10/06/08	38.50	41.04	2.54	26.05	-		12.97	NA	0.00	28.07
	01/19/09				26.05	-		17.03	NA	0.00	24.01
	03/24/09 01/25/10				26.08 26.08	-		17.98 14.57	NA NA	0.00	23.06 26.47
MW-18	01/25/10				26.08			14.57	NA	0.00	26.47
10100-10	10/15/10				26.08			15.04	NA	0.00	24.94
	01/21/11				26.08			14.65	NA	0.00	26.00
	01/27/12				26.08			16.86	NA	0.00	20.39
	01/25/13				20.09 NM			17.13	NA	0.00	23.91
	05/07/14					nitoring well	plugged and		10/1	0.00	20.01
	06/03/03		41.93		25.00	2.00	17-22	18.83	NA	0.00	23.10
	10/06/08	39.40	41.92	2.52	25.65	2.00	17 22	16.36	NA	0.00	25.56
	01/19/09	00.40	41.52	2.02	NM			19.57	NA	0.00	22.35
	03/24/09				NM <sup>1</sup>			NM	NM	NM	NM
MW-19 <sup>1</sup>	01/25/10				NM <sup>1</sup>			NM	NM	NM	NM
	06/04/10				NM <sup>1</sup>			NM	NM	NM	NM
	10/15/10				NM <sup>1</sup>			NM	NM	NM	NM
	01/27/12				NM <sup>1</sup>			NM	NM	NM	NM
	Feb 2012				Mor	nitoring well	plugged and	abandoned.			
MW-20	06/03/03		40.93		23.00	2.00	9.5-22	15.05	15.01	0.04	25.88 <sup>3</sup>
	07/23/08	38.20	40.81	2.61	27.51	2.00	10-25	15.57	NA	0.00	25.24
	10/06/08				27.50			12.83	NA	0.00	27.98
	01/20/09				27.50			16.14	NA	0.00	24.67
	03/24/09				27.45			16.90	NA	0.00	23.91
	01/25/10				27.45			14.25	NA	0.00	26.56
	06/04/10				27.45			15.47	NA	0.00	25.34
	10/15/10				27.45			14.80	NA	0.00	26.01
MW-20R <sup>2'3</sup>	01/21/11				27.45			14.63	NA	0.00	26.18
	01/27/12 <sup>2</sup>				26.02			14.34	14.33	0.01	26.47 <sup>3</sup>
	01/25/13 <sup>2</sup>				NM			16.79	16.75	0.04	24.02 <sup>3</sup>
	07/25/16 <sup>2</sup>				NM			13.42	13.36	0.06	27.39 <sup>3</sup>
	08/09/17 <sup>2</sup>	38.06	40.72	2.66	NM			13.22	13.05	0.17	27.50 <sup>3</sup>
	01/30/18 <sup>2</sup>				NM			14.87	14.78	0.09	25.85 <sup>3</sup>
	01/21/20 <sup>2</sup>				NM			14.01	13.99	0.02	26.71 <sup>3</sup>
	03/10/20 <sup>2</sup>				NM			13.51	13.50	0.01	27.21 <sup>3</sup>
	06/03/03		41.80		30.00	2.00	14-29	14.83	NA	0.00	26.97
	10/06/08	38.90	41.78	2.88	33.02			12.61	NA	0.00	29.17
	01/20/09				33.02			16.30	NA	0.00	25.48
	03/24/09				33.06			17.51	NA	0.00	24.27
	01/25/10				33.06			14.34	NA	0.00	27.44
MW-21	06/04/10				33.06			16.02	NA	0.00	25.76
	10/15/10				33.06			14.74	NA	0.00	27.04
	01/21/11				33.06			14.74	NA	0.00	27.04
	01/27/12				33.07			13.69	NA	0.00	28.09
	01/25/13				NM		L	17.15	NA	0.00	24.63
	05/07/14				Mor	nitoring well	plugged and	abandoned.			

Monitoring Well ID No.	Sample Date	Ground Elevation (ft amsl)	TOC Elevation (ft amsl)	Standpipe Stickup (+) Stickdown (-)	Total Well Depth (ft)	Casing/ Screen Diameter (inches)	Screened Interval (ft from gs)	Depth to Water (ft from TOC)	Depth to LNAPL (ft from TOC)	LNAPL Thickness (ft)	Water Elevation (ft amsl)
	06/03/03		43.23		27.00	2.00	18.5-26	18.98	NA	0.00	24.25
	10/06/08	38.50	41.70	3.20	30.35			16.41	NA	0.00	25.29
	01/19/09				30.35			19.16	NA	0.00	22.54
	03/24/09				30.40			19.87	NA	0.00	21.83
MW-22	01/25/10				30.40			17.14	NA	0.00	24.56
	06/04/10				30.40			18.27	NA	0.00	23.43
-	10/15/10				30.40			17.89	NA NA	0.00	23.81
	01/21/11 01/27/12				30.40 30.57			17.09 17.44	NA	0.00	24.61 24.26
-	Feb 2012					nitoring well	plugged and		NA NA	0.00	24.20
	06/03/03		40.99		29.00	2.00	18-28	20.06	NA	0.00	20.93
-	10/06/08	38.50	41.06	2.56	32.90	2.00		19.42	NA	0.00	21.64
-	01/19/09				NM			NM	NM	NM	NM
Ī	03/24/09				32.19			21.16	NA	0.00	19.90
	01/25/10				32.19			19.68	NA	0.00	21.38
[	06/04/10				32.19			20.08	NA	0.00	20.98
MW-23	10/15/10				32.19			19.56	NA	0.00	21.50
	01/21/11				32.79			19.75	NA	0.00	21.31
	01/27/12				32.91			20.44	NA	0.00	20.62
-	01/25/13	20 50	44.04	2.54	NM			20.68	NA	0.00	20.38
	08/08/17 01/21/20	38.50	41.04	2.54	NM 32.92			17.21 18.69	NA NA	0.00	23.83 22.35
-	03/10/20				32.92			18.25	NA	0.00	22.35
	06/03/03		41.29		25.00	2.00	14-24	19.38	NA	0.00	21.91
-	07/23/08	38.50	41.31	2.81	27.80	2.00		19.45	NA	0.00	21.86
-	10/06/08	00.00		2.01	27.80			17.94	NA	0.00	23.37
-	01/19/09				27.80			19.71	NA	0.00	21.60
ľ	03/24/09				27.83			20.28	NA	0.00	21.03
	01/25/10				27.83			18.86	NA	0.00	22.45
MW-24	06/04/10				27.83			19.28	NA	0.00	22.03
	10/15/10				27.83			19.19	NA	0.00	22.12
	01/21/11				27.83			18.86	NA	0.00	22.45
	01/27/12				27.88			19.31	NA	0.00	22.00
-	01/25/13 08/08/17	38.86	41.38	2.52	NM NM			20.36 17.50	NA NA	0.00	20.95 23.88
-	01/21/20	30.00	41.30	2.52	27.75			18.50	NA	0.00	23.88
-	03/10/20				27.75			18.62	NA	0.00	22.00
	07/23/08	38.50	41.46	2.96	27.80	2.00	14-24	19.30	NA	0.00	22.16
·	10/06/08				27.80			18.01	NA	0.00	23.45
•	01/19/09				27.80			19.39	NA	0.00	22.07
	03/24/09				27.83			19.90	NA	0.00	21.56
	01/25/10				27.83			18.55	NA	0.00	22.91
MW-25	06/04/10				27.83			19.10	NA	0.00	22.36
(repaired on	10/15/10				27.83			19.09	NA	0.00	22.37
6/27/17)	01/21/11				27.83			18.56	NA	0.00	22.90
-	01/27/12				28.12			19.22	NA	0.00	22.24
	01/25/13 08/08/17	38.45	41.01	2.56	NM NM			20.07	NA NA	0.00	21.39 23.81
-	01/21/20	30.43	41.01	2.50	26.88			17.20	NA	0.00	23.01
ł	01/21/20				26.88			17.91	NA	0.00	23.20
	07/23/08	39.10	41.87	2.77	27.55	2.00	10-25	20.81	NA	0.00	23.10
ł	10/06/08	00.10			27.28			18.82	NA	0.00	23.05
1	01/19/09				27.28	1		22.07	NA	0.00	19.80
	03/24/09	1			27.42	1		22.00	NA	0.00	19.87
Ì	01/25/10	]			27.83	]		20.83	NA	0.00	21.04
MW-26	06/04/10				27.83			20.57	NA	0.00	21.30
(repaired on	10/15/10				27.83			20.23	NA	0.00	21.64
6/27/17)	01/21/11				27.42			20.89	NA	0.00	20.98
5.2	01/07/10	1			27.60			20.52	NA	0.00	21.35
<u>, , , , , , , , , , , , , , , , , , , </u>	01/27/12										
5,21,11)	01/25/13			0.15	NM			22.34	NA	0.00	19.53
5,21,11)		39.48	41.94	2.46	NM NM 27.40			22.34 18.82 20.63	NA NA NA	0.00 0.00 0.00	19.53 23.12 21.31

Monitoring Well ID No.	Sample Date	Ground Elevation (ft amsl)	TOC Elevation (ft amsl)	Standpipe Stickup (+) Stickdown (-)	Total Well Depth (ft)	Casing/ Screen Diameter (inches)	Screened Interval (ft from gs)	Depth to Water (ft from TOC)	Depth to LNAPL (ft from TOC)	LNAPL Thickness (ft)	Water Elevation (ft amsl)
	07/23/08	38.60	38.46	-0.14	24.20	2.00	10-25	13.11	NA	0.00	25.35
	10/07/08				23.90			11.00	NA	0.00	27.46
	01/20/09				23.90			13.62	NA	0.00	24.84
	03/24/09				23.84			14.38	NA	0.00	24.08
	01/25/10				23.84			11.81	NA	0.00	26.65
MW-27	06/04/10				23.84			12.89	NA	0.00	25.57
	10/15/10				23.84			12.42	NA	0.00	26.04
	01/21/11				23.84			12.19	NA	0.00	26.27
	01/27/12				23.23			12.09	NA	0.00	26.37
	01/25/13				NM			14.31	NA	0.00	24.15
	05/07/14				Mor	nitoring well	plugged and	abandoned.			
	05/08/14	38.55	37.98	-0.57	24.00	2.00	9-24	14.19	NA	0.00	23.79
MW-27R	08/09/17				NM			10.24	NA	0.00	27.74
	01/21/20				·	Monitoring	well found de	estroyed.			
MW-27R2	03/10/20	39.21	38.71	-0.50	29.18	2.00	15-30	11.39	NA	0.00	27.32
	01/25/10	40.61	40.25	-0.36	27.52	2.00	18-28	13.30	NA	0.00	26.95
	06/04/10				27.52			14.33	NA	0.00	25.92
	10/15/10				27.52			13.09	NA	0.00	27.16
	01/21/11				27.52			13.97	NA	0.00	26.28
MW-28	01/27/12				27.02			14.57	NA	0.00	25.68
	01/25/13				NM			15.89	NA	0.00	24.36
	08/09/17	40.66	40.30	-0.36	NM			12.39	NA	0.00	27.91
	01/21/20				27.01			13.04	NA	0.00	27.26
	03/10/20				27.01			12.50	NA	0.00	27.80
	01/25/10	39.49	39.06	-0.43	24.00	2.00	14-24	16.78	NA	0.00	22.28
	06/04/10				24.00			17.05	NA	0.00	22.01
	10/15/10				24.00			17.00	NA	0.00	22.06
MW-29	01/21/11				24.00			16.83	NA	0.00	22.23
(repaired on	01/27/12				23.56			17.46	NA	0.00	21.60
6/27/17)	01/25/13				NM			18.35	NA	0.00	20.71
	08/09/17	39.36	38.98	-0.38	NM			15.81	NA	0.00	23.17
	01/21/20				22.70			16.31	NA	0.00	22.67
	03/10/20				22.70			16.19	NA	0.00	22.79

#### Notes:

1 Damaged well could not be gauged 2 Light, non-aqueous phase liquids (LNAPL) detected in MW-20R 3 Groundwater elevation of MW-20 and MW-20R not corrected for LNAPL.

TOC - Top of Casing ft amsl - feet above mean sea level. gs - ground surface

"NA" indicates not applicable.

"NM" indicates not measured.

Monitoring Well ID No.	Sample Date	Laboratory Report No.	Total Arsenic (mg/l)	Total Manganese (mg/l)	Total Molybdenum (mg/l)	BaP (mg/l)	TPH (mg/l)
Ba	ckground	I	0.00315	0.1156	0.00305		
Scre	ening Level		0.01 <sup>ac</sup>	0.43 <sup>b</sup>	0.12 <sup>c</sup>	0.0002 <sup>ac</sup>	4.1 <sup>c</sup>
	RI 2003		0.0023	1.57 J	0.0687 J	<0.00002	
	07/23/08	0807492					<0.19
	10/07/08	0810143					< 0.19
	01/20/09	0901356					<0.47
	04/01/09	0904026		0.532	0.0490		
	04/01/09	0904247					
MW-01	02/15/10	1002475					<0.18
10100-01	06/10/10	1006400					<0.19
	10/19/10	1010705					<0.19
	02/02/11	1102097					<0.19
	01/30/12	1201947					<0.20
	01/28/13	1301956					<0.19
	08/09/17	17SF095					<4.41
	03/11/20	HS20030551					<0.20
	RI 2003		0.0034	0.0643 J	0.0099 J	<0.00002	
104/ 00	07/23/08	0807538		0.0704	0.0152	<0.0008	
MW-02	10/06/08	0810143		0.0260	0.0142	0.00014 J	
	01/21/09	0901356		0.0217	0.0135	< 0.00008	
1.04/ 00	04/01/09	0904026		0.0238	0.0164	<0.000080	
MW-03	RI 2003	0007500	0.020	1.98 J	0.0074 J	0.000619	
	07/24/08	0807538 0810143		0.529 2.06	0.0272	0.00087 0.00017 J	
	01/21/09	0901356		2.06	0.1060	0.00017 J	
	01/21/09	0904026		1.59	0.0321	0.00013 J	
	02/15/10	10022475		1.00	0.0020	0.00029	
	06/10/10	1006400				0.00018 J	
MW-03R	10/19/10	1010705				0.00015 J	
	02/02/11	1102097				0.000083 J	
	01/30/12	1201947				0.000079 J	
	01/29/13	1301956				0.00015 J	
	08/08/17	17SF095				<0.0001	
	03/12/20	HS20030662				0.000748	
MW-03R Duplicate	08/08/17	17SF095				<0.0001	
	03/12/20	HS20030662	0.0204	0.4.40	0.057	0.000633	
	RI 2003 07/24/08	0807538	0.0294	0.148 J 0.895	0.257 0.127	<0.00002 <0.00008	
	10/07/08	0810143		1.03	0.116	<0.00008	
	01/20/09	0901356		0.975	0.104	<0.00008	
	03/31/09	0903790		1.10	0.125		
	02/15/10	1002330		1.27 / 0.988	0.116 / 0.109	<0.000080	
MW-04	06/08/10	1006300		1.72 / 1.65	0.0960 / 0.0898	<0.000080	
10100-04	10/18/10	1010705		1.68 / 1.27	0.123 / 0.103	<0.000080	
	01/31/11	1102035		1.39 / 1.28	0.0992 / 0.100	<0.000080	
	01/30/12	1201947		0.945 / 0.890	0.0884 / 0.0935	<0.000050	
	01/29/13	1301956		1.73 / 1.79	0.201 / 0.210	<0.000050	
	08/08/17	17SF095	0.0305 / 0.0318	0.781 / 0.793	0.0913 B / 0.0687	<0.0001	
	03/12/20	HS20030662	0.0265 / 0.0171	0.356 / 0.280	0.0570 / 0.0565	0.0000400	
MMA 04 Duralisation	03/18/20	HS20030823	0.0253 / 0.0174	0.252 / 0.202	0.0414 / 0.0450	<0.0000196	
MW-04 Duplicate	03/12/20 PL 2002	HS20030662		0.352 / 0.303	0.0414 / 0.0458	<0.00002	
MW-05	RI 2003 03/30/09	0903764	0.0032 J	0.139 J 0.0612	0.0034 J 0.00337 J	<0.00002	
	RI 2003	0303704	0.0053	0.0612 0.164 J	1.56	<0.00002	
MW-06	03/30/09	0903764	0.0000	0.0886	2.18	<0.0000Z	
	03/30/09	0904247		0.0000	NA / 0.00263 J		
	RI 2003		0.004	1.93 J	0.283	0.000084	
MW-07	03/30/09	0903764		1.07	0.158		
-	03/30/09	0904247			NA / <b>0.162</b>		

Monitoring Well ID No.	Sample Date	Laboratory Report No.	Total Arsenic (mg/l)	Total Manganese (mg/l)	Total Molybdenum (mg/l)	BaP (mg/l)	TPH (mg/l)
Ba	ckground	•	0.00315	0.1156	0.00305		
Scre	ening Level		0.01 <sup>ac</sup>	0.43 <sup>b</sup>	0.12 <sup>c</sup>	0.0002 <sup>ac</sup>	4.1 <sup>c</sup>
	RI 2003		0.0083	2.32 J	0.0374 J	< 0.00002	
	03/30/09	0903764		0.00187 J	0.326		
	03/30/09	0904247			NA / <b>0.340</b>		
	02/10/10	1002330		0.00514 / 0.00153 J	0.0859 / 0.0860		
MW-08	06/07/10 10/18/10	1006300 1010705		0.0508 / 0.0575 0.00322 J / 0.00395 J	0.0322 / 0.0391		
10100-000	01/31/11	1102035		0.00322 J / 0.00395 J 0.00330 J / <0.00080	0.0758 / 0.0773		
	01/31/12	1201947		0.00316 J / <0.0025	0.119/0.114		
	01/28/13	1301956		<0.0025 / <0.0025	0.135 / 0.141		
	08/09/17	17SF095	<0.0050 / <0.0050	0.0792 / 0.0700	0.133 B / 0.131		
	03/11/20	HS20030551	0.00143 J / 0.00151 J	0.0209 / 0.0144	0.0802 / 0.0827		
MW-09	RI 2003		0.0024	0.129 J	0.0027 J	<0.00002	
	03/30/09	0903764	0.0007.1	0.00438 J	0.00237 J	0.00000	
MW-10	RI 2003 03/30/09	0903764	0.0027 J	0.110 J 0.124	0.0017 J 0.00237 J	<0.00002	
MW-10 Duplicate	RI 2003	0903704	0.0028 J	0.124	0.00237 J		
MW-11	RI 2003		0.0028 J				
	RI 2003		0.0031 J	0.0922 J	0.0027 J	< 0.00002	
MW-12	04/01/09	0904026		0.122	0.00399 J		
	RI 2003		0.009	0.295 J	0.525	< 0.00002	
	07/24/08	0807538		0.231	0.268		
	10/07/08	0810153		0.112	0.471		
	01/20/09	0901356		0.243	0.828		
	03/31/09	0903790		0.170	0.462		
MW-13	02/15/10	1002475		0.197 / 0.137	0.432 / 0.322		
	06/10/10	1006400		0.356 / 0.328	0.609 / 0.563		
	10/19/10 02/02/11	1010705 1102097		0.460 / 0.348 0.177 / 0.179	0.543 / 0.520 0.659 / 0.330		
·	01/30/12	1201947		0.143 / 0.151	0.478 / 0.224		
	01/29/13	1301956		0.147 / 0.133	0.749 / 0.886		
	03/12/20	HS20030662	0.00442 / 0.00411	0.0311 / 0.0238	0.426 / 0.430		
MW-13 Duplicate	03/31/09	0903790		0.174	0.424		
MW-14	RI 2003		0.0019	0.250 J	0.0062 J	< 0.00002	
10100-14	03/30/09	0903764		0.160	0.0129		
	RI 2003		0.0166 J	0.196 J	0.922 J	< 0.00002	
MW-15	04/02/09	0904061		0.466	0.243		
	04/02/09	0904247			NA / <b>0.263</b>		
MW-16	RI 2003	0000700	0.0162	0.116 J	0.0089 J	0.0000633	
MW-16 Duplicate	03/31/09 RI 2003	0903790	0.0158	0.489	0.00597		
MW-17	RI 2003		0.00138				
	RI 2003		0.0078	2.97 J	0.0073 J	< 0.00002	
MW-18	03/31/09	0903790		0.379	0.00762		
MW-19	RI 2003		0.0055	-			
MW-20	RI 2003		0.0024	1.95 J	0.0046 J	< 0.00002	
	07/23/08	0807492					<0.18
[	10/07/08	0810143					<0.19
	01/20/09	0901356					1.30
	04/02/09	0904061		1.74	0.0357		<0.19
	04/02/09	0904247		NA / <b>1.46</b>			-0.10
MW-20R	02/15/10 06/10/10	1002475					<0.18 <b>4.50</b>
	10/19/10	1010705					2.30
	02/02/11	1102097					3.00
	01/30/12	NS					LNAPL*
	01/25/13	NS					LNAPL*
	08/09/17	17SF095					<4.42 (LNAPL*)
	03/12/20	HS20030662					<0.20
MW-20R Duplicate	08/09/17	17SF095					<4.45 (LNAPL*)
	03/12/20	HS20030662					< 0.19

Monitoring Well ID No.	Sample Date	Laboratory Report No.	Total Arsenic (mg/l)	Total Manganese (mg/l)	Total Molybdenum (mg/l)	BaP (mg/l)	TPH (mg/l)
Ва	ckground		0.00315	0.1156	0.00305		
Scre	ening Level		0.01 <sup>ac</sup>	0.43 <sup>b</sup>	0.12 <sup>c</sup>	0.0002 <sup>ac</sup>	4.1 <sup>c</sup>
MM/ 04	RI 2003		<0.003	0.598	<0.05	< 0.005	
MW-21	04/02/09	0904061		0.538	0.0296		
MW-22	RI 2003		0.005	0.12	<0.05		
	03/30/09	0903764	0.0050	0.00313 J	0.00400 J		
	RI 2003 03/31/09	0903790	0.0058	0.492 0.363	<0.05 0.114		
	03/31/09	1002330		0.340 / 0.331	0.114		
	06/07/10	1002330		0.367 / 0.386	0.152 / 0.162		
MIN/ 00	10/18/10	1010705		0.427 / 0.399	0.146 / 0.137		
MW-23	01/31/11	1102035		0.388 / 0.381	0.104 / 0.106		
	01/31/12	1201947		0.452 / 0.399	0.0624 / 0.0595		
	01/29/13	1301956		0.437 / 0.449	0.0795 / 0.0807		
	08/08/17	17SF095	0.0113 / 0.0071	0.386 / 0.382	0.0841 B / 0.0826		
	03/11/20	HS20030551	0.00941 / 0.00819	0.370 / 0.366	0.0154 / 0.0158		
MW-23 Duplicate	08/08/17	17SF095	0.0094 / 0.0088	0.393 / 0.377	0.0850 B / 0.0855	< 0.005	
	RI 2003 07/23/08	0807538	0.0037	<u>1.41</u> 0.515	13.90 5.38	<0.005	
	10/07/08	0810153		0.220	4.12	<0.00008	
	01/19/09	0901356		0.868	3.90	<0.00008	
	04/01/09	0904026		0.678	2.92		
	02/15/10	1002475		0.885 / 0.734	10.2 / 9.22	<0.0008	
MW-24	06/08/10	1006300		0.748 / 0.804	3.56 / 3.67	<0.0008	
	10/19/10	1010705		0.958 / 0.924	6.64 / 6.13	<0.0008	
	02/02/11	1102097		0.245 / 0.240	5.77 / 5.91	<0.0008	
	01/30/12	1201947		0.174 / 0.178	7.36 / 6.89	< 0.00005	
	01/29/13	1301956	0.0050 / 0.0050	0.629 / 0.563	5.08 / 5.73	< 0.00005	
	08/08/17 03/12/20	17SF095 HS20030662	<0.0050 / <0.0050 0.00161 J / 0.00142 J	0.486 / 0.473 0.297 / 0.239	5.65 / 5.61 3.76 / 2.93	<0.0001	
	03/12/20	HS20030823	0.00101 J / 0.00142 J	0.29770.239	5.1072.95	<0.0000199	
	RI 2003	11020000020	0.0043			<0.0000100	
MW-24 Duplicate	01/29/13	1301956		0.567 / 0.564	5.56 / 5.48		
	03/18/20	HS20030823				< 0.0000199	
	07/23/08	0807492		0.355	0.039	<0.0008	
	10/06/08	0810143		0.264	0.0295	<0.0008	
	01/20/09	0901356		0.466	0.0273	<0.0008	
	04/01/09	0904026		1.06	0.0232	.0.0000	
	02/10/10 06/08/10	1002330 1006300				<0.00008 <0.00008	
MW-25	10/18/10	1006300				<0.00008	
	01/31/11	1102035				<0.00008	
	01/30/12	1201947				<0.00005	
	01/28/13	1301956				<0.00005	
	08/08/17	17SF095				<0.0001	
	03/11/20	HS20030551				<0.0000197	
	07/23/08	0807492		0.191	0.00641	<0.0008	<0.19
	10/06/08	0810143		0.200	0.00668	<0.0008	<0.19
	01/19/09	0901356		0.163	0.00678	<0.0008	<0.47
	04/02/09	0904061		0.0848	0.00633		-0.40
	02/10/10 06/08/10	1002330 1006300					<0.18 <0.19
MW-26	10/18/10	1006300					<0.19
	02/02/11	1102097					<0.19
	01/31/12	1201947					<0.19
	01/28/13	1301956					<0.19
	08/09/17	17SF095					<4.40
	03/11/20	HS20030551					<0.19
	07/23/08	0807492		0.191	0.00592	<0.0008	<0.18
MW-26 Duplicate	10/06/08	0810143		0.204	0.00678	<0.0008	<0.19
	01/19/09	0901356		0.162	0.00838	<0.00008	<0.47

Monitoring Well ID No.	Sample Date	Laboratory Report No.	Total Arsenic (mg/l)	Total Manganese (mg/l)	Total Molybdenum (mg/l)	BaP (mg/l)	TPH (mg/l)
Ba	ackground		0.00315	0.1156	0.00305		
Scre	ening Level		0.01 <sup>ac</sup>	0.43 <sup>b</sup>	0.12 <sup>c</sup>	0.0002 <sup>ac</sup>	4.1 <sup>c</sup>
	07/23/08	0807492					<0.19
	10/07/08	0810143					<0.19
	01/20/09	0901356					<0.48
	04/01/09	0904026		2.06	0.00267 J		
	04/01/09	0904247		NA / <b>1.80</b>			
MW-27	02/10/10	1002330					<0.18
	06/10/10	1006400					<0.19
	10/18/10	1010705					<0.19
	01/31/11	1102035					<0.19
	01/31/12	1201947					<0.19
	01/28/13	1301956					<0.19
MW-27R	08/09/17	17SF095					<4.25
MW-27R2	03/11/20	HS20030551					<0.20
	02/10/10	1002330		0.227 / 0.201	0.00203 J / 0.00248 J		
	06/07/10	1006300		0.203 / 0.176	0.00271 J / 0.00164 J		
	10/18/10	1010705		0.192 / 0.188	0.00158 J / 0.00165 J		
MW-28	01/31/11	1102035		0.178 / 0.172	0.00135 J / 0.00156 J		
10100-20	01/31/12	1201947		0.196 / 0.170	0.00353 J / 0.00178 J		
	01/28/13	1301956		0.228 / 0.226	0.00185 J / 0.00204 J		
	08/09/17	17SF095	0.0087 / 0.0092	0.161 / 0.132	<0.0050 / <0.0050		<4.26
	03/11/20	HS20030551	0.00903 / 0.00924	0.141 / 0.134	0.00158 J / 0.00143 J		
	02/10/10	1002330		0.161 / 0.122	0.00292 / 0.00406 J		
	06/08/10	1006300		0.125 / 0.120 J	0.00348 J / 0.00315 J		
	10/18/10	1010705		0.0744 / 0.0723	0.00372 J / 0.00361 J		
MW-29	01/31/11	1102035		0.0883 / 0.0824	0.00294 J / 0.00324 J		
10100-29	01/31/12	1201947		0.194 / 0.00580	0.00333 J / 0.0140		
	01/28/13	1301956		0.0552 / 0.0535	0.00377 J / 0.00394 J		
	08/09/17	17SF095	<0.0050 / <0.0050	0.0884 / 0.0957	<0.0050 / <0.0050	< 0.0001	
	03/11/20	HS20030551	0.00245 / 0.00258	0.0992 / 0.108	0.00150 J / 0.00172 J		

Notes:

"mg/L" indicates milligrams per liter.

"--" indicates not established.

"NA" indicates not applicable.

"BaP" represents benzo(a)pyrene.

"TPH" represents total petroleum hydrocarbons.

"TRRP" represents Texas Risk Reduction Program.

"<sup>a</sup>" represents U.S. Environmental Protection Agency (EPA) primary drinking water Maximum Contaminant Level (MCL).

"<sup>b</sup>" represents EPA Regional Screening Level (RSL) for tap water.

<sup>"C"</sup> represents TRRP Tier 1 Residential Groundwater Ingestion (<sup>GW</sup>GW<sub>Ing</sub>) Protective Concentration Level (PCL).

"<" indicates analyte was not identified at or above the specified laboratory sample detection limit (SDL).

"J" indicates target analyte was positively identified above the SDL but below the laboratory method quantitation limit (MQL).

"B" indicates the reported concentration is less than 10% the concentration detected in a laboratory blank and may be biased high.

Bold concentrations in red exceed their respective Screening Level for groundwater ingestion.

"2.06 / 1.80" indicates Total result / Dissolved result (Lead, Manganese, and Molybdenum).

03/30/09-04/02/09 groundwater samples collected with 10-micron filter.

02/10/10-02/15/10 and subsequent groundwater samples for metals collected with 0.45-micron filter.

LNAPL\* - Light, non-aqueous phase liquids (free product) encountered in monitoring well MW-20R prior to sampling.

Monitoring						Field Param	neters								L	aboratory An	alyses						
Monitoring Well	Sample	Laboratory	Temperature	Conductivity	TDS	Salinity	Dissolved	pН	ORP	Turbidity	Methane	Total	Total	Nitrate	Sulfate	Alkalinity	BOD	CO2	COD	Ammonia	Sulfide	тос	Notes
ID No.	Date	Report No.	(°C)	(mS/cm)	(g/L)	(%)	Oxygen (mg/L)	(s.u.)	(mV)	(ntu)	(mg/L)	Iron (mg/L)	Manganese (mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	110100
Background							(mg/L)					(mg/⊑)	0.1156	0.00475	0.392								
	RI 2003		21.35	0.507			0.00	7.63	-24.30	2.10			1.57 J	0.00006	0.025								
	07/23/08	0807492	25.09	0.438	0.284	0.21	0.51	7.72	-147.40	24.00	0.321	2.07	0.384	0.036 J	5.83	217	<2	6.8	15	0.582	<0.50	5.18	
	10/07/08	0810143	25.49	0.429	0.276	0.20	0.49	7.80	-103.70	28.70	0.158	1.65	0.334	0.057 J	9.88	180	<2	12.2	22	0.549	<0.50	5.94	
	01/20/09	0901356	22.32	0.407	0.279	0.21	0.30	7.84	-119.50	1.60	0.541	1.31	0.320	0.058 J	6.82	160	NA	5.3	NA	0.531	0.87 J	NA	
	04/01/09	0904247	23.12	0.440			0.10	7.70	-228.90	50.60			0.532										
	02/15/10		21.83	0.548			0.26	7.80	-151.40	9.72													
MW-01	06/10/10		24.11	0.544			0.97	7.82	-195.20	7.93													
	10/15/10		26.69	0.559			0.23	6.49	-186.70	5.26										-			
	01/31/11		23.46	0.605			0.22	7.84	-186.90	5.51													
	01/30/12 01/28/13		23.59 24.58	0.589 0.640			1.73 0.36	7.92 7.98	-171.00 -107.00	1.90 5.72													
	08/09/17		25.10	0.560			0.30	7.33	-155.10	1.46													
	03/11/20		22.70	0.590			0.02	NM	-183.90	8.96													
	RI 2003		22.17	1.750			0.98	7.34	36.00	4.00			0.0643 J	0.00112	0.119								
	07/23/08	0807538	24.64	1.125	0.736	0.56	0.41	7.57	82.50		0.000369 J	0.872	0.0704	0.162	81.3	489	<2	22.8	<4	<0.20	1.27	2.55	
MW-02	10/06/08	0810143	27.44	1.093	0.675	0.51	0.49	7.65	12.40	22.20	0.000301 J	0.214	0.0260	0.116	64.0	448	<2	27.6	18	<0.20	<0.50	2.02	
	01/21/09	0901356	21.20	0.950	0.666	0.51	1.08	7.87	81.40	2.00	0.000443 J	<0.10	0.0217	0.546	65.9	360	NA	11.9	NA	<0.20	1.17	NA	
	04/01/09	0904026	23.33	1.000			1.16	7.55	-8.30	5.99			0.0238										
MW-03	RI 2003		21.77	2.110			0.87	7.05	118.00	70.65			1.98 J	<0.00005	0.021								Hydrocarbon odor
	07/24/08	0807538	24.54	1.691	1.109	0.86	0.55	6.87	-72.10	44.60	8.72	7.12	0.529	0.105	19.3	906	12.9	185	57	1.93	2.67	18.80	
	10/07/08	0810143	27.63	1.621	1.003	0.77	0.72	6.92	-97.30	13.90	9.01	7.50	2.06	<0.010	68.3	808	10.1	177	63	1.82	0.53 J	19.30	
	01/21/09	0901356	20.58	1.566	1.112	0.87	0.83	7.13	-68.30	6.70	10.1	7.33	2.07	0.126	33.3	771	NA	128	NA	1.36	1.57	NA	
	04/01/09	0904026	22.95 22.39	1.730			1.00	6.83	-108.60	7.99			1.59										
	02/15/10 06/10/10		22.39	1.482 1.548			3.53 0.28	7.05 6.94	-173.60 -113.10	9.40 8.30													
MW-03R	10/15/10		25.58	1.548			0.28	5.84	-87.10	7.46													
	01/31/11		22.63	1.203			0.02	7.11	-115.00	8.42													
	01/30/12		24.02	1.456			1.61	7.02	-125.40	6.90	-												
	01/29/13		24.4	1.263			0.54	7.23	-25.80	9.43													
	08/08/17		25.1	0.910			0.14	6.76	-118.10	2.49													
	03/12/20		22.8	0.900			0.07	6.64	-180.60	8.40													
	RI 2003		26.90*	0.427			4.28	7.30	187.00	NA*			0.148 J	0.003	0.01								
	07/24/08	0807538	25.13	0.960	0.622	0.47	0.58	7.17	-66.90	3.84	0.00879	1.30	0.895	0.115	33.4	469	<2	51.5	34	1.05	2.47	12.5	
	10/07/08	0810143	28.48	1.151	0.702	0.53	0.63	7.20	-82.70	2.10	0.00597	1.22	1.03	<0.010	48.9	573	<2	90.9	33	0.992	<0.50	9.28	
	01/20/09	0901356	23.10	1.087	0.733	0.56	0.49	7.26	-38.70	1.10	0.00915	1.35	0.975	0.794	74.1	501	NA	85.2	NA	0.82	0.57 J	NA	
	03/31/09	0903790	24.30	1.170			0.80	6.79	-58.40	2.35			1.10										
	02/15/10	1002330	24.66	1.370			0.79	7.03	-70.60	1.31			1.27										
MW-04	06/08/10 10/15/10	1006300 1010705	25.23 22.00	1.433 1.396			0.83 0.50	6.89 6.27	-60.20 -21.90	3.62 1.46			1.72 1.68										
	01/31/11	1102035	22.00	1.499			0.30	7.18	-21.90	9.44			1.39										
	01/30/12	1201947	25.61	1.256			0.20	6.83	-58.30	9.44 0.54			0.945										
	01/29/13	1301956	25.87	1.915			0.96	7.01	-89.00	2.45			1.73										
	08/08/17	17SF095	24.60	0.920			0.17	6.99	-24.40	0.52			0.781										
	03/12/20	HS20030662	24.40	0.890			0.68	6.95	-172.10	7.42			0.356										
	03/18/20		23.70	0.910			0.19	6.74	-175.70	1.30													
MW-05	RI 2003		22.86	4.150			1.41	7.03	99.00	2.00			0.139 J	0.00341	0.371								
10107-00	03/30/09	0903764	23.24	3.350			1.08	6.81	190.10	3.04			0.0612										
MW-06	RI 2003		19.70	1.470			0.82	8.89	113.00	90.90			0.164 J	0.00238	<0.001								
	03/30/09	0903764	23.69	1.730			2.35	8.90	-75.00	7.86			0.0886		_								
MW-07	RI 2003	0000550	20.80	0.531			0.05	7.16	-166.00	16.50			1.93 J	0.00006	0.001								
-	03/30/09	0903764	22.11	0.640			0.16	7.18	-179.40	1.62			1.07										

Monitoring						Field Param	neters								L	aboratory An	alyses						
Well	Sample	Laboratory	Temperature	Conductivity	TDS	Salinity	Dissolved	pН	ORP	Turbidity	Methane	Total	Total	Nitrate	Sulfate	Alkalinity	BOD	CO2	COD	Ammonia	Sulfide	тос	Notes
ID No.	Date	Report No.	(°C)	(mS/cm)	(g/L)	(%)	Oxygen (mg/L)	(s.u.)	(mV)	(ntu)	(mg/L)	Iron (mg/L)	Manganese (mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	
Background													0.1156	0.00475	0.392								
	RI 2003		21.10	0.712			0.89	6.99	-124.00	0*			2.32 J	< 0.00005	0.001								Strong odor
	03/30/09	0903764	21.20	0.130			1.18	8.94	-85.60	1.08			0.00187 J										
	02/10/10	1002330	13.91	0.243			1.55	9.27	39.30	8.86	0.161		0.00514	0.209	25.5					0.107	<0.50		
	06/07/10	1006300	24.21	0.445			1.69	8.02	113.20	2.60			0.0508								-		
MW-08	10/15/10	1010705	21.13	0.148			0.33	8.55	120.00	1.31			0.00322 J										
	01/31/11	1102035	16.78	0.177			0.64	9.70	36.50	4.50			0.00330 J							-			
	01/31/12 01/28/13	1201947 1301956	19.14 22.78	0.202			1.16 -3.04*	8.57 8.53	27.30 30.10	0.54 1.29			0.00316 J <0.025										
	01/28/13	17SF095	27.2	0.127			0.34	7.67	0.40	0.30			0.0792										
	03/11/20	HS20030551	19.3	0.145			0.17	9.21	-184.10	1.10			0.0209										
	RI 2003	1102000001	23.60	1.670			5.14	6.90	159.00	1.00			0.129 J	0.00012	0.117								
MW-09	03/30/09	0903764	22.60	1.420			1.92	6.93	157.60	0.81			0.00438 J	0.00012	0.111								
N/04/ 40	RI 2003		22.82	3.320			0.11	6.78	125.00	7.00			0.110 J	0.00086	0.167								
MW-10	03/30/09	0903764	23.80	2.340			2.22	6.81	-13.90	8.08			0.124										
MW-12	RI 2003		21.50	3.850			5.98	6.80	109.00	5.00			0.0922 J	0.00609	0.413								
10100-12	04/01/09	0904026	22.41	2.840			1.45	7.41	-73.90	4.73			0.122										
	RI 2003		21.80	0.568			0.00	9.68*	-288.00	256.00			0.295 J	0.0014	< 0.02								Dark gray water
	07/24/08	0807538	25.18	0.914	0.592	0.45	0.11	8.60	-73.10	8.95	6.23	2.03	0.231	0.396	8.28	455	30.9	7.8	500	3.46	29.3	111	Dark gray water
	10/07/08	0810153	28.01	0.936	0.575	0.43	0.18	8.83	-120.50	6.80	10.2	1.14	0.112	0.041 J	1.31	427	21.1	2.3	375	3.54	12.9	64.6	Dark gray water
	01/20/09	0901356	22.23	0.933	0.640	0.49	0.16	8.35	-105.00	11.30	7.88	2.54	0.243	0.057 J	6.10	480	NA	15.8	NA	2.83	18.2	NA	Brown water
	03/31/09	0903790	23.65	1.000			0.07	8.47	-267.50	3.49			0.170										
MW-13	02/15/10	1002475	21.99	1.103			0.03	8.54	-276.30	9.87			0.197							-			David and the
	06/10/10	1006400	29.30	1.310			0.32	8.01	-40.30	16.40			0.356										Brown water
	10/15/10 02/02/11	1010705 1102097	23.72 21.42	1.297 0.937			0.20 0.03	7.15 8.80	-154.90 -78.90	9.60 14.20			0.460		-								
	01/30/12	1201947	24.68	0.937			0.03	8.49	-321.40	5.74			0.143										Dark brown water
	01/29/13	1301956	25.22	0.823			0.10	8.70	45.70	0.80			0.147		-								Dank brown water
	03/12/20	HS20030662	22.4	0.467			0.040	9.23	-193.30	4.68			0.0311										
	RI 2003		23.20	1.200			6.09	7.26	156.00	0.00			0.250 J	0.0001	0.089								
MW-14	03/30/09	0903764	23.82	1.350			1.32	6.98	966.00	9.61			0.160										
MW-15	RI 2003		25.08*	1.210			0.29	7.73	47.00	56.50			0.196 J	0.00014	0.011								
10100-15	03/30/09	0904061	NM	NM			NM	NM	NM	NM			0.466										
MW-16	RI 2003		22.90	1.780			3.58	10.22*	109.00	46.30			0.116 J	< 0.00005	0.028								
1000	03/31/09	0903790	23.58	1.400			0.93	6.78	79.30	0.65			0.489										
MW-18	RI 2003		18.11*	0.757			4.44	7.19	31.00	3.50			0.269 J	< 0.00005	0.073								
	03/30/09	0903790	23.91	0.800			0.78	6.76	-27.30	0.29			0.379										
MW-20	RI 2003	0007400	21.68	0.546	0.000	0.45	0.42	6.97	158.40	5.25	5.00	0.00	1.95 J	0.00052	0.015	400	40.4	74.4	455	0.00	4 47	50.0	
	07/23/08	0807492 0810143	25.19 25.73	0.930	0.602	0.45	0.50 0.62	6.96 7.23	-93.20 -115.00	6.00	5.96	6.06 5.15	2.59 2.20	0.026 J	0.843	430	12.1	71.4 77.7	155	<0.20	1.47	53.3 41.2	
				0.914		0.44				4.10	5.38			0.054 J	1.11	398	7.07		144	0.364	0.93 J		
	01/20/09 04/02/09	0901356 0904061	21.87 24.21	0.833	0.576	0.44	0.36 0.18	7.21 6.74	-58.80 -112.80	25.80 98.30	7.06	4.61	2.36 1.74	0.049 J	0.374 J	360	NA	40.4	NA	0.276	1.07	NA	
	04/02/09	0304001	24.21	0.810			0.18	7.12	-112.80	110.00			1./4										
MW-20R	06/10/10		25.05	0.797			0.30	7.04	-118.60	26.60													
2010	10/15/10		20.13	0.739			0.40	6.37	-109.50	9.87													
	02/02/11		22.97	0.795			0.12	7.28	-153.50	29.80													
	01/29/13		24.5	0.895			0.95	6.72	279.90	4.95													
	08/09/17		25.1	0.231			0.11	6.66	-151.40	2.66													
	03/12/20		22.1	0.740			0.14	6.55	-158.40	5.25													
MW-21	RI 2003		24.00	0.592			0.40	7.50	-272.00	299.00			0.598	< 0.00005	0.005								
10100-21	04/02/09	0904061	22.82	0.500			0.42	7.18	-185.50	3.40			0.538										

Well ID No.         I           Background         RI 03.           MW-22         RI 03.           02         04.           04.         04.           05.         04.           MW-23         01.           01.         04.           03.         04.           03.         04.           04.         04.           05.         04.           04.         04.           05.         04.           04.         04.           05.         04.		Laboratory Report No. 0903764 0903764 0903790 1002330 1006300 1010705 1102035 1201947 1301956 17SF095	Temperature (°C) 28.20* 25.13 28.30* 21.85 22.15 26.31 21.85 24.58 24.58 24.78 25.17	Conductivity (mS/cm) 1.620 1.110 1.280 1.150 1.123 1.012 0.880 1.03 1.128	TDS (g/L)	Salinity (%)	Dissolved Oxygen (mg/L) 3.50 3.74 0.30 2.11	pH (s.u.) 7.00 7.20 7.20	ORP (mV) 99.00 126.90	Turbidity (ntu) -10.00*	Methane (mg/L)	Total Iron (mg/L)	Total Manganese (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Alkalinity (mg/L)	BOD (mg/L)	CO2 (mg/L)	COD (mg/L)	Ammonia (mg/L)	Sulfide (mg/L)	TOC (mg/L)	Notes
MW-22 RI 03, 03, 02, 06, 10, 01, 01, 01, 01, 01, 01, 01, 01, 01	3/30/09 RI 2003 3/31/09 9/2/10/10 6/07/10 0/15/10 0/15/10 0/15/10 0/15/10 11/31/11 11/31/12 11/29/13 18/08/17 13/11/20	0903790 1002330 1006300 1010705 1102035 1201947 1301956	25.13 28.30* 21.85 22.15 26.31 21.85 24.58 24.78	1.110 1.280 1.150 1.123 1.012 0.880 1.03			3.50 3.74 0.30 2.11	7.20 7.20	126.90	-10.00*		(IIIg/L)	(1119/L)										
MW-22 RI 03, 03, 02, 06, 10, 01, 01, 01, 01, 01, 01, 01, 01, 01	3/30/09 RI 2003 3/31/09 9/2/10/10 6/07/10 0/15/10 0/15/10 0/15/10 0/15/10 11/31/11 11/31/12 11/29/13 18/08/17 13/11/20	0903790 1002330 1006300 1010705 1102035 1201947 1301956	25.13 28.30* 21.85 22.15 26.31 21.85 24.58 24.78	1.110 1.280 1.150 1.123 1.012 0.880 1.03			3.74 0.30 2.11	7.20 7.20	126.90	-10.00*			0.1156	0.00475	0.392								
MW-22 03, RI 03, 02, 06, 01, 01, 01, 01, 01, 01, 03, RI	3/30/09 RI 2003 3/31/09 9/2/10/10 6/07/10 0/15/10 0/15/10 0/15/10 0/15/10 11/31/11 11/31/12 11/29/13 18/08/17 13/11/20	0903790 1002330 1006300 1010705 1102035 1201947 1301956	25.13 28.30* 21.85 22.15 26.31 21.85 24.58 24.78	1.110 1.280 1.150 1.123 1.012 0.880 1.03			3.74 0.30 2.11	7.20 7.20	126.90				0.12	< 0.00005	0.083								
03, 02, 06, 10, 01, 01, 01, 01, 01, 03, RI	3/31/09 32/10/10 66/07/10 0/15/10 11/31/11 11/31/12 11/29/13 18/08/17 13/11/20	1002330 1006300 1010705 1102035 1201947 1301956	21.85 22.15 26.31 21.85 24.58 24.78	1.150 1.123 1.012 0.880 1.03			2.11			0.93			0.00313 J										
02 06 10 01 01 01 01 01 01 03 RI	2/10/10 06/07/10 0/15/10 01/31/11 01/31/12 01/29/13 08/08/17 03/11/20	1002330 1006300 1010705 1102035 1201947 1301956	22.15 26.31 21.85 24.58 24.78	1.123 1.012 0.880 1.03					-209.00	440.00			0.492	<0.00005	< 0.001								
06, MW-23 01, 01, 01, 01, 03, 03, RI	06/07/10 0/15/10 01/31/11 01/31/12 01/29/13 08/08/17 03/11/20	1006300 1010705 1102035 1201947 1301956	26.31 21.85 24.58 24.78	1.012 0.880 1.03				7.05	-106.80	2.36			0.363										
MW-23 10, 01, 01, 01, 01, 08, 03, RI	0/15/10 11/31/11 11/31/12 11/29/13 18/08/17 13/11/20	1010705 1102035 1201947 1301956	21.85 24.58 24.78	0.880 1.03			2.28	7.40	-160.90	1.57	13.8		0.340	0.0520 J	0.259					2.17	<0.50		
MW-23 01, 01, 01, 01, 08, 03, RI	01/31/11 01/31/12 01/29/13 08/08/17 03/11/20	1102035 1201947 1301956	24.58 24.78	1.03			3.60	7.32	-146.00	2.17			0.367										
01, 01, 08, 03, RI	01/31/12 01/29/13 08/08/17 03/11/20	1201947 1301956	24.78				0.42 0.15	6.67 7.60	-130.40 -176.90	2.84 5.22			0.427 0.388										
01, 08, 03, RI	01/29/13 08/08/17 03/11/20	1301956					0.13	7.16	-178.90	0.89			0.388										
08, 03, RI	)8/08/17 )3/11/20			0.924			0.07 NM*	7.10	-87.80	1.5			0.432										
03/ RI	3/11/20		25.90	0.160			0.16	7.18	-155.40	1.66			0.386										
	RI 2003	HS20030551	24.00	1.06			0.10	7.21	-178.20	6.21			0.370										
07			24.80*	1.540			1.10	6.90	18.00	-10*			1.410	0.00014	0.492								
	7/23/08	0807538	25.67	1.012	0.650	0.49	0.37	7.15	42.40	0.66	0.00257	<0.10	0.515	0.327	130	544	<2	8.9	<4	<0.20	0.87 J	1.47	
	0/07/08	0810153	27.53	1.219	0.756	0.57	0.76	7.23	56.30	0.70	0.00906	<0.10	0.220	0.077 J	141	479	<2	89.3	10 J	<0.20	<0.50	1.82	
	1/19/09	0901356	24.53	0.979	0.642	0.49	0.44	7.26	81.60	0.70	0.150	<0.10	0.868	0.053 J	97.30	385	NA	47.4	NA	<0.20	<0.50	NA	
	4/01/09	0904026	23.04	0.990			0.28	7.08	-79.10	1.55			0.678										
	2/10/10	1002330	22.99	1.260			0.31	6.92	67.70	6.24			0.885										
WW-24	6/08/10	1006300	24.32	1.169			0.61	7.03	106.10	9.27			0.748										
	0/15/10	1010705	25.75	1.136		-	0.51	6.75	-15.30	2.25			0.958										
	2/02/11	1102097	24.62 24.65	1.074 1.044			0.18	6.92 6.88	33.50	2.52			0.245 0.174										
	1/30/12 1/29/13	1201947 1301956	25.61	1.044			0.43 0.25	6.91	69.40 23.00	0.26			0.174										
	1/29/13 8/08/17	17SF095	25.00	0.930		-	0.23	6.78	52.20	0.45			0.629										
	3/12/20	HS20030662	23.50	0.890			0.11	6.68	-181.70	1.49			0.297										
	3/18/20		23.60	1.050			0.16	6.64	-179.10	0.71			0.201										
	7/23/08	0807538	24.26	0.891	0.587	0.44	0.47	6.78	96.90	1.35	0.000623	<0.10	0.355	0.169	42.2	447	<2	91.4	<4	0.246	0.87 J	3.13	
	0/06/08	0810143	26.69	0.927	0.583	0.44	0.73	6.78	64.00	1.40	0.000287 J	<0.10	0.264	0.112	41.5	452	<2	111	13 J	<0.20	<0.50	2.79	
01	1/20/09	0901356	22.69	1.002	0.681	0.52	0.58	7.02	62.00	0.60	0.000460 J	<0.10	0.466	0.803	66.9	435	NA	91	NA	<0.20	0.57J	NA	
04	4/01/09	0904026	23.29	1.340			4.96	6.86	-37.70	6.90			1.06										
	2/10/10		23.00	1.329			1.58	6.89	117.00	7.69													
IVIVV-25	6/08/10		25.08	1.689			0.08	6.92	94.70	9.11													
	0/15/10		21.62	1.339			0.50	6.08	178.50	9.38													
	1/31/11		25.9	1.580			0.19	7.15	-71.40	9.86													
	1/30/12 1/28/13		24.65 25.55	1.656 1.667			0.92 0.04	6.78 6.85	100.10 284.50	1.75 9.56													
	1/28/13 8/08/17		25.55	0.720			0.04 NM	6.56	284.50 56.20	9.56 5.39													
	3/11/20		23.9	1.070			0.17	NM	75.30	6.33													
	7/23/08	0807492	25.69	1.546	0.992	0.76	0.44	7.09	10.00	4.00	0.00991	<0.10	0.191	<0.010	155	728	<2	78.1	13 J	<0.20	0.67 J	7.22	
	0/06/08	0810143	27.02	1.616	1.012	0.78	0.61	7.07	12.30	1.80	0.00471	<0.10	0.200	<0.010	173	677	<2	98.0	18	<0.20	< 0.50	6.70	
	1/19/09	0901356	24.58	1.804	1.182	0.92	0.81	7.24	69.80	3.20	0.00187	<0.10	0.163	0.057 J	386	551	NA	57.7	NA	<0.20	<0.50	NA	
04	4/02/09	0904061	24.43	1.620			2.44	6.86	64.20	347.00			0.0848										
	2/10/10		21.51	1.653			2.09	7.06	53.50	9.81													
WW-26	6/08/10		27.68	1.770			1.10	6.98	0.10	72.00													
10/	0/15/10		26.40	1.574			0.62	6.26	93.50	4.69													
	2/02/11		23.62	1.605			3.43	6.96	39.20	8.60													
	1/31/12		24.70	1.737			1.24	7.05	14.00	39.00													
	1/28/13		25.53	1.596			0.23	7.06	268.20	9.13													
	8/09/17 3/11/20		25.60 24.20	1.260 1.110			0.75 3.47	6.93 NM	0.00 135.50	0.35 6.27													
07	7/23/08	0807492	25.69	1.110	0.992	0.76	0.44	7.09	135.50	4.00	0.0100	<0.10	0.191	0.122	153	734	<2	84.3	15	0.60	1.07	6.69	
10 IVIVV-26D	0/06/08	0807492	25.09	1.616	1.012	0.78	0.44	7.09	12.30	1.80	0.0100	<0.10	0.191	<0.010	179	677	<2	91.4	21	<0.20	< 0.50	5.75	
	0/00/08	0901356	24.58	1.804	1.182	0.92	0.81	7.24	69.80	3.20	0.0109	<0.10	0.162	0.068 J	419	576	NA	66.2	NA	<0.20	<0.50	NA	

Well Dat				Field Parameters Laboratory Analyses																			
	Sample Date	Laboratory Report No.	Temperature (⁰C)	Conductivity (mS/cm)	TDS (g/L)	Salinity (%)	Dissolved Oxygen (mg/L)	рН (s.u.)	ORP (mV)	Turbidity (ntu)	Methane (mg/L)	Total Iron (mg/L)	Total Manganese (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Alkalinity (mg/L)	BOD (mg/L)	CO2 (mg/L)	COD (mg/L)	Ammonia (mg/L)	Sulfide (mg/L)	TOC (mg/L)	9 <b>g/L)</b> .08 .31
Background													0.1156	0.00475	0.392								
	07/23/08	0807492	25.19	1.024	0.663	0.50	0.59	6.78	-46.50	11.00	0.0329	1.03	2.34	0.022 J	65.1	481	<2	108	<4	<0.20	0.87 J	3.08	
	10/07/08	0810143	24.28	0.999	0.659	0.50	0.80	6.78	-27.30	34.30	0.0206	1.29	2.28	0.046 J	70.8	488	<2	174	10 J	<0.20	<0.50	3.31	
	01/20/09	0901356	21.62	0.926	0.644	0.49	0.89	7.02	62.50	6.10	0.00644	0.185 J	1.95	0.066 J	59.4	410	NA	80.1	NA	<0.20	<0.50	NA	
	04/01/09	0904026	22.73	0.910			0.22	6.56	-9.80	15.60			2.06										
MW-27	02/10/10		22.36	0.918			0.64	6.84	-54.10	3.09													
	06/10/10		23.76	0.910			1.55	6.84	-6.20	23.80													
	10/15/10		26.00	0.819			0.47	6.04	21.60	3.95													
	01/31/12		23.65	0.949			1.42	6.76	-69.30	1.97		-											
	01/28/13		24.40	0.955			0.47	6.78	272.50	5.28													
MW-27R	08/09/17		24.80	0.830			0.79	6.73	92.30	0.43													
MW-27R2	03/11/20		23.30	0.750			0.25	NM	-43.90	9.24					1.10								
	02/10/10	1002330	23.87	2.549			1.59	6.97	-18.80	8.88	0.0117		0.227	0.0430 J	148					0.050	<0.50		
	06/07/10	1006300	27.57	2.587			0.79	6.92	-1.20	19.2			0.203										
	10/15/10	1010705	27.52	2.327			0.65	6.29	-7.70	2.04			0.192										
MW-28	01/31/11	1102035	25.41	2.464			0.62	6.9	8.7	6.02			0.178										
	01/31/12	1201947	26.11	2.586			1.52	6.9	-32.8	0.83			0.196										
	01/28/13	1301956	27.07	2.69			-1.86	6.77	32.3	2.65			0.228										
	08/09/17 03/11/20	17SF095 HS20030551	27.1 24.70	2.210 2.22			0.17 0.33	6.86 6.75	13.30 -138.8	1.10 5.34			0.161 0.141										
		1002330	24.70	1.340			0.33	6.92	-149.80	25.20	0.000527		0.141	3.39	97.2					0.102	< 0.50		
	02/10/10 06/07/10	1002330	23.38	1.340			0.60	6.92	67.70	18.00	0.000527		0.181	3.39	97.2					0.102	<0.50		
	10/15/10	1000300	23.86	1.014			0.87	6.52	-4.60	5.19			0.0744										
	01/31/11	1102035	23.84	1.234			0.40	6.93	79.80	1.54			0.0883										
MW-29	01/31/11	1201947	23.84	1.147			2.66	6.89	107.70	9.57			0.194										
	01/28/13	1301956	25.08	1.035			-0.52	6.90	48.40	8.53			0.0552										
	08/09/17	17SF095	24.30	1.350			0.23	6.79	15.00	1.03			0.0884										
	03/11/20	HS20030551	23.30	1.510			0.08	6.61	-171.00	8.02			0.0992										

Notes:

"NA" indicates not analyzed.

"NM" indicates not measured.

"°C" indicates degrees Celcius.

"mS/cm" indicates millisiemens per centimeter. "g/L" indicates grams per liter.

"mg/L" indicates milligrams per liter.

"s.u." indicates standard units.

"mV" indicates millivolts.

"ntu" indicates nephelometric turbidity unit.

"TDS" represents total dissolved solids.

"BOD" represents biochemical oxygen demand.

"CO2" represents carbon dioxide.

"COD" represents chemical oxygen demand.

"TOC" represents total organic carbon.

"<" indicates the analyte was not detected at or above the specified laboratory sample detection limit (SDL).

"J" indicates the target analyte was positively identified above the SDL but below the laboratory method quantitation limit (MQL).

"\*" indicates an error with field equipment during the time of the sampling event.

APPENDICES

# **APPENDIX 1**

# STATE OF TEXAS WELL REPORT AND SKA MONITORING WELL LOG

	STATE OF TEXAS WELL REPORT for Tracking #540097											
Owner:	Fenway Development, Inc.	Owner Well #:	MW-27R2									
Address:	1520 Oliver St Houston, TX 77007	Grid #:	65-14-8									
Well Location:	3617 Baer St	Latitude:	29° 46' 08.4" N									
	Houston, TX 77020	Longitude:	095° 19' 58.3" W									
Well County:	Harris	Elevation:	No Data									
Type of Work:	New Well	Proposed Use:	Monitor									

Drilling Start Date: 3/10/2020

Drilling End Date: 3/10/2020

	Diameter (	ín.)	Top Depth (ft.)	Bottom Dep	th (ft.)					
Borehole:	8.25		0	30						
Drilling Method:	Hollow Stem Auger									
Borehole Completion:	Filter Packed									
	Top Depth (ft.)	Bottom Depth (ft.)	Fil	lter Material	Size					
Filter Pack Intervals:	13	30		Sand	16/30					
	Top Depth (ft.)	Bottom Dept	n (ft.)	Description (number of sa	acks & material)					
Annular Seal Data:	0	11		Grout 3 Bags/	/Sacks					
	11	13		Bentonite 1 Bag	js/Sacks					
Seal Method: Pc	oured		Distance to	o Property Line (ft.): <b>N</b>	No Data					
Sealed By: Dr	iller			Septic Field or other	No Data					
			Distance to Septic Tank (ft.): No Data							
			Me	ethod of Verification: N	No Data					
Surface Completion:	Surface Slab In	stalled		Surface Completio	n by Driller					
Water Level:	16 ft. below lar	nd surface on <b>20</b>	20-03-10							
	11.4 ft. below l	and surface on 2	2020-03-10							
Packers:	No Data									
Type of Pump:	No Data									
Well Tests:	No Test Data S	Specified								

	Strata Depth (ft.)	Water Type		
Water Quality:	No Data No Data			
	Chemical Analysis Ma		ade: <b>No</b>	
	Did the driller	knowingly penetrate any strata wh contained injurious constituen		
Certification Data:	driller's direct supervi correct. The driller up	at the driller drilled this well (or the sion) and that each and all of the nderstood that failure to complete turned for completion and resubm	statements he the required it	erein are true and
Certification Data: Company Information:	driller's direct supervi correct. The driller un the report(s) being re	sion) and that each and all of the nderstood that failure to complete turned for completion and resubm	statements he the required it	erein are true and
	driller's direct supervi correct. The driller un the report(s) being re	ision) and that each and all of the s inderstood that failure to complete turned for completion and resubm g Services LLC	statements he the required it	erein are true and
	driller's direct supervi correct. The driller up the report(s) being re Envirotech Drilling PO BOX 19064	ision) and that each and all of the s inderstood that failure to complete turned for completion and resubm g Services LLC	statements he the required it	erein are true and

## Lithology: DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description					
0	0.3	Asphalt					
0.3	5.5	Fill: rocks, black sand, debris-trash, loose.					
5.5	10	No recovery					
10	10.5	Sandy clay, light gray with reddish-brown mottling, stiff, low plasticity, moist.					
10.5	15	No recovery.					
15	16	Clay, reddish-brown with light gray mottling, stiff, high plasticity, moist.					
16	17.5	Clayey sand, light gray, medium dense, very fine grained, moist. 16.5 light gray with reddish-brown mottling, very moist.					
17.5	19	Silty sand, light brown, loose, fine grained, wet.					
19	20	No recovery.					
20	26	Silty sand, light brown, loose, fine grained, wet.					
26	30	Clayey sand, light gray with reddish-brown mottling, medium dense, very fine grained, low, wet. 28-30 Grades to dense, moist.					

## Casing: BLANK PIPE & WELL SCREEN DATA

Dla (in.)	Туре	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
2	Riser	New Plastic (PVC)	40	0	15
2	Screen	New Plastic (PVC)	40 0.010	15	30

### IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

TEX. OCC. CODE Title 12, Chapter 1901.251, authorizes the owner (owner or the person for whom the well was drilled) to keep information in Well Reports confidential. The Department shall hold the contents of the well log confidential and not a matter of public record if it receives, by certified mail, a written request to do so from the owner.

Please include the report's Tracking Number on your written request.

Texas Department of Licensing and Regulation P.O. Box 12157 Austin, TX 78711 (512) 334-5540

- HOHE				a	1888 Hou Tele	Consulting, L.P. 8 Stebbins Drive, Suite 100 ston, Texas 77043 phone: (713) 266-6056 (713) 266-0996	TION	MONITOF			E 1 OF 1
	ECT NO		ME Superfui	nd Site		PROJECT LOCA 3617 Baer Street			2	SATE OF /	Etan
DRILL	ING CC	OMPA	NY			DRILLING METHOD	LOGGE				···· *
			Servic	es		Hollow Stem Auger	John Sa		PAL.	IL MICHAEL S	
	LING M t <b>Spoo</b> r		00			DATE STARTED 3/10/2020	3/10/202	OMPLETED	PAU	******	······································
	HOLE		ETER	481-04 BRIG		CASING TYPE / DIAMETER		TYPE / SLOT SIZE	201	68765	
3.25-in	a started and a started at the					SCH 40 PVC / 2"		VC / 0.010-inch	20	CENSE	
	EL PAC Grade	CKTY	PE			GROUT TYPE Bentonite/Portland	GROUNI 39	DELEVATION	7	MS/ONAL F	non
		ATER	DURI	NG DR				TOP OF CASING	ELEVAT	TION 4/1	1202
16.0 ft.		ocatio	n (I atit	ude l	ongitu	de): N 29.76900°,W 095.33286°		38.71		••••	
					T	T			s		
Uepth (ft. bgs)	Sample	Recovery %	(mqq) UIA	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC	DESCRIPTION		Water Levels	WELL DIA	GRAM
		100			****	0'-4" Asphalt. 4"-5.5' Fill: rocks, black sand, debris	trach looco				
5		10		FILL			-iiasii, 1003e.				
-						5.5'-10' No recovery.				G GI	rout
-				NR						Ri	ser
10		10		CL		10'-10.5' Sandy clay, light gray with plasticity, moist. 10.5'-15' No recovery.	reddish-brown m	nottling, stiff, low	Ţ	Be	entonite
-				NR							ter pack
15-		80	ł	СН	////	15'-16' Clay, reddish-brown with light	gray mottling, s	tiff, high plasticity,	-		
-			ł		<i>44</i>	moist. 16'-17.5' Clayey sand, light gray, me			_ ⊈ […	目	
-				SC	////	moist.				目	
-				SM		16.5' light gray with reddish-brown m 17.5'-19' Silty sand, light brown, loos	ottling, very moi e, fine grained,	st. wet.			
-			ŀ			19'-20' No recovery.	IDENTIFICATION PROVIDENTS		- 1		
20-		100	ŀ	NR		20'-26' Silty sand, light brown, loose,	fine grained w		-	目	
-				SM						sc	reen
25—		100									
				SC		26'-30' Clayey sand, light gray with re dense, very fine grained, low, wet. 28'-30' Grades to dense, moist.	eddish-brown me	ottling, medium			
30-			ſ			Bottom of boreho	le at 30.0 feet.				

**APPENDIX 2** 

SKA GROUNDWATER SAMPLING LOGS



MONITORING WELL ID:	MW-01	
PROJECT:	MDI Superfund Site	
PROJECT NO:	39004-0003	
SITE LOCATION:	3617 Baer St. Houston, TX	
DATE MONITORED:	3/11/20	
DATE PURGED:	3/11/20	
GEOLOGIST/SCIENTIST:	Connor Foley	

## MONITORING WELL INFORMATION

Static Depth to Groundwater (DTW):	13.51	FT.
Total Depth of Monitoring Well (TD):	25.20	FT.
Screen Length (SL) from Boring Logs:	10	FT.
Depth to Top of Well Screen (TD-SL):	15.20	FT.
Height of Water Column in Monitoring Well (H=TD-DTW):	11.69	FT.
Pump Depth	20	FT.

## WELL CASING VOLUME CALCULATIONS

	1-inch (Hx0.04 gal/Ft)
X	2-inch (Hx0.17 gal/Ft)
	4-inch (Hx0.66 gal/Ft)

11.69×0.17=1.987

Gallons  $/4 = 0.4968 \times 3.8 = 1.888/6 = 0.314$ Gallons

Time	Volume Purged	Temp.	Dissolved Oxygen	Specific Conductivity	pН	ORP	Turbidity	Depth to Water	Flow Rate
Hr : Min	Gallons	С	mg/L	mS/cm	M	mV	NTUs	Feet	L/min
Targets	>1 Well Volume	+/- 1 C	+/- 10%	+/- 3%	+/- 0.1	+/- 10 mV	+/- 10% (if >10 NTUs)	<0.3 ft. draw or Top of Screen	<0.5 L/min (0.132 Gal/min)
1704		22.5	2.07	0.58	- 39,9	36.2	32.6	14.1	0.314
1710	1.25	22.8	0.25	0.59	-69.1	-149.5	73,1	13.75	0.314
1716	1.50	22.7	0,25	0.59	-72.0	-158.1	66.2	13,76	0.314
1720	1.75	22.7	0.17	0.59	-72.0	-163.4	54.2	13.76	0.314
1229	2.50	22.6	0.17	0.59	-74.8	- 175.0	29.2	13.80	0.314
1735	3.50	22.7	0.17	0.59	-76.0	-179.4	14.7	13.77	0.314
1741	3.75	22.7	0.08	0.59	-76.1	-181.5	11.8	13.78	0.314
1747	4.25	22.7	0.08	0.59	-76.1	-183.9	8.96	13.77	0.314
				(15					
				-UF					
				V.					
		Final Pa	arameter Read	lings After Grou	ndwater Sample	e has been col	lected		
1755	5.5	23.1	0.17	0.59	-76,1	-183.9	21.2	13.79	0.314
Notes:									

## LOW FLOW MONITORING PARAMETERS

1. Water quality parameter measurements obtained no more frequent than 25% of the casing volume.

Connor foley

2. Well is STABLE once 3 consecutive measurements have been obtained for as many as 3 water quality parameters AFTER one (1) well volume has been removed.

3. Low flow rate target is 0.1 to 0.5 liters/min (0.026 to 0.132 Gallons per Minute).

Purge Flow Rate (pump purge only) TOTAL Volume Purged

0.08 gal per min 5.5 gallons 3/11/20 DATE

0.31 liter per min (3.8 x gpm)

TIME

IOTAL Volume Purged

Date & Time of Sample Collection

Sampler's Name

Sampler's Signature

MONITORING WELL ID:	MW-3R	
PROJECT:	MDI	
PROJECT NO:	39004-0003	а. 
SITE LOCATION:	HOUSTON, TK	
DATE MONITORED:	3-10-70	
DATE PURGED:	3-17-20	
GEOLOGIST/SCIENTIST:	John Sudavs	

## MONITORING WELL INFORMATION

Static Depth to Groundwater (DTW):	13.72	FT.
Total Depth of Monitoring Well (TD):	27.15	FT.
Screen Length (SL) from Boring Logs:	15,00	FT.
Depth to Top of Well Screen (TD-SL):	17.15	FT.
Height of Water Column in Monitoring Well (H=TD-DTW):	13.43	FT.
Pump Depth	23	FT.

## WELL CASING VOLUME CALCULATIONS

	1-inch (Hx0.04 gal/Ft)		Gallons	2
×	2-inch (Hx0.17 gal/Ft)	2.786	Gallons	
	4-inch (Hx0.66 gal/Ft)		Gallons	

2.78/4 = 0.57\$ 38 = 2,16 143:5

## LOW FLOW MONITORING PARAMETERS

Time	Volume Purged	Temp.	Dissolved Oxygen	Specific Conductivity	pН	ORP	Turbidity	Depth to Water	Flow Rate
Hr : Min	Gallons	C	mg/L	mS/cm	-	mV	NTUs	Feet	L/min
Targets	>1 Well Volume	+/- 1 C	+/- 10%	+/- 3%	+/- 0.1	+/- 10 mV	+/- 10% (if >10 NTUs)	<0.3 ft. draw or Top of Screen	<0.5 L/min (0.132 Gal/min)
1625	,10	256	0.58	0.89	6.89	-175.2	134	15.45	. 43
1630	,67	22.7	0.18	0.89	6.73	-175.1	59.9	1578	, 43
1135	1.24	728	0.14	0.89	6.63	174.5	51.2	15.86	. 43
1640	1.81	72.9	0.10	0.89	6.66	-177.0	35.3	15.92	, 43
1645	2.38	22.8	0-08	0.90	6.64	-178.0	28.9	15,98	. 43
1650	2.95	22.9	0.08	0.90	6.64	-179.2	17.1	15.04	,43
1655	357	35.8	0.07	0-90	6.64	-180.6	8.4	16,10	.43
-									
		Final P	arameter Read	ings After Groui	ndwater Sample	e has been coll	lected		
1709	5-06	35-8	0.06	0,91	6.63	-181.4	67	16,18	.43

1. Water quality parameter measurements obtained no more frequent than 25% of the casing volume.

Jhn Salos

2. Well is STABLE once 3 consecutive measurements have been obtained for as many as 3 water quality parameters AFTER one (1) well volume has been removed. 0,1/

3. Low flow rate target is 0.1 to 0.5 liters/min (0.026 to 0.132 Gallons per Minute).

## Purge Flow Rate (pump purge only)

**TOTAL Volume Purged** 

Date & Time of Sample Collection

Sampler's Name

5.06 gallons

gal per min

43 liter per min (3.8 x gpm)

3-17-20 DATE

Sampler's Signature

700 TIME



MONITORING WELL ID:	MW-Y	
PROJECT:	MOI	
PROJECT NO:	34004-0003	
SITE LOCATION:	itouston, TX	
DATE MONITORED:	3-10-20	
DATE PURGED:	3-12-20	
GEOLOGIST/SCIENTIST:	John Sunders	

## MONITORING WELL INFORMATION

Static Depth to Groundwater (DTW):	20,83	FT.
Total Depth of Monitoring Well (TD):	78.20	FT.
Screen Length (SL) from Boring Logs:	7.50	FT.
Depth to Top of Well Screen (TD-SL):	20,70	FT.
Height of Water Column in Monitoring Well (H=TD-DTW):	7.37	FT.
Pump Depth	25	FT.

## WELL CASING VOLUME CALCULATIONS

LOW FLOW MONITORING PARAMETERS

1.25

	1-inch (Hx0.04 gal/Ft)	
X	2-inch (Hx0.17 gal/Ft)	
	4-inch (Hx0.66 gal/Ft)	

Gallons
Gallons
Gallons

1.25/4= 0.31 838=1.18 0,73= 5 AW

			LOWIE		UNO I AIVAI	IL I LIKO			
Time	Volume Purged	Temp.	Dissolved Oxygen	Specific Conductivity	pН	ORP	Turbidity	Depth to Water	Flow Rate
Hr : Min	Gallons	C	mg/L	mS/cm	-	mV	NTUs	Feet	L/min
Targets	>1 Well Volume	+/- 1 C	+/- 10%	+/- 3%	+/- 0.1	+/- 10 mV	+/- 10% (if >10 NTUs)	<0.3 ft. draw or Top of Screen	<0.5 L/min (0.132 Gal/min)
1147	, 10	24.4	233	0-99	7.78	-(56.2	77.2	71.08	. 23
1152	. 41	24.2	1.82	0.90	7.14	-158.0	58.0	21.20	.23
1157	, 72	24.4	1.48	0,90	7.05	-161.8	37.6	21.72	. 93
1202	1.03	24.2	1.20	0.90	7.01	- 164.2	24.9	21-26	.23
1207	1.34	24.3	1,08	0.90	7.01	-165,0	21.5	31.78	,23
1212	165	24.4	0.80	0.90	m6.96	-170,8	13,3	21.30	. 23
1217	1-96	24.4	0,68	0.89	6-45	-177.1	7.92	71.33	,23
		Final P	Parameter Read	dings After Grou	ndwater Sample	e has been col	lected		
1725	2.44	24.4	0,63	0.89	6.95	-170.9	6.84	27.35	,23
Notes:									
1. Water quality par	rameter measureme	ents obtained n	o more frequent th	an 25% of the casin	g volume.				

ars

2. Well is STABLE once 3 consecutive measurements have been obtained for as many as 3 water quality parameters AFTER one (1) well volume has been removed.

7-12-26

3. Low flow rate target is 0.1 to 0.5 liters/min (0.026 to 0.132 Gallons per Minute).

Julia Sy

## Purge Flow Rate (pump purge only)

**TOTAL Volume Purged** 

0.66 gal per min gallons ULU

liter per min (3.8 x gpm)

**Date & Time of Sample Collection** 

Sampler's Name

Sampler's Signature

DATE

TIME



MONITORING WELL ID:	MW-8	
PROJECT:	MDI	
PROJECT NO:	39004 - 0003	i
SITE LOCATION:	HUUSTON, TX	
DATE MONITORED:	3-10-70	
DATE PURGED:	3-11-70	
GEOLOGIST/SCIENTIST:	Juhn Sanders	

#### MONITORING WELL INFORMATION

Static Depth to Groundwater (DTW):	11.07	FT.
Total Depth of Monitoring Well (TD):	19.93	FT.
Screen Length (SL) from Boring Logs:	10.	FT.
Depth to Top of Well Screen (TD-SL):	9.93	FT.
Height of Water Column in Monitoring Well (H=TD-DTW):	17.14 8.86	FT.
Pump Depth	16	FT.

#### WELL CASING VOLUME CALCULATIONS Gallons

Gallons

Gallons

51

	1-inch (Hx0.04 gal/Ft)	
×	2-inch (Hx0.17 gal/Ft)	no
	4-inch (Hx0.66 gal/Ft)	

ť	2	ÿ	*	5	MIN
	8.	27	5,	es	

#80/4= 1.51/4= 0.38 × 38=1.43

			LOWFLO	JW MONITO	RING PARAI	METERS			
Time	Volume Purged	Temp.	Dissolved Oxygen	Specific Conductivity	pН	ORP	Turbidity	Depth to Water	Flow Rate
Hr : Min	Gallons	C	mg/L	mS/cm	-	mV	NTUs	Feet	L/min
Targets	>1 Well Volume	+/- 1 C	+/- 10%	+/- 3%	+/- 0.1	+/- 10 mV	+/- 10% (if >10 NTUs)	<0.3 ft. draw or Top of Screen	<0.5 L/min (0.132 Gal/min)
1402	,30	19.4	0.54	0,192	8.47	-178.5	11-9	11,50	., )9
1407	168	19.5	0.35	0.177	8.58	-(81. 5	7.93	11.48	. 29
1417	1.06	19.5	0,27	0.165	8.75	-181.1	4.28	11.48	.29
1417	1.44	19.5	6.14	0,153	9.60	-(8).3	3.81	11.48	.29
1422	1.97	19.6	0,16	0,149	9.04	-18216	1.95	11.49	, 29
1427	2.70	19.3	0,17	0.145	9.71	-(84.1	1.10	11.48	29
	1 <sup>2</sup>								
		Final P	Parameter Read	lings After Grou	ndwater Sample	e has been col	lected		
1436	2.83	19.4	0.14	0,143	9.17	-176,7	0,75	11.48	,79
Notes:									

1. Water	quality parameter	measurements ob	ptained no more	frequent than	25% of the casing volume.
----------	-------------------	-----------------	-----------------	---------------	---------------------------

2. Well is STABLE once 3 consecutive measurements have been obtained for as many as 3 water quality parameters AFTER one (1) well volume has been removed.

2.83

gal per min

gallons

0.07

3. Low flow rate target is 0.1 to 0.5 liters/min (0.026 to 0.132 Gallons per Minute).

John San

#### Purge Flow Rate (pump purge only)

**TOTAL Volume Purged** 

Date & Time of Sample Collection

Sampler's Name

3-11-70 DATE lous Sampler's Signature

1430 TIME

.29

liter per min (3.8 x gpm)



15= JUNIN

MONITORING WELL ID:	.MW-13	
PROJECT:	MAI	
PROJECT NO:	34004-0003	
SITE LOCATION:	HUUSTUN, TX	
DATE MONITORED:	3-10-20	
DATE PURGED:	3-17-70	
GEOLOGIST/SCIENTIST:	John Sudars	

#### MONITORING WELL INFORMATION

Static Depth to Groundwater (DTW):	12.80	FT
Total Depth of Monitoring Well (TD):	37.05	FT
Screen Length (SL) from Boring Logs:	20.0	FT
Depth to Top of Well Screen (TD-SL):	12.05	FT
Height of Water Column in Monitoring Well (H=TD-DTW):	19.25	FT
Pump Depth	23	FT

#### WELL CASING VOLUME CALCULATIONS 4 gal/Ft) Gallons Gallons 1-inch (Hx0.04 gal/Ft) 180 , 13= 2 \$ min 7 min = 15 2-inch (Hx0.17 gal/Ft) Gallons X 327 4-inch (Hx0.66 gal/Ft) Gallons

LOW FLOW MONITORING PARAMETERS									
Time	Volume Purged	Temp.	Dissolved Oxygen	Specific Conductivity	pН	ORP	Turbidity	Depth to Water	Flow Rate
Hr : Min	Gallons	C	mg/L	mS/cm	-	mV	NTUs	Feet	L/min
Targets	>1 Well Volume	+/- 1 C	+/- 10%	+/- 3%	+/- 0.1	+/- 10 mV	+/- 10% (if >10 NTUs)	<0.3 ft. draw or Top of Screen	<0.5 L/min (0.132 Gal/min)
0719	.15	72.5	0.51	0,467	9-07	-198.0	31.0	13.55	,19
0758	. 97	22.3	6,10	0.467	9.25	-142.7	15.9	13.98	, 231
0811	1.79	22.4	0.07	0,460	9.25	- 192,9	10.2	14.41	24
6874	2.61	19.7	0.05	0.454	9.75	-193.0	7.99	14.78	, 74
6837	3.43	27.7	0.04	0.454	9.25	-192.8	6.21	14.88	. 24
0850	4.75	224	0.04	0,467	9.73	-193,3	4-68	1531	, 24
								,	
		Final P	Parameter Read	lings After Grou	ndwater Sample	e has been coll	lected		
0859	4.61	22.6	0.04	0.475	9.22	-1971	6.94	19.98	, 74
Notes:			1						·

1. Water quality parameter measurements obtained no more frequent than 25% of the casing volume.

2. Well is STABLE once 3 consecutive measurements have been obtained for as many as 3 water quality parameters AFTER one (1) well volume has been removed.

0.06

7.61

3. Low flow rate target is 0.1 to 0.5 liters/min (0.026 to 0.132 Gallons per Minute).

## Purge Flow Rate (pump purge only)

**TOTAL Volume Purged** 

Date & Time of Sample Collection 3-17-70

Sampler's Name

John Sunders Sampler's Signature

gal per min

gallons

DATE

TIME

liter per min (3.8 x gpm)

24

MONITORING WELL ID:	MW-JOR	
PROJECT:	MØ	
PROJECT NO:	39004-0003	
SITE LOCATION:	HOUS-ON, TK	
DATE MONITORED:	3-10-70	
DATE PURGED:	3-17-76	
GEOLOGIST/SCIENTIST:	Juhu Sudas	

#### MONITORING WELL INFORMATION

Static Depth to Groundwater (DTW):	1351	FT.
Total Depth of Monitoring Well (TD):	27.45	FT.
Screen Length (SL) from Boring Logs:	15	FT.
Depth to Top of Well Screen (TD-SL):	12.45	FT.
Height of Water Column in Monitoring Well (H=TD-DTW):	13.94	FT.
Pump Depth	22.50	FT.

## WELL CASING VOLUME CALCULATIONS

LOW FLOW MONITORING PARAMETERS

	1-inch (Hx0.04 gal/Ft)	
$\times$	2-inch (Hx0.17 gal/Ft)	
	4-inch (Hx0.66 gal/Ft)	_

Gallons 2 · 3 6 Gallons Gallons 23674=0.58×28-7.75

Time	Volume Purged	Temp.	Dissolved Oxygen	Specific Conductivity	pН	ORP	Turbidity	Depth to Water	Flow Rate
Hr : Min	Gallons	C	mg/L	mS/cm	-	mV	NTUs	Feet	L/min
Targets	>1 Well Volume	+/- 1 C	+/- 10%	+/- 3%	+/- 0.1	+/- 10 mV	+/- 10% (if >10 NTUs)	<0.3 ft. draw or Top of Screen	<0.5 L/min (0.132 Gal/min)
1305	,10	18.44	0.58	0,91	6.60	- 708.1	138	13.81	. 45
1310	69	21.4	0.611	0.79	6.58	-112.1	50.4	13,98	145
1315	(128	27.0	0.24	0.73	6.53	-164.8	28.6	14.71	145
13 70	1.87	22.1	0.(9	0.74	6.51	-166,1	7.03	14.25	.45
[325	2.46	22.1	0,17	0.74	6-56	-160,7	689	14.25	.45
1330	3.05	22.1	6.14	0,74	6.55	-158.4	5.25	14.75	.45
					6				
		Final P	arameter Read	lings After Groui	ndwater Sample	has been coll	ected		L
1345	4.70	221	0,13	0.74	6.55	-154.3	4.78	14.75	.43
Notes:									
1 1				an 25% of the casin	•				
Wall is STARI E	once 3 consecutive	measuremente	have been obtain	ad for as many as 3	water quality parar	mators AFTER on	(1) well volume h	as hean removed	

3. Low flow rate target is 0.1 to 0.5 liters/min (0.026 to 0.132 Gallons per Minute).

John Sundros

#### Purge Flow Rate (pump purge only)

TOTAL Volume Purged

0.11 gal per min 4.70 gallons

Date & Time of Sample Collection

Sampler's Name

3-0-3( DATE

Sampler's Signature

1335 TIME

liter per min (3.8 x gpm)

.45



MONITORING WELL ID:	MW - 23	
PROJECT:	MOL	
PROJECT NO:	34004-0003	
SITE LOCATION:	HOUSTUN, TY	
DATE MONITORED:	3-10-20	
DATE PURGED:	3-11-20	
GEOLOGIST/SCIENTIST:	Jihn Sudevs	

#### MONITORING WELL INFORMATION

Static Depth to Groundwater (DTW):	18.25	FT.
Total Depth of Monitoring Well (TD):	32.92	FT.
Screen Length (SL) from Boring Logs:	1240007 1 5.00	FT.
Depth to Top of Well Screen (TD-SL):	1792	FT.
Height of Water Column in Monitoring Well (H=TD-DTW):	14.67	FT.
Pump Depth	76	FT.

## WELL CASING VOLUME CALCULATIONS

	1-inch	(Hx0.04	gal/Ft)
X	2-inch	(Hx0.17	gal/Ft)
	4-inch	(Hx0.66	gal/Ft)

Gallons Gallons Gallons

Gallons  $3.49/4 = 0.62 \times 38 = 3336$ Gallons  $5 \times 10^{-2} \times 7$ Gallons

LOW FLOW	MONITORING	PARAMETERS

Time	Volume Purged	Temp.	Dissolved Oxygen	Specific Conductivity	рН	ORP	Turbidity	Depth to Water	Flow Rate
Hr : Min	Gallons	C	mg/L	mS/cm	-	mV	NTUs	Feet	L/min
Targets	>1 Well Volume	+/- 1 C	+/- 10%	+/- 3%	+/- 0.1	+/- 10 mV	+/- 10% (if >10 NTUs)	<0.3 ft. draw or Top of Screen	<0.5 L/min (0.132 Gal/min)
15:32	,35	23.9	0.91	1.07	7.76	-159.6	327	19.78	.47
1537	,97	239	0,78	1.07	7.22	-1700	38.0	19.07	.47
1542	1.59	24.1	0.73	1.07	7.73	-172.7	236	18.48	,47
1547	2.71	24.0	0,17	1.06	7.22	-175.8	12.4	19.99	.47
.1557	2.83	24.0	0.11	1.06	7.22	-1769	8-90	19-00	.407
1557	345	24.0	0,10	1.06	7.21	-178.2	6.21	19.00	.47
	407								
						2			
			arameter Read	lings After Grou	ndwater Sample	e has been col	lected		
1605	4.44	23.9	0.06	1.06	7.19	-176.8	8.36	19.00	,47
Notes:									

1. Water quality parameter measurements obtained no more frequent than 25% of the casing volume.

2. Well is STABLE once 3 consecutive measurements have been obtained for as many as 3 water quality parameters AFTER one (1) well volume has been removed.

3. Low flow rate target is 0.1 to 0.5 liters/min (0.026 to 0.132 Gallons per Minute).

Purge Flow Rate (pump purge only)

**TOTAL Volume Purged** 

0.12 gal per min 444 gallons

liter per min (3.8 x gpm)

Date & Time of Sample Collection

Sampler's Name

John Sanders Sampler's Signature

3-11-20 DATE

1600 TIME

MONITORING WELL ID:	MW-24	
PROJECT:	MOI	
PROJECT NO:	39004-0003	
SITE LOCATION:	HOUSTON, TX	
DATE MONITORED:	3-10-70	
DATE PURGED:	3-17-70	
GEOLOGIST/SCIENTIST:	John Sanders	

#### MONITORING WELL INFORMATION

Static Depth to Groundwater (DTW):	18.62	FT.
Total Depth of Monitoring Well (TD):	27.75	FT.
Screen Length (SL) from Boring Logs:	10	FT.
Depth to Top of Well Screen (TD-SL):	17.75	FT.
Height of Water Column in Monitoring Well (H=TD-DTW):	9.13	FT.
Pump Depth	74	FT.

	WELL CASIN	IG VOLUME CALCU	LATIONS	1 26 124: 140
	1-inch (Hx0.04 gal/Ft)		Gallons 1.55	14=0,39×38=1.47
×	2-inch (Hx0.17 gal/Ft)	1,55	Gallons	29 = 5 MIN
	4-inch (Hx0.66 gal/Ft)		Gallons	1 0 1 - 0 10 10

### LOW FLOW MONITORING PARAMETERS

Time	Volume Purged	Temp.	Dissolved Oxygen	Specific Conductivity	рН	ORP	Turbidity	Depth to Water	Flow Rate
Hr : Min	Gallons	C	mg/L	mS/cm	-	mV	NTUs	Feet	L/min
Targets	>1 Well Volume	+/- 1 C	+/- 10%	+/- 3%	+/- 0.1	+/- 10 mV	+/- 10% (if >10 NTUs)	<0.3 ft. draw or Top of Screen	<0.5 L/min (0.132 Gal/min)
1011	10	22.7	1.40	0.53	7.48	-163.0	6.38	18.84	. 29
1016	.49	33.0	0.65	6.94	6.83	-165.4	6.80	18.94	,29
1071	,84	23.4	0.42	0.85	6.67	-172.9	6.93	18.85	129
1076	1.77	23.7	0.77	0.87	6-66	-177.8	267	18.94	, 29
1031	1.66	237	0.13	0,57	6.66	-178.9	213	18,94	. 29
1036	7-05	235	0.11	0.89	6.68	-181.7	1.49	18.94	, 29
							,		
	1 <sup>12</sup>								
	Final Parameter Readings After Groundwater Sample has been collected								
1045	2.87	73.4	0.11	0.89	6.69	-197.5	0.94	18.94	1 29
Notes:									

1. Water quality parameter measurements obtained no more frequent than 25% of the casing volume.

2. Well is STABLE once 3 consecutive measurements have been obtained for as many as 3 water quality parameters AFTER one (1) well volume has been removed.

3. Low flow rate target is 0.1 to 0.5 liters/min (0.026 to 0.132 Gallons per Minute).

Purge Flow Rate (pump purge only)

**TOTAL Volume Purged** 

gal per min 0.0

,29

liter per min (3.8 x gpm)

gallons

Date & Time of Sample Collection

Sampler's Name

3-17-70 DATE John Sunders Sampler's Signature

1040 TIME July Sader



MONITORING WELL ID:	MW-25	
PROJECT:	MOE Superfund Site	
PROJECT NO:	39004-0003	
SITE LOCATION:	3617 Baer St. Houston, TX	
DATE MONITORED:	3/11/20	
DATE PURGED:	3/11/20	
GEOLOGIST/SCIENTIST:	Connor Folcy	

## MONITORING WELL INFORMATION

Static Depth to Groundwater (DTW):	17.91	FT.
Total Depth of Monitoring Well (TD):	26.88	FT.
Screen Length (SL) from Boring Logs:	10.00	FT.
Depth to Top of Well Screen (TD-SL):	16.88	FT.
Height of Water Column in Monitoring Well (H=TD-DTW):	8.97	FT.
Pump Depth	22.00	FT.

## WELL CASING VOLUME CALCULATIONS

	1-inch	(Hx0.04 gal/Ft)
X	2-inch	(Hx0.17 gal/Ft)
	4-inch	(Hx0.66 gal/Ft)

1.525

Gallons  $/4 = 0.381 \times 3.8 = 1.449/5 = 0.2898$ Gallons

LOW FLOW MONITORING PARAMETERS Specific Dissolved Depth to Volume ORP Turbidity Flow Rate Time Temp. pН Oxygen Conductivity Water Purged NTUs С mV Feet L/min Hr: Min Gallons mg/L mS/cm mV +/- 10% <0.3 ft. draw <0.5 L/min >1 Well Targets +/-1C +/- 10% +/- 3% +/- 0.1 +/- 10 mV (if >10 or Top of (0.132)Volume NTUs) Screen Gal/min) 24.1 1527 0.58 2.97 -19.4 0.28 155.4 102 18.00 1.25 1,01 -28.4 1534 24.6 0.99 108.3 41.1 18,13 0.28 1535 1.50 1,03 91.2 24.6 0.74 -29.5 27.9 18.15 0.28 1.03 1.60 0.58 -30.5 35.6 1545 25.0 21.8 18.15 0.28 1.75 1545 24.6 0.41 1.04 - 31.3 82.0 16,2 18.14 0.28 24.7 1.04 2.25 79.1 12.5 1550 -31.2 18,15 0.33 0.28 2.75 24.6 0.25 1.07 8.74 1555 -32.0 76.0 18.15 0.28 24.6 0.17 -32.1 75.3 6.33 18.17 3.20 1.07 0.28 1600 . Final Parameter Readings After Groundwater Sample has been collected -33.0 75.2 0.28 3.5 24.6 0.33 6.03 18.15 07 07 16 Notes:

#### 1. Water quality parameter measurements obtained no more frequent than 25% of the casing volume.

Connor foley

Well is STABLE once 3 consecutive measurements have been obtained for as many as 3 water quality parameters AFTER one (1) well volume has been removed.
 Low flow rate target is 0.1 to 0.5 liters/min (0.026 to 0.132 Gallons per Minute).

Purge Flow Rate (pump purge only)

**Date & Time of Sample Collection** 

TOTAL Volume Purged

Sampler's Name

0.07 gal per min gallons

0.28 liter per min (3.8 x gpm)

DATE TIME Sampler's Signature



MONITORING WELL ID:	MW-26	
PROJECT:	MDI Superfund Site	
PROJECT NO:	39004-0003	
SITE LOCATION:	3617 Baer St. Houston, TX	
DATE MONITORED:	3/11/20	
DATE PURGED:	3 11 20	
GEOLOGIST/SCIENTIST:	Connor Foley	

## MONITORING WELL INFORMATION

Static Depth to Groundwater (DTW):	20.42	FT.
Total Depth of Monitoring Well (TD):	27.40	FT.
Screen Length (SL) from Boring Logs:	15.00	FT.
Depth to Top of Well Screen (TD-SL):	12.40	FT.
Height of Water Column in Monitoring Well (H=TD-DTW):	6,98	FT.
Pump Depth	24.00	FT.

#### WELL CASING VOLUME CALCULATIONS gal/Ft) Gallons

	1-inch (Hx0.04 gal/Ft)			
X	2-inch (Hx0.17 gal/Ft)			
	4-inch (Hx0.66 gal/Ft)			

1.184

Gallons  $/4 = 0.2966 \times 3.8 = 1.127/4 = 0.28$ Gallons

			LOW FLC	DAA IAIOIAILO	Ring Paran	ALIEKS			
Time	Volume Purged	Temp.	Dissolved Oxygen	Specific Conductivity	pН	ORP	Turbidity	Depth to Water	Flow Rate
Hr : Min	Gallons	C	mg/L	mS/cm	mV	mV	NTUs	Feet	L/min
Targets	>1 Well Volume	+/- 1 C	+/- 10%	+/- 3%	+/- 0.1	+/- 10 mV	+/- 10% (if >10 NTUs)	<0.3 ft. draw or Top of Screen	<0.5 L/min (0.132 Gal/min)
1347	0.75	24.1	4.21	1.19	-47.6	151.6	29.4	20.79	0.28
1351	1.0	24.3	4.05	1.18	- 50.5	146,8	20.le	20.79	0.28
1355	1.5	24.2	3.80	1.15	-51.4	143.1	13.6	20.76	0.28
1359	1.75	24.0	3.72	1.14	-51.6	140.2	9.27	20.77	0.28
1403	2.20	24.0	3.55	1.12	-51.4	137.3	7.04	20.80	0.28
1407	2,5	24.2	3,47	1.11	-52.2	135.5	6,27	20.80	0.28
/									
				$\left( 1\right) +$					
				THE					
					STREET,				
		Final P	arameter Read	lings After Grou	ndwater Sample	e has been col	lected		
1417	3.00	24.2	2.15	611	-52.2	132.4	6.04	20.83	0.28
Notes:									

1. Water quality parameter measurements obtained no more frequent than 25% of the casing volume.

2. Well is STABLE once 3 consecutive measurements have been obtained for as many as 3 water quality parameters AFTER one (1) well volume has been removed.

3. Low flow rate target is 0.1 to 0.5 liters/min (0.026 to 0.132 Gallons per Minute).

Purge Flow Rate (pump purge only) TOTAL Volume Purged

0.07 gal per min gallons DATE

 $\partial$ ,  $2\delta$  liter per min (3.8 x gpm)

Date & Time of Sample Collection

Sampler's Name

Connortoley Sampler's Signature

<u>1415</u> TIME



MONITORING WELL ID:	MW-27R2	
PROJECT:	MDI Superfund Site	
PROJECT NO:	39004-0003	
SITE LOCATION:	3617 Baer St. Houston, TX	
DATE MONITORED:	3 11 20	
DATE PURGED:	3 11 20	
GEOLOGIST/SCIENTIST:	Connor Foley	

## MONITORING WELL INFORMATION

Static Depth to Groundwater (DTW):	11.39	FT.
Total Depth of Monitoring Well (TD):	29.18	FT.
Screen Length (SL) from Boring Logs:	20	FT.
Depth to Top of Well Screen (TD-SL):	9.18	FT.
Height of Water Column in Monitoring Well (H=TD-DTW):	17.79	FT.
Pump Depth	19,00	FT.

#### WELL CASING VOLUME CALCULATIONS

	1-inch (Hx0.04 gal/Ft)				
X	2-inch (Hx0.17 gal/Ft)				
	4-inch (Hx0.66 gal/Ft)				

3	03		

Gallons Gallons/ $4 = 0.756 \times 3.8 = 2.87/6 = 0.48$ Gallons

Time	Volume Purged	Temp.	Dissolved Oxygen	Specific Conductivity	pН	ORP	Turbidity	Depth to Water	Flow Rate
Hr : Min	Gallons	C	mg/L	mS/cm	mt	mV	NTUs	Feet	L/min
Targets	>1 Well Volume	+/- 1 C	+/- 10%	+/- 3%	+/- 0.1	+/- 10 mV	+/- 10% (if >10 NTUs)	<0.3 ft. draw or Top of Screen	<0.5 L/mir (0.132 Gal/min)
1044	0	22.9	2.48	0.78	-47.4	187.1	530	11.67	-
1050	1.5	23.1	1.32	0.78	- 49.3	109.1	226	11.64	0.48
1056	2.5	23.2	0.91	0.78	-49.6	77.8	195	11.67	0.48
1102	3.5	23.2	0.66	0.78	- 49.6	41.5	174	11.64	0.48
1108	4.0	23.2	0.58	0.78	- 50.0	26.1	129	11.64	0.48
1114	4.5	23.2	0.77	2,78	-50.1	8.9	129	11.64	0.48
1120	5.0	23.3	0.58	0.78	-50,0	-2.1	94.6	11.66	0.48
1126	6.0	23.3	0.50	2.78	- 49.7	-10.7	75.4	11.66	0.48
1132	7.5	23.3	0.41	0.78	- 50.0	-16.4	57.6	11.67	0.48
1138	8.5	23.2	0.41	0.78	-49.7	- 23.4	54.2	11.65	0.48
1144	9.5	23.2	0,41	0.77	- 50.2	-27.1	33.2	11.63	0.48
1150	10.0	23.3	0.33	0.75	-50.4	-28.8	29.1	11.64	0.48
1156	11.5	23.4	0.33	0.75	-50.9	- 30.0	24.7	11.64	0.48
1202	12.0	23.4	0.33	0.75	-50.7	-35.9	16.5	11.67	0.48
		Final P	arameter Read	lings After Grou	ndwater Sampl	e has been col	lected		
lotes: Pa	selof 2								

## LOW FLOW MONITORING PARAMETERS

1. Water quality parameter measurements obtained no more frequent than 25% of the casing volume.

2. Well is STABLE once 3 consecutive measurements have been obtained for as many as 3 water quality parameters AFTER one (1) well volume has been removed.

3. Low flow rate target is 0.1 to 0.5 liters/min (0.026 to 0.132 Gallons per Minute).

Purge Flow Rate (pump purge only) **TOTAL Volume Purged** 

0,12 gal per min 16 gallons 3/11/20 DATE 1222 TIME

\_\_\_\_\_\_ liter per min (3.8 x gpm)

Date & Time of Sample Collection

Sampler's Name

Connorfoley Sampler's Signature See Page 2



MONITORING WELL ID:	MW-27RZ	
PROJECT:	MDI Superfund Site	
PROJECT NO:	39004-0003	
SITE LOCATION:	3617 Baer St. Houston, TX	
DATE MONITORED:	3/11/20	
DATE PURGED:	3/11/20	
GEOLOGIST/SCIENTIST:	Connor Folcy	

## MONITORING WELL INFORMATION

Static Depth to Groundwater (DTW):	11.39	FT.
Total Depth of Monitoring Well (TD):	29.18	FT.
Screen Length (SL) from Boring Logs:	20	FT.
Depth to Top of Well Screen (TD-SL):	9.18	FT.
Height of Water Column in Monitoring Well (H=TD-DTW):	17.79	FT.
Pump Depth	19.00	FT.

## WELL CASING VOLUME CALCULATIONS

	1-inch (Hx0.04 gal/Ft)		Gallons
X	2-inch (Hx0.17 gal/Ft)	3.03	Gallons
	4-inch (Hx0.66 gal/Ft)		Gallons

## LOW FLOW MONITORING PARAMETERS

Time	Volume Purged	Temp.	Dissolved Oxygen	Specific Conductivity	pН	ORP	Turbidity	Depth to Water	Flow Rate
Hr : Min	Gallons	C	mg/L	mS/cm	m	mV	NTUs	Feet	L/min
Targets	>1 Well Volume	+/- 1 C	+/- 10%	+/- 3%	+/- 0.1	+/- 10 mV	+/- 10% (if >10 NTUs)	<0.3 ft. draw or Top of Screen	<0.5 L/min (0.132 Gal/min)
1208	14.0	23.3	0.33	0.75	- 50.9	-38.7	12.7	11.64	0.48
12/4	15.0	23.3	0.25	0.75	- 50.7	-42.8	10.2	11.64	0.48
1220	15.5	23.3	0.25	0.75	- 50.7	-43.9	9.24	11.67	0.48
			/	HE					
				XI					
					/				
		Final P	arameter Read	lings After Grou	ndwater Sampl	e has been col	llected		
1225	16.0	23.4	0.25	0.76	-63.1	-43.0	9.73	11.66	0.48
Notes: Pag	e 2 of 2								

1. Water quality parameter measurements obtained no more frequent than 25% of the casing volume.

annortoley

2. Well is STABLE once 3 consecutive measurements have been obtained for as many as 3 water quality parameters AFTER one (1) well volume has been removed.

3. Low flow rate target is 0.1 to 0.5 liters/min (0.026 to 0.132 Gallons per Minute).

Purge Flow Rate (pump purge only)

TOTAL Volume Purged

gal per min 0.12 gallons

DATE

0.48 liter pe

liter per min (3.8 x gpm)

**Date & Time of Sample Collection** 

Sampler's Name

Sampler's Signature

1222 TIME



MONITORING WELL ID:	MW -28	
PROJECT:	m la 1	
PROJECT NO:	36004-0003	
SITE LOCATION:	HOUSTON, TY	
DATE MONITORED:	3-10-70	
DATE PURGED:	3-11-70	
GEOLOGIST/SCIENTIST:	Juli Salar	

#### MONITORING WELL INFORMATION

Static Depth to Groundwater (DTW):	12.50	FT.
Total Depth of Monitoring Well (TD):	27,50	FT.
Screen Length (SL) from Boring Logs:	10	FT.
Depth to Top of Well Screen (TD-SL):	17.50	FT.
Height of Water Column in Monitoring Well (H=TD-DTW):	15	FT.
Pump Depth	72.50	FT.

## Gallons 7 55/4 = 0.(3 × 38= 7.4)

	1-inch (Hx0.04 gal/Ft)
X	2-inch (Hx0.17 gal/Ft)
-	4-inch (Hx0.66 gal/Ft)

Gallons	
Gallons	
Gallons	

6/2110 = 40

Time	Volume Purged	Temp.	Dissolved Oxygen	Specific Conductivity	pН	ORP	Turbidity	Depth to Water	Flow Rate
Hr : Min	Gallons	С	mg/L	mS/cm	-	mV	NTUs	Feet	L/min
Targets	>1 Well Volume	+/- 1 C	+/- 10%	+/- 3%	+/- 0.1	+/- 10 mV	+/- 10% (if >10 NTUs)	<0.3 ft. draw or Top of Screen	<0.5 L/min (0.132 Gal/min)
846	30	24.5	0.48	3.99	6.77	-170.8	366	12.74	,40
857	,93	244	1.62	2.79	6-78	-121.9	128	12.76	,46
854	1.56	246	1.65	2.32	6.84	-118.8	34.9	12,79	,40
9 64	2.19	24.6	1.79	2.70	6.87	-(21.b	15.1	12.80	,40
a 10	68.6	24.6	0.79	2.70	6.79	-126.2	18.4	12.79	.40
916	3.45	24.6	0.69	219	6.78	-125.9	27.1	1279	,40
937	4.08	246	0.44	2.19	6.76	- 133.8	11.5	12.79	.40
928 .	4.71	24.7	0.33	2.22	6.75	-138,8	5,34	12.79	.40
		Final P		lings After Grou	ndwater Sample	e has been coll	lected		
933	5,76	246	6.44	3-33	6.76	-1776	9,04	12.79	,40
Notes:									

## LOW FLOW MONITORING PARAMETERS

1. Water quality parameter measurements obtained no more frequent than 25% of the casing volume.

2. Well is STABLE once 3 consecutive measurements have been obtained for as many as 3 water quality parameters AFTER one (1) well volume has been removed.

3. Low flow rate target is 0.1 to 0.5 liters/min (0.026 to 0.132 Gallons per Minute).

Purge Flow Rate (pump purge only)

**TOTAL Volume Purged** 

gal per min 5.26 gallons () DATE

liter per min (3.8 x gpm)

Date & Time of Sample Collection

Sampler's Name

John Surders

Sampler's Signature

<u>130</u> TIME



MONITORING WELL ID:	MW = Jq
PROJECT:	MOI
PROJECT NO:	39004-0003
SITE LOCATION:	HUUSTUN, TX
DATE MONITORED:	3-10-70
DATE PURGED:	3 - 11 - 70
GEOLOGIST/SCIENTIST:	John Savders

#### MONITORING WELL INFORMATION

Static Depth to Groundwater (DTW):	16.19	
Total Depth of Monitoring Well (TD):	22.70	
Screen Length (SL) from Boring Logs:	10.00	
Depth to Top of Well Screen (TD-SL):	12.70	
Height of Water Column in Monitoring Well (H=TD-DTW):	10	
Pump Depth	17.50	

#### WELL CASING VOLUME CALCULATIONS 1.7/4=0.43 838 =1.61 Gallons

Gallons

	1-inch (Hx0.04 gal/Ft)
×	2-inch (Hx0.17 gal/Ft)
	4-inch (Hx0.66 gal/Ft)

Gallons 1.70

, 37 = 5 MIN

75546

FT. FT. FT. FT. FT. FT.

			LOW FLO	OW MONITO	RING PARAM	METERS			
Time	Volume Purged	Temp.	Dissolved Oxygen	Specific Conductivity	рН	ORP	Turbidity	Depth to Water	Flow Rate
Hr : Min	Gallons	С	mg/L	mS/cm	-	mV	NTUs	Feet	L/min
Targets	>1 Well Volume	+/- 1 C	+/- 10%	+/- 3%	+/- 0.1	+/- 10 mV	+/- 10% (if >10 NTUs)	<0.3 ft. draw or Top of Screen	<0.5 L/min (0.132 Gal/min)
1055	.15	22-8	6,54	1-52	6.87	-139.4	758	16.45	,32
1100	.58	23.3	0,30	1.53	6.59	-143,7	145	16.50	,32
1105	1.01	23.3	0.70	1.54	6.59	-163.4	69.4	16.55	.32
1110	1.44	73.2	0,11	1.52	6.61	-169.0	86.9	16.58	.32
1115	1.87	23,2	0.11	1.57	6.61	-169.4	52.8	16.58	.32
1130	2.30	73.3	0,11	1.52	6-61	-169.5	36.3	1658	.32
1175	273	23.3	0,69	1.57	6.61	-170.8	19.2	16.58	, 32
1130	3.16	23.3	0.07	1.51	6.61	-170,2	12.0	16.58	130
1135	3.59	03.3	0.08	1.51	6.61	-171.0	8.02	16.58	,32
		Final P	Parameter Read	dings After Grou	ndwater Sample	e has been coll	lected		
1141	4.76	233	0.07	1.51	6.61	-166.3	7.76	16.58	, 37
lotes:									

1. Water quality parameter measurements obtained no more frequent than 25% of the casing volume.

2. Well is STABLE once 3 consecutive measurements have been obtained for as many as 3 water quality parameters AFTER one (1) well volume has been removed.

3-11-20

3. Low flow rate target is 0.1 to 0.5 liters/min (0.026 to 0.132 Gallons per Minute).

## Purge Flow Rate (pump purge only)

**TOTAL Volume Purged** 

0.08 gal per min 4.76 gallons

liter per min (3.8 x gpm)

**Date & Time of Sample Collection** 

Jol

Sampler's Name

Sa RY j

Sampler's Signature

DATE

1240 TIME

,32



MONITORING WELL ID:	MW-4	
PROJECT:	MDI	
PROJECT NO:	39004-0003	
SITE LOCATION:	HOUSTON, TX	
DATE MONITORED:	3-10-20	
DATE PURGED:	3-18-20	
GEOLOGIST/SCIENTIST:	John Sanders	

## MONITORING WELL INFORMATION

Static Depth to Groundwater (DTW):	20.83	FT.
Total Depth of Monitoring Well (TD):	78.70	FT.
Screen Length (SL) from Boring Logs:	7.50	FT.
Depth to Top of Well Screen (TD-SL):	20.70	FT.
Height of Water Column in Monitoring Well (H=TD-DTW):	7.37	FT.
Pump Depth	25	FT.

WELL	CASING	VOLUME	CALCULATIONS

	1-inch (Hx0.04 gal/Ft)
×	2-inch (Hx0.17 gal/Ft)
	4-inch (Hx0.66 gal/Ft)

Gallons

Gallons

1.15/4=031 83.8=1.18

	i mon (i molo i gani i)			
×	2-inch	(Hx0.17 gal/Ft)	2	
	4-inch	(Hx0.66 gal/Ft)	2	

1.75 Gallons

0.23 m = Smin

			LOW FLC	OW MONITO	RING PARA	METERS			
Time	Volume Purged	Temp.	Dissolved Oxygen	Specific Conductivity	рН	ORP	Turbidity	Depth to Water	Flow Rate
Hr : Min	Gallons	C	mg/L	mS/cm	-	mV	NTUs	Feet	L/min
Targets	>1 Well Volume	+/- 1 C	+/- 10%	+/- 3%	+/- 0.1	+/- 10 mV	+/- 10% (if >10 NTUs)	<0.3 ft. draw or Top of Screen	<0.5 L/min (0.132 Gal/min)
1055	0.15	23,4	1.48	0.47	7007	-(19.7	19.6	21,33	,23
1100	0.46	23.2	1.00	0.97	6-97	-(28.2	15.7	21.37	,23
1105	0.77	23.5	0.61	0.96	6.86	-138.)	11.8	21.54	, 23
110	1.08	23.5	0.48	0-95	683	-146.5	6.36	71.61	. >>
ills	1.39	335	0.38	0.94	6.81	-155.0	6.35	21, 69	.03
1120	1.20	73.6	0.78	0.93	6.78	-164.5	2.54	21.71	, 73
1175	2-01	23.7	0.19	0.91	6-74	-175.7	1.30	21.71	123
		Final P	arameter Read	lings After Grou	ndwater Sample	e has been coll	ected		
1135	2.61	23.9	Q14	0.90	6-77	-180.5	1.71	21.22	. 23
Notes:									
4 Mater suglitures	remeter measureme	anto obtained as	many from unt the	an OEO/ of the engine					

1. Water guality parameter measurements obtained no more frequent than 25% of the casing volume.

2. Well is STABLE once 3 consecutive measurements have been obtained for as many as 3 water quality parameters AFTER one (1) well volume has been removed.

3. Low flow rate target is 0.1 to 0.5 liters/min (0.026 to 0.132 Gallons per Minute'

John Sanders

Purge Flow Rate (pump purge only)

0.06 gal per min 2.61 gallons 3-19-20 DATE

,73 liter per min (3.8 x gpm)

**TOTAL Volume Purged** 

Date & Time of Sample Collection

Sampler's Name

Sampler's Signature

TIME 21



MONITORING WELL ID:	MW-24	 
PROJECT:	MOI	
PROJECT NO:	39004-0003	
SITE LOCATION:	Houston, TX	
DATE MONITORED:	3-10-70	
DATE PURGED:	3-18-20	
GEOLOGIST/SCIENTIST:	John Sanders	

#### MONITORING WELL INFORMATION

Static Depth to Groundwater (DTW):	18.62	FT.
Total Depth of Monitoring Well (TD):	27.75	FT.
Screen Length (SL) from Boring Logs:	10	FT.
Depth to Top of Well Screen (TD-SL):	17.75	FT.
Height of Water Column in Monitoring Well (H=TD-DTW):	9.13	FT.
Pump Depth	74	FT.

# WELL CASING VOLUME CALCULATIONS $1.55/4 = 0.39 \times 3.8 = 1.47$

	1-inch (Hx0.04 gal/Ft)	
×	2-inch (Hx0.17 gal/Ft)	
	4-inch (Hx0.66 gal/Ft)	

	Gallons
1.55	Gallons

Gallons

6	Э	9	13	S	MIN

			LOW FLC	JW MONITO	RING PARAI	METERS			
Time	Volume Purged	Temp.	Dissolved Oxygen	Specific Conductivity	pН	ORP	Turbidity	Depth to Water	Flow Rate
Hr : Min	Gallons	C	mg/L	mS/cm	-	mV	NTUs	Feet	L/min
Targets	>1 Well Volume	+/- 1 C	+/- 10%	+/- 3%	+/- 0.1	+/- 10 mV	+/- 10% (if >10 NTUs)	<0.3 ft. draw or Top of Screen	<0.5 L/min (0.132 Gal/min)
928	, 20	27.7	1.14	1.00	6.77	-117.0	4.14	18.91	, 29
933	. 59	22.9	0.98	1.00	6.70	-1(9.9	3.59	18.93	,29
938	95	235	0.39	1-03	6.63	-1457	1.86	18.96	, 29
943	1.37	23.5	0.78	1.04	6.63	-159.5	1,36	18.98	,27
148	1.76	23.5	0.70	1.0 4	6.63	-168.5	0.92	18.98	,79
953	2.15	23-6	0.76	1.05	6.6Y	-179.1	0,71	18, 18	, 29
		×							
								ii.	
		Final P	arameter Read	lings After Grou	ndwater Sample	e has been col	lected		
1011	341	27.5	0.10	1.05	664	-184.7	, 68	18.98	.19
Notes:			-						
1 Mater quality par	remeter measurem	anto obtained no	a mara fraguant the	an 250/ of the engine	n volumo				

Water quality parameter measurements obtained no more frequent than 25% of the casing volume.

2. Well is STABLE once 3 consecutive measurements have been obtained for as many as 3 water quality parameters AFTER one (1) well volume has been removed.

3. Low flow rate target is 0.1 to 0.5 liters/min (0.026 to 0.132 Gallons per Minute).

Purge Flow Rate (pump purge only) **TOTAL Volume Purged** 

,07 gal per min 3.41 gallons 3-18-20 DATE

\_\_\_\_\_ liter per min (3.8 x gpm)

Date & Time of Sample Collection

Sampler's Name

John Sanders Sampler's Signature

958 TIME Jh

## **APPENDIX 3**

## LABORATORY CERTIFICATES OF ANALYSIS AND CHAIN OF CUSTODY DOCUMENTATION



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

May 20, 2020

Steve Lewis SKA Consulting, L.P. 1888 Stebbins Drive Suite 100 Houston, TX 77043

Work Order: HS20030551

Laboratory Results for: MDI Superfund Site

Dear Steve,

ALS Environmental received 9 sample(s) on Mar 12, 2020 for the analysis presented in the following report.

This is a REVISED REPORT. Please see the Case Narrative for discussion concerning this revision.

Regards,

Sernaditte Fini

Generated By: JUMOKE.LAWAL Bernadette A. Fini Project Manager

#### ALS Houston, US

Client:	SKA Consulting, L.P.	
Project:	MDI Superfund Site	TRRP Laboratory Data Package Cover Page
WorkOrder:	HS20030551	i ackage oover i age

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

- R1 Field chain-of-custody documentation;
- R2 Sample identification cross-reference;
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - a) Items consistent with NELAC Chapter 5,
  - b) dilution factors,
  - c) preparation methods,
  - d) cleanup methods, and
  - e) if required for the project, tentatively identified compounds (TICs).
- R4 Surrogate recovery data including:
  - a) Calculated recovery (%R), andb) The laboratory's surrogate QC limits.
- R5 Test reports/summary forms for blank samples;
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - a) LCS spiking amounts,b) Calculated %R for each analyte, andc)The laboratory's LCS QC limits.
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - a) Samples associated with the MS/MSD clearly identified,
  - b) MS/MSD spiking amounts,
  - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
  - d) Calculated %Rs and relative percent differences (RPDs), and
  - e) The laboratory's MS/MSD QC limits.
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - a) the amount of analyte measured in the duplicate,
  - b) the calculated RPD, and
  - c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.

R10 Other problems or anomalies.

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

#### ALS Houston, US

Client:	SKA Consulting, L.P.	
Project:	MDI Superfund Site	TRRP Laboratory Data Package Cover Page
WorkOrder:	HS20030551	i ackage cover i age

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [] TCEQ or [] \_\_\_\_\_\_ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

) Dernaditte -

Bernadette A. Fini Project Manager

3 of 34

		Laboratory Review Checklist: R	Reportable Data	ı				
Labo	ratory	Name: ALS Laboratory Group LRC	C Date: 05/20/20	)20				
		• •	oratory Job Nur	nber: 1	HS2003	0551		
		*	Batch Number(s)				51776	
#1	$\mathbf{A}^2$	Description	Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER# <sup>5</sup>	
R1	OI	Chain-of-custody (C-O-C)						
		Did samples meet the laboratory's standard conditions of sample	acceptability					
		upon receipt?		Х				
DA	01	Were all departures from standard conditions described in an exc	eption report?	Х				
R2	OI	Sample and quality control (QC) identification		Х				
		Are all field sample ID numbers cross-referenced to the laborator Are all laboratory ID numbers cross-referenced to the correspond		X X	<u> </u>	-		+
R3	OI	Test reports	ing QC uata?	Λ				
KJ	01	Were all samples prepared and analyzed within holding times?		Х				
		Other than those results < MQL, were all other raw values bracket	eted by					
		calibration standards?	j	Х				
		Were calculations checked by a peer or supervisor?		Х				
		Were all analyte identifications checked by a peer or supervisor?		Х				
		Were sample detection limits reported for all analytes not detected		Х				
		Were all results for soil and sediment samples reported on a dry w				Х		
		Were % moisture (or solids) reported for all soil and sediment sa				Х		-
		Were bulk soils/solids samples for volatile analysis extracted wit			V <sup>7</sup>			
		SW-846 Method 5035?				X X		
R4	0	If required for the project, TICs reported? Surrogate recovery data				Λ		
K4		Surrogate recovery data           Were surrogates added prior to extraction?		Х				
	1	Were surrogate percent recoveries in all samples within the labor	Λ	<u> </u>		1		
		limits?	atory QC	Х				
R5	OI	Test reports/summary forms for blank samples						
		Were appropriate type(s) of blanks analyzed?		Х				
		Were blanks analyzed at the appropriate frequency?		Х				
		Were method blanks taken through the entire analytical process,	including					
		preparation and, if applicable, cleanup procedures?		Х				_
		Were blank concentrations < MQL?		Х				
<b>R6</b>	OI	Laboratory control samples (LCS):	V					
		Were all COCs included in the LCS?	uding man and	Х				
		Was each LCS taken through the entire analytical procedure, incl cleanup steps?	lucing prep and	Х				
		Were LCSs analyzed at the required frequency?		X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory	OC limits?	X				
		Does the detectability data document the laboratory's capability t						
		COCs at the MDL used to calculate the SDLs?		Х				
		Was the LCSD RPD within QC limits?	Х					
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data						
		Were the project/method specified analytes included in the MS a	nd MSD?	Х				
		Were MS/MSD analyzed at the appropriate frequency?			X			1
		Were MS (and MSD, if applicable) %Rs within the laboratory Q	Ulimits?	v	X		+	2
R8	OI	Were MS/MSD RPDs within laboratory QC limits? Analytical duplicate data		Х				
Кð		Were appropriate analytical duplicates analyzed for each matrix?				X		
		Were analytical duplicates analyzed at the appropriate frequency				X		
		Were RPDs or relative standard deviations within the laboratory				X		
R9	OI	Method quantitation limits (MQLs):	<u></u>					
		Are the MQLs for each method analyte included in the laboratory	y data package?	Х				
		Do the MQLs correspond to the concentration of the lowest non-						
		standard?		Х				
		Are unadjusted MQLs and DCSs included in the laboratory data	package?	Х				
R10	OI	Other problems/anomalies						
		Are all known problems/anomalies/special conditions noted in th	1s LRC and	v				
		ER?	data?	X X		_		3
		Were all necessary corrective actions performed for the reported Was applicable and available technology used to lower the SDL a		Λ			-	
		the matrix interference affects on the sample results?	and minimize	Х				
	1	Is the laboratory NELAC-accredited under the Texas Laboratory	Program for	11	<u> </u>		1	
		the analytes, matrices and methods associated with this laboratory		Х				
	1						1	
		4 of 34						

Labor	ratory	Laboratory Review Check Name: ALS Laboratory Group	LRC Date: 05/20/2020					
		<i>y</i> 1	Laboratory Job Numbe	r: HS	200305	51		
			Prep Batch Number(s): 15				76	
#1	A <sup>2</sup>	Description	-	Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER#
S1	OI	Initial calibration (ICAL)		105	110			<b>LIK</b>
~ -		Were response factors and/or relative response factors for ea	ch analyte within OC					
		limits?		Х				
		Were percent RSDs or correlation coefficient criteria met?		Х				
		Was the number of standards recommended in the method u	sed for all analytes?	Х				
		Were all points generated between the lowest and highest sta	andard used to					
		calculate the curve?		Х				
		Are ICAL data available for all instruments used?		Х				
		Has the initial calibration curve been verified using an appro-	opriate second source					
		standard?		Х				
		Initial and continuing calibration verification (ICCV and	l CCV) and					
S2	OI	continuing calibration blank (CCB)						
		Was the CCV analyzed at the method-required frequency?		Х				
		Were percent differences for each analyte within the method	I-required QC limits?	X				
		Was the ICAL curve verified for each analyte?		Х				
<u> </u>	0	Was the absolute value of the analyte concentration in the in	organic CCB < MDL?	Х				
<b>S3</b>	0	Mass spectral tuning:	0	v				
	-	Was the appropriate compound for the method used for tunin		X X			_	
64	0	Were ion abundance data within the method-required QC lin	mits?	X				
<b>S4</b>	0	Internal standards (IS):		v				
		Were IS area counts and retention times within the method-r		Х				
<b>S</b> 5	OI	<b>Raw data</b> (NELAC section 1 appendix A glossary, and sect 17025 section	10ft 5.12 of 1SO/IEC					
35	01	Were the raw data (for example, chromatograms, spectral da	ta) marrierred by an					
		analyst?	ita) reviewed by an	Х				
		Were data associated with manual integrations flagged on th	e raw data?	X				
<b>S</b> 6	0	Dual column confirmation		Λ				
30	0	Did dual column confirmation results meet the method-requi	ired OC?			X		
<b>S</b> 7	0	Tentatively identified compounds (TICs):				Λ		
57	0	If TICs were requested, were the mass spectra and TIC data	subject to appropriate					
		checks?	subject to appropriate			Х		
<b>S8</b>	Ι	Interference Check Sample (ICS) results:						
50	-	Were percent recoveries within method QC limits?		Х				
S9	Ι	Serial dilutions, post digestion spikes, and method of star	ndard additions					
		Were percent differences, recoveries, and the linearity withi						
		specified in the method?		Х				
S10	OI	Method detection limit (MDL) studies						
		Was a MDL study performed for each reported analyte?		Х				
		Is the MDL either adjusted or supported by the analysis of D	DCSs?	Х				
S11	OI	Proficiency test reports:						
		Was the laboratory's performance acceptable on the applicab	ole proficiency tests or					
		evaluation studies?	-	Х				
S12	OI	Standards documentation						
		Are all standards used in the analyses NIST-traceable or obta	ained from other					
		appropriate sources?		Х				
S13	OI	Compound/analyte identification procedures						
		Are the procedures for compound/analyte identification docu	umented?	Х				
S14	OI	Demonstration of analyst competency (DOC)						
		Was DOC conducted consistent with NELAC Chapter 5C or		Х				
		Is documentation of the analyst's competency up-to-date and		Х				
a		Verification/validation documentation for methods (NEL	AC Chap 5 or					
S15	OI	ISO/IEC 17025 Section 5)						
		Are all the methods used to generate the data documented, v	erified, and validated,			1		
04.5	07	where applicable?		Х				
S16	OI	Laboratory standard operating procedures (SOPs):	<u> </u>	17				
	i i	Are laboratory SOPs current and on file for each method per by the letter "R" must be included in the laboratory data package submitted		X	l	<u> </u>		<u> </u>

NA = Not Applicable; NR = Not Reviewed; R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

	Laboratory Review Checklist: Exception Reports								
Labor	Laboratory Name: ALS Laboratory Group LRC Date: 05/20/2020								
Proje	ct Name: MDI Superfund Site	Laboratory Job Number: HS20030551							
Revie	wer Name: Bernadette Fini	Prep Batch Number(s): 151681,151703,151760,151776							
ER# <sup>5</sup>	Description								
1	Batch 151760, PAH Semivolatile Organics Method SW8270, LCS/LCSD were analyzed and reported in lieu of an MS/MSD for this batch.								
2	Batch 151703, Metals Method SW6020, sample HS2003028. Batch 151776, Metals Method SW6020, sample HS2030599-								
3	Report revised on May 20, 2020 to add arsenic to total and dissolved metals by 6020.								
retained O = Org NA = No NR = No	entified by the letter "R" must be included in the laboratory data package s and made available upon request for the appropriate retention period. anic Analyses; I = Inorganic Analyses (and general chemistry, when applic the Applicable; the Reviewed; ception Report identification number (an Exception Report should be comp								

# Client:SKA Consulting, L.P.Project:MDI Superfund SiteWork Order:HS20030551

## SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20030551-01	MW-28	Water		11-Mar-2020 09:30	12-Mar-2020 11:20	
HS20030551-02	MW-27R2	Water		11-Mar-2020 12:22	12-Mar-2020 11:20	
HS20030551-03	MW-29	Water		11-Mar-2020 12:40	12-Mar-2020 11:20	
HS20030551-04	MW-26	Water		11-Mar-2020 14:15	12-Mar-2020 11:20	
HS20030551-05	MW-8	Water		11-Mar-2020 14:30	12-Mar-2020 11:20	
HS20030551-06	MW-23	Water		11-Mar-2020 16:00	12-Mar-2020 11:20	
HS20030551-07	MW-25	Water		11-Mar-2020 16:05	12-Mar-2020 11:20	
HS20030551-08	MW-1	Water		11-Mar-2020 17:53	12-Mar-2020 11:20	
HS20030551-09	Rinstate 1	Water		11-Mar-2020 18:10	12-Mar-2020 11:20	

## ALS Houston, US

Client:SKA Consulting, L.P.Project:MDI Superfund SiteWork Order:HS20030551

#### Work Order Comments

• Report revised on May 20, 2020 to add arsenic to total and dissolved metals by 6020.

## **CASE NARRATIVE**

Client:	SKA Consulting	Consulting, L.P. ANALYTICAL REPORT							
Project:	MDI Superfund	Site			WorkOrder:HS20030551				
Sample ID:	MW-28			Lab ID:HS20030551-01					
Collection Date:	11-Mar-2020 09	:30		Matrix:Water					
ANALYSES	RESULT C	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED		
ICP-MS METALS BY SW60204	A I	Method:S	SW6020		Prep:SW30104	A / 16-Mar-2020	Analyst: JHD		

	•	nethot	1.0110020		1100.000010	10 1010 2020	Analyst. on D
Arsenic	0.00903		0.000400	0.00200	mg/L	1	18-Mar-2020 00:51
Manganese	0.141		0.000700	0.00500	mg/L	1	18-Mar-2020 00:51
Molybdenum	0.00158	J	0.000600	0.00500	mg/L	1	18-Mar-2020 00:51
DISSOLVED METALS BY SW6020A	Metho	d:SW6	020 (dissolved)		Prep:SW3010/	A / 17-Mar-2020	Analyst: JHD
Arsenic	0.00924		0.000400	0.00200	mg/L	1	17-Mar-2020 23:18
Manganese	0.134		0.000700	0.00500	mg/L	1	17-Mar-2020 23:18
Molybdenum	0.00143	J	0.000600	0.00500	mg/L	1	17-Mar-2020 23:18

Client:	SKA Consulting, L.P.	ANALYTICAL REPORT
Project:	MDI Superfund Site	WorkOrder:HS20030551
Sample ID:	MW-27R2	Lab ID:HS20030551-02
Collection Date:	11-Mar-2020 12:22	Matrix:Water

ANALYSES	RESULT	QUAL SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL TEXAS TPH BY TX1005		Method:TX1005		Prep:TX100	5PR / 13-Mar-2020	Analyst: MBG
nC6 to nC12	U	0.20	0.49	mg/L	1	16-Mar-2020 23:19
>nC12 to nC28	U	0.20	0.49	mg/L	1	16-Mar-2020 23:19
>nC28 to nC35	U	0.20	0.49	mg/L	1	16-Mar-2020 23:19
Total Petroleum Hydrocarbon	U	0.20	0.49	mg/L	1	16-Mar-2020 23:19
Surr: 2-Fluorobiphenyl	71.1		70-130	%REC	1	16-Mar-2020 23:19
Surr: Trifluoromethyl benzene	88.6		70-130	%REC	1	16-Mar-2020 23:19

Client:	SKA Consulting, L.F	».	ANALYTICAL REPORT				
Project:	MDI Superfund Site			WorkOrder:HS20030551			
Sample ID:	MW-29		Lab ID:HS20030551-03			030551-03	
Collection Date:	11-Mar-2020 12:40		Matrix:Water			r	
ANALYSES	RESULT QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED	
ICP-MS METALS BY SW60204	A Meth	od:SW6020		Prep:SW3010A	/ 16-Mar-2020	Analyst: JHD	
Arsenic	0.00245	0.000400	0.00200	mg/L	1	18-Mar-2020 00:56	

Manganese	0.0992		0.000700	0.00500	mg/L	1	18-Mar-2020 00:56
Molybdenum	0.00150	J	0.000600	0.00500	mg/L	1	18-Mar-2020 00:56
DISSOLVED METALS BY SW6020A	Method	d:SW6	020 (dissolved)		Prep:SW3010	A / 17-Mar-2	Analyst: JHD
Arsenic	0.00258		0.000400	0.00200	mg/L	1	17-Mar-2020 23:20
Manganese	0.108		0.000700	0.00500	mg/L	1	17-Mar-2020 23:20
Molybdenum	0.00172	J	0.000600	0.00500	mg/L	1	17-Mar-2020 23:20

Client:	SKA Consulting, L.P.	ANALYTICAL REPORT
Project:	MDI Superfund Site	WorkOrder:HS20030551
Sample ID:	MW-26	Lab ID:HS20030551-04
Collection Date:	11-Mar-2020 14:15	Matrix:Water

ANALYSES	RESULT	QUAL SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL TEXAS TPH BY TX1005		Method:TX1005		Prep:TX1005	PR / 13-Mar-2020	Analyst: MBG
nC6 to nC12	U	0.19	0.48	mg/L	1	16-Mar-2020 23:48
>nC12 to nC28	U	0.19	0.48	mg/L	1	16-Mar-2020 23:48
>nC28 to nC35	U	0.19	0.48	mg/L	1	16-Mar-2020 23:48
Total Petroleum Hydrocarbon	U	0.19	0.48	mg/L	1	16-Mar-2020 23:48
Surr: 2-Fluorobiphenyl	77.0		70-130	%REC	1	16-Mar-2020 23:48
Surr: Trifluoromethyl benzene	92.9		70-130	%REC	1	16-Mar-2020 23:48

Client:	SKA Consulting, L.P.				ANALYTIC	AL REPORT
Project:	MDI Superfund Site			WorkC	Order:HS200	30551
Sample ID:	MW-8			La	ab ID:HS200	30551-05
Collection Date:	11-Mar-2020 14:30			N	latrix:Water	
ANALYSES	RESULT QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020	A Method	:SW6020		Prep:SW30104	A / 16-Mar-2020	Analyst: JHD

ICP-MS METALS BY SW6020A		wethod	1:5006020		Prep:Sw3010A	A / 16-Mar-2020	Analyst:	JHD
Arsenic	0.00143	J	0.000400	0.00200	mg/L	1	18-Mar-2020	00:58
Manganese	0.0209		0.000700	0.00500	mg/L	1	18-Mar-2020	00:58
Molybdenum	0.0802		0.000600	0.00500	mg/L	1	18-Mar-2020	00:58
DISSOLVED METALS BY SW6020A	Metho	d:SW6	020 (dissolved)		Prep:SW3010A	A / 17-Mar-2020	Analyst:	JHD
DISSOLVED METALS BY SW6020A Arsenic	Metho 0.00151	<b>d:SW6</b> ا ل	020 (dissolved) 0.000400	0.00200	Prep:SW3010A mg/L	A / 17-Mar-2020 1	Analyst: 17-Mar-2020	
		<b>d:SW6</b> յ	· · · ·	0.00200	•	A / 17-Mar-2020 1 1	,	23:56

Client:	SKA Consulting, L.	P.			ANALYT	CAL REPORT	
Project:	MDI Superfund Site				WorkOrder:HS20030551		
Sample ID:	MW-23		Lab ID:HS20030551-06			030551-06	
Collection Date:	11-Mar-2020 16:00	)	Matrix:Water			r	
ANALYSES	RESULT QUA	L SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED	
ICP-MS METALS BY SW60204	A Met	hod:SW6020		Prep:SW30104	A / 16-Mar-2020	Analyst: JHD	
Arsenic	0.00941	0.000400	0.00200	ma/L	1	18-Mar-2020 01:00	

Algenic		0.000400	0.00200	ing/L		10-1011-2020 01.00
Manganese	0.370	0.000700	0.00500	mg/L	1	18-Mar-2020 01:00
Molybdenum	0.0154	0.000600	0.00500	mg/L	1	18-Mar-2020 01:00
DISSOLVED METALS BY SW6020A	Method:SW6	6020 (dissolved)		Prep:SW3010	A / 17-Mar-2	Analyst: JHD
Arsenic	0.00819	0.000400	0.00200	mg/L	1	17-Mar-2020 23:58
Manganese	0.366	0.000700	0.00500	mg/L	1	17-Mar-2020 23:58
Molybdenum	0.0158	0.000600	0.00500	mg/L	1	17-Mar-2020 23:58

Client:	SKA Consulting, L.P.	ANALYTICAL REPORT
Project:	MDI Superfund Site	WorkOrder:HS20030551
Sample ID:	MW-25	Lab ID:HS20030551-07
Collection Date:	11-Mar-2020 16:05	Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS - 8270D		Method:S	W8270		Prep:SW3511 /	17-Mar-2020	Analyst: LG
Benzo(a)pyrene	U	0.	0000197	0.0000984	mg/L	1	18-Mar-2020 12:17
Surr: 2-Fluorobiphenyl	87.3			32-130	%REC	1	18-Mar-2020 12:17
Surr: 4-Terphenyl-d14	96.2			40-135	%REC	1	18-Mar-2020 12:17
Surr: Nitrobenzene-d5	95.1			45-142	%REC	1	18-Mar-2020 12:17

Client:	SKA Consulting, L.P.	ANALYTICAL REPORT
Project:	MDI Superfund Site	WorkOrder:HS20030551
Sample ID:	MW-1	Lab ID:HS20030551-08
Collection Date:	11-Mar-2020 17:53	Matrix:Water

ANALYSES	RESULT	QUAL SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL TEXAS TPH BY TX1005		Method:TX1005		Prep:TX10	05PR / 13-Mar-2020	Analyst: MBG
nC6 to nC12	U	0.20	0.49	mg/L	1	17-Mar-2020 00:17
>nC12 to nC28	U	0.20	0.49	mg/L	1	17-Mar-2020 00:17
>nC28 to nC35	U	0.20	0.49	mg/L	1	17-Mar-2020 00:17
Total Petroleum Hydrocarbon	U	0.20	0.49	mg/L	1	17-Mar-2020 00:17
Surr: 2-Fluorobiphenyl	73.0		70-130	%REC	; 1	17-Mar-2020 00:17
Surr: Trifluoromethyl benzene	91.9		70-130	%REC	; 1	17-Mar-2020 00:17

Client:	SKA Consulting, L.P.	ANALYTICAL REPORT
Project:	MDI Superfund Site	WorkOrder:HS20030551
Sample ID:	Rinstate 1	Lab ID:HS20030551-09
Collection Date:	11-Mar-2020 18:10	Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS - 8270D		Method	:SW8270		Prep:SW3511	/ 17-Mar-2020	Analyst: LG
Benzo(a)pyrene	U		0.0000202	0.000101	mg/L	1	18-Mar-2020 12:36
Surr: 2-Fluorobiphenyl	78.5			32-130	%REC	1	18-Mar-2020 12:36
Surr: 4-Terphenyl-d14	102			40-135	%REC	1	18-Mar-2020 12:36
Surr: Nitrobenzene-d5	93.2			45-142	%REC	1	18-Mar-2020 12:36
LOW-LEVEL TEXAS TPH BY TX1005		Method	:TX1005		Prep:TX1005P	R / 13-Mar-2020	Analyst: MBG
nC6 to nC12	U		0.20	0.49	mg/L	1	17-Mar-2020 00:47
>nC12 to nC28	U		0.20	0.49	mg/L	1	17-Mar-2020 00:47
>nC28 to nC35	U		0.20	0.49	mg/L	1	17-Mar-2020 00:47
Total Petroleum Hydrocarbon	U		0.20	0.49	mg/L	1	17-Mar-2020 00:47
Surr: 2-Fluorobiphenyl	75.3			70-130	%REC	1	17-Mar-2020 00:47
Surr: Trifluoromethyl benzene	81.1			70-130	%REC	1	17-Mar-2020 00:47
ICP-MS METALS BY SW6020A		Method	:SW6020		Prep:SW3010A	A / 16-Mar-2020	Analyst: JHD
Arsenic	U		0.000400	0.00200	mg/L	1	18-Mar-2020 01:02
Manganese	U		0.000700	0.00500	mg/L	1	18-Mar-2020 01:02
Molybdenum	U		0.000600	0.00500	mg/L	1	18-Mar-2020 01:02
DISSOLVED METALS BY SW6020A Method:SW6020 (dissolved)				Prep:SW3010A / 17-Mar-2020 Analyst: JHD			
Arsenic	U		0.000400	0.00200	mg/L	1	17-Mar-2020 23:59
Manganese	U		0.000700	0.00500	mg/L	1	17-Mar-2020 23:59
Molybdenum	U		0.000600	0.00500	mg/L	1	17-Mar-2020 23:59

# Client: SKA Consulting, L.P.

# Project: MDI Superfund Site

WorkOrder: HS20030551

Batch ID: 151681		Start Date	e: 13 Mar 20	20 11:30	End Date: 13 Mar 2020 16:00
Method: TX 1005 PREP					Prep Code: TX 1005_W PR
Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS20030551-02	1	30.7 (g)	3 (mL)	0.09772	
HS20030551-04	1	30.97 (g)	3 (mL)	0.09687	
HS20030551-08	1	30.45 (g)	3 (mL)	0.09852	
HS20030551-09	1	30.54 (g)	3 (mL)	0.09823	
Batch ID: 151703		Start Date	e: 16 Mar 20	20 09:56	End Date: 16 Mar 2020 14:00
Method: WATER - SW301	10A				Prep Code: 3010A
Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS20030551-01		10 (mL)	10 (mL)	1	
HS20030551-03		10 (mL)	10 (mL)	1	
HS20030551-05		10 (mL)	10 (mL)	1	
HS20030551-06		10 (mL)	10 (mL)	1	
HS20030551-09		10 (mL)	10 (mL)	1	
Batch ID: 151760		Start Date	e: 17 Mar 20	20 08:27	End Date:
Method: SW3511					Prep Code: 3511_PAH
Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS20030551-07		33.55 (mL)	2 (mL)	0.05961	
HS20030551-09		32.73 (mL)	2 (mL)	0.06111	
Batch ID: 151776		Start Date	e: 17 Mar 20	20 10:00	End Date: 17 Mar 2020 14:00
Method: DISS METALS P	REP - WATE	ER - SW3010A			Prep Code: 3010A DISS
Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS20030551-01		10 (mL)	10 (mL)	1	
HS20030551-03		10 (mL)	10 (mL)	1	
HS20030551-05		10 (mL)	10 (mL)	1	
HS20030551-06		10 (mL)	10 (mL)	1	
HS20030551-09		10 (mL)	10 (mL)	1	

Weight / Prep Log

1

### DATES REPORT

Sample ID	Client Sam	p ID Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 151681	(0)	Test Name : LOW-LEVEL TEXAS	TPH BY TX1005		Matrix: Water	
HS20030551-02	MW-27R2	11 Mar 2020 12:22	2	13 Mar 2020 11:30	16 Mar 2020 23:19	1
HS20030551-04	MW-26	11 Mar 2020 14:15	5	13 Mar 2020 11:30	16 Mar 2020 23:48	1
HS20030551-08	MW-1	11 Mar 2020 17:53	3	13 Mar 2020 11:30	17 Mar 2020 00:17	1
HS20030551-09	Rinstate 1	11 Mar 2020 18:10	)	13 Mar 2020 11:30	17 Mar 2020 00:47	1
Batch ID: 151703	(0)	Test Name : ICP-MS METALS BY	SW6020A		Matrix: Water	
HS20030551-01	MW-28	11 Mar 2020 09:30	)	16 Mar 2020 09:56	18 Mar 2020 00:51	1
HS20030551-03	MW-29	11 Mar 2020 12:40	)	16 Mar 2020 09:56	18 Mar 2020 00:56	1
HS20030551-05	MW-8	11 Mar 2020 14:30	)	16 Mar 2020 09:56	18 Mar 2020 00:58	1
HS20030551-06	MW-23	11 Mar 2020 16:00	)	16 Mar 2020 09:56	18 Mar 2020 01:00	1
HS20030551-09	Rinstate 1	11 Mar 2020 18:10	)	16 Mar 2020 09:56	18 Mar 2020 01:02	1
Batch ID: 151760	(0)	Test Name : LOW-LEVEL PAHS -	8270D		Matrix: Water	
HS20030551-07	MW-25	11 Mar 2020 16:05	5	17 Mar 2020 08:27	18 Mar 2020 12:17	1
HS20030551-09	Rinstate 1	11 Mar 2020 18:10	)	17 Mar 2020 08:27	18 Mar 2020 12:36	1
Batch ID: 151776	(0)	Test Name : DISSOLVED METALS	S BY SW6020A		Matrix: Water	
HS20030551-01	MW-28	11 Mar 2020 09:30	)	17 Mar 2020 14:00	17 Mar 2020 23:18	1
HS20030551-03	MW-29	11 Mar 2020 12:40	)	17 Mar 2020 14:00	17 Mar 2020 23:20	1
HS20030551-05	MW-8	11 Mar 2020 14:30	)	17 Mar 2020 14:00	17 Mar 2020 23:56	1
HS20030551-06	MW-23	11 Mar 2020 16:00	)	17 Mar 2020 14:00	17 Mar 2020 23:58	1
HS20030551-09	Rinstate 1	11 Mar 2020 18:10	)	17 Mar 2020 14:00	17 Mar 2020 23:59	1

Work	Order:	HS20030551				IOD DETECT	
Instru	umentID:	FID-12			REP		IITS
Test	Code:	TX1005_W_Low					
Test	Number:	TX1005		Matrix: Aqueous		s: mg/L	
Test	Name:	Low-level Texas TPH	by TX1005	Matrix: Aqueous	S Units	5: IIIg/L	
Туре	Analyte		CAS	DCS Spike	DCS	MDL	PQL
А	nC6 to nC1	2	TPH-1005-1	0.25	0.28	0.20	0.50
А	>nC12 to n	C28	TPH-1005-2	0.25	0.29	0.20	0.50
А	>nC28 to n	C35	TPH-1005-4	0.25	0.28	0.20	0.50
А	Total Petrol	eum Hydrocarbon	TPH	0.25	0.28	0.20	0.50
S	2-Fluorobip	henyl	321-60-8	0	0	0	0
S	Trifluorome	thyl benzene	98-08-8	0	0	0	0

Instru	orkOrder: HS20030551 strumentID: ICPMS06 st Code: ICP_DISS st Number: SW6020 (dissolved) st Name: Dissolved Metals by SW60 oe Analyte Arsenic Manganese				THOD DETEC		
Test	Number:	_ SW6020 (dissolved)	020A	Matrix: Aqueous	Un	its: mg/L	
Туре	Analyte		CAS	DCS Spike	DCS	MDL	PQL
А	Arsenic		7440-38-2	0.000500	0.000479	0.000400	0.00200
А	Manganese		7439-96-5	0.00250	0.00286	0.000700	0.00500
А	Molybdenum		7439-98-7	0.00100	0.000884	0.000600	0.00500

Work	Order:	HS20030551			MET	HOD DETEC	TION /
Instru	umentID:	ICPMS06			RE	PORTING LI	MITS
Test	Code:	ICP_TW					
Test	Number:	SW6020		Matrix Aqueous	L I m	its: mg/L	
Test	Name:	ICP-MS Metals by SW6020A		Matrix: Aqueous	Un	its: iiig/L	
Туре	Analyte		CAS	DCS Spike	DCS	MDL	PQL
А	Arsenic		7440-38-2	0.000500	0.000479	0.000400	0.00200
А	Manganese		7439-96-5	0.00250	0.00286	0.000700	0.00500
А	Molybdenum		7439-98-7	0.00100	0.000884	0.000600	0.00500

Work	Order:	HS20030551			ME		CTION /
Instru	umentID:	SV-6			F	REPORTING L	IMITS
Test	Code:	8270_PAH_LVI					
Test	Number:	SW8270		Matrix Aqueo		nits: mg/L	
Test	Name:	Low-Level PAHs - 8270D		Matrix: Aqueo	us U	nits: mg/L	
Туре	Analyte		CAS	DCS Spike	DCS	MDL	PQL
А	Benzo(a)py	rene	50-32-8	0.0000500	0.0000419	0.0000200	0.000100
S	2-Fluorobip	henyl	321-60-8	0	0	0	0.000100
S	4-Terpheny	I-d14	1718-51-0	0	0	0	0.000100
S	Nitrobenzer		4165-60-0	0	0	0	0.000100

#### QC BATCH REPORT

Batch ID: 151681 ( 0 )	In	strument:	FID-12	M	ethod: L	.OW-LEVEL	TEXAS TPH	BY TX1005
MBLK Sample ID:	MBLK-151681		Units:	mg/L	Ana	alysis Date:	16-Mar-2020	10:28
Client ID:		Run ID: FID-	12_358263	SeqNo: 5	514839	PrepDate:	13-Mar-2020	DF: <b>1</b>
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual
nC6 to nC12	U	0.50						
>nC12 to nC28	U	0.50						
>nC28 to nC35	U	0.50						
Total Petroleum Hydrocarbon	U	0.50						
Surr: 2-Fluorobiphenyl	1.778	0	2.5	0	71.1	70 - 130		
Surr: Trifluoromethyl benzene	2.107	0	2.5	0	84.3	70 - 130		
LCS Sample ID:	LCS-151681		Units:	mg/L	Ana	alysis Date:	16-Mar-2020	10:58
Client ID:		Run ID: FID-	12_358263	SeqNo: 5	514840	PrepDate:	13-Mar-2020	DF: <b>1</b>
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual
nC6 to nC12	22.62	0.50	25	0	90.5	75 - 125		
>nC12 to nC28	22.7	0.50	25	0	90.8	75 - 125		
Surr: 2-Fluorobiphenyl	2.103	0	2.5	0	84.1	70 - 130		
Surr: Trifluoromethyl benzene	2.391	0	2.5	0	95.6	70 - 130		
LCSD Sample ID:	LCSD-151681		Units:	mg/L	Ana	alysis Date:	16-Mar-2020	11:27
Client ID:		Run ID: FID-	12_358263	SeqNo: 5	514841	PrepDate:	13-Mar-2020	DF: <b>1</b>
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual
nC6 to nC12	20.96	0.50	25	0	83.8	75 - 125	22.62	7.65 20
>nC12 to nC28	22.74	0.50	25	0	91.0	75 - 125	22.7	0.172 20
Surr: 2-Fluorobiphenyl	2.019	0	2.5	0	80.8	70 - 130	2.103	4.07 20
Surr: Trifluoromethyl benzene	2.273	0	2.5	0	90.9	70 - 130	2.391	5.05 20
MS Sample ID:	HS20030543-01	MS	Units:	mg/L	Ana	alysis Date:	16-Mar-2020	14:30
Client ID:		Run ID: FID-	12_358263	SeqNo: 5	514843	PrepDate:	13-Mar-2020	DF: <b>1</b>
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual
nC6 to nC12	21.64	0.48	23.99	0	90.2	75 - 125		
>nC12 to nC28	21.12	0.48	23.99	0	88.0	75 - 125		
Surr: 2-Fluorobiphenyl	1.953	0	2.399	0	81.4	70 - 130		
Surr: Trifluoromethyl benzene	2.154	0	2.399	0	89.8	70 - 130		

#### **QC BATCH REPORT**

Batch ID: 151681 ( 0 )	1	Instrum	ent:	FID-12	Me	ethod: L	OW-LEVEL	TEXAS TPH	BY TX100	5
MSD San	nple ID: H	S20030543-01MSD		Units:	mg/L	Ana	lysis Date:	16-Mar-2020	14:59	
Client ID:		Run II	D: FID-1	2_358263	SeqNo: 5	514844	PrepDate:	13-Mar-2020	DF: <b>1</b>	
Analyte		Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	R %RPD Li	PD mit Qual
nC6 to nC12		25.92	0.48	24.08	0	108	75 - 125	21.64	18	20
>nC12 to nC28		22.1	0.48	24.08	0	91.8	75 - 125	21.12	4.54	20
Surr: 2-Fluorobiphenyl		1.891	0	2.408	0	78.5	70 - 130	1.953	3.23	20
Surr: Trifluoromethyl ber	nzene	2.28	0	2.408	0	94.7	70 - 130	2.154	5.7	20
The following samples were analyzed in this batch: HS20030551-02					1-04	HS200305	51-08	HS20030551-	09	

Revision: 1

#### Date: 20-May-20

QC BATCH REPORT

# Client:SKA Consulting, L.P.Project:MDI Superfund SiteWorkOrder:HS20030551

Batch ID:	151703 ( 0 )	Instru	ument:	ICPMS06	M	ethod: I	CP-MS MET	ALS BY SW6	020A
MBLK	Sample ID:	MBLK-151703		Units:	mg/L	Ana	alysis Date:	18-Mar-2020	00:17
Client ID:		Ru	n ID: ICPN	IS06_358289	SeqNo: 5	516726	PrepDate:	16-Mar-2020	DF: <b>1</b>
Analyte		Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qua
Arsenic		U	0.00200						
Manganese		U	0.00500						
Molybdenun	n	U	0.00500						
LCS	Sample ID:	LCS-151703		Units:	mg/L	Ana	alysis Date:	18-Mar-2020	00:19
Client ID:		Ru	n ID: ICPN	IS06_358289	SeqNo: 5	516727	PrepDate:	16-Mar-2020	DF: <b>1</b>
Analyte		Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qua
Arsenic		0.04542	0.00200	0.05	0	90.8	80 - 120		
Manganese		0.04408	0.00500	0.05	0	88.2	80 - 120		
Molybdenun	n	0.0449	0.00500	0.05	0	89.8	80 - 120		
мѕ	Sample ID:	HS20030283-04MS		Units:	mg/L	Ana	alysis Date:	18-Mar-2020	00:24
Client ID:		Ru	n ID: ICPN	IS06_358289	SeqNo: 5	516730	PrepDate:	16-Mar-2020	DF: <b>1</b>
Analyte		Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qua
Arsenic		0.0922	0.00200	0.05	0.04669	91.0	80 - 120		
Manganese		0.4044	0.00500	0.05	0.357	94.8	80 - 120		
Molybdenun	n	0.05648	0.00500	0.05	0.01136	90.2	80 - 120		
MSD	Sample ID:	HS20030283-04MSI	D	Units:	ma/L	Ana	alvsis Date:	18-Mar-2020	00:26
Client ID:				IS06 358289	SeqNo: 5			16-Mar-2020	
Analyte		Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qua
Arsenic		0.09269	0.00200	0.05	0.04669	92.0	80 - 120	0.0922	0.534 20
Manganese		0.393	0.00500	0.05	0.357	71.9	80 - 120	0.4044	2.87 20 S
Molybdenun	n	0.05735	0.00500	0.05	0.01136	92.0	80 - 120	0.05648	1.53 20

#### QC BATCH REPORT

Batch ID: 1517	03(0)	Instr	Method: ICP-MS METALS BY SW6020A								
PDS	Sample ID:	HS20030283-04PD	S	Units:	mg/L	Ana	alysis Date:	18-Mar-2020	00:28		
Client ID:		Ru	n ID: ICPM	S06_358289	SeqNo:	5516732	PrepDate:	16-Mar-2020	DF	: 1	
Analyte		Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit C	≀ual
Arsenic		0.1504	0.00200	0.1	0.04669	104	75 - 125				
Manganese		0.4528	0.00500	0.1	0.357	95.8	75 - 125				
Molybdenum		0.114	0.00500	0.1	0.01136	103	75 - 125				
SD	Sample ID:	HS20030283-04SD		Units:	mg/L	Ana	alysis Date:	18-Mar-2020	00:22		
Client ID:		Ru	n ID: ICPM	S06_358289	SeqNo:	5516729	PrepDate:	16-Mar-2020	DF	5	
Analyte		Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit G	≀ual
Arsenic		0.04567	0.0100					0.04669	2.1	8 10	
Manganese		0.3564	0.0250					0.357	0.17	5 10	
Molybdenum		0.01097	0.0250					0.01136		0 10	J
The following samp	oles were analyze	ed in this batch: HS200 HS200	30551-01 30551-09	HS2003055	51-03	HS200305	51-05	HS20030551-	-06		

#### Date: 20-May-20

QC BATCH REPORT

# Client:SKA Consulting, L.P.Project:MDI Superfund SiteWorkOrder:HS20030551

Batch ID: 151	776(0)	Inst	rument:	ICPMS06	Μ	emou.	DISSOLVED DISSOLVED	METALS BY	SW6020A
MBLK	Sample ID:	MBLKF1-151776		Units:	mg/L	Ana	alysis Date:	17-Mar-2020	22:47
Client ID:		R	un ID: ICPI	MS06_358289	SeqNo: 5	516581	PrepDate:	17-Mar-2020	DF: <b>1</b>
Analyte		Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual
Arsenic		U	0.00200						
Manganese		U	0.00500						
Molybdenum		U	0.00500						
MBLK	Sample ID:	MBLK-151776		Units:	mg/L	Ana	alysis Date:	17-Mar-2020	22:45
Client ID:		R	un ID: ICPI	MS06_358289	SeqNo: 5	516580	PrepDate:	17-Mar-2020	DF: <b>1</b>
Analyte		Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual
Arsenic		U	0.00200						
Manganese		U	0.00500						
Molybdenum		U	0.00500						
LCS	Sample ID:	LCS-151776		Units:	mg/L	Ana	alysis Date:	17-Mar-2020	22:49
Client ID:		R	un ID: ICPI	MS06_358289	SeqNo: 5	516582	PrepDate:	17-Mar-2020	DF: <b>1</b>
Analyte		Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual
Arsenic		0.04657	0.00200	0.05	0	93.1	80 - 120		
Manganese		0.04565	0.00500	0.05	0	91.3	80 - 120		
Molybdenum		0.04761	0.00500	0.05	0	95.2	80 - 120		
MS	Sample ID:	HS20030599-05M	S	Units:	mg/L	Ana	alysis Date:	17-Mar-2020	22:57
Client ID:		R	un ID: ICPI	MS06_358289	SeqNo: 5	516586	PrepDate:	17-Mar-2020	DF: <b>1</b>
Analyte		Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual
Arsenic		0.04652	0.00200	0.05	0.001047	90.9	75 - 125		
Arsenic Manganese		0.04652 0.4168	0.00200	0.05	0.001047	90.9 71.5	75 - 125 75 - 125		S

### **QC BATCH REPORT**

Batch ID: 1517	776(0)	Inst	rument:	ICPMS06	Μ	lethod:	DISSOLVED (DISSOLVED		SW602	0A	
MSD	Sample ID:	HS20030599-05M			mg/L		alysis Date:				
Client ID:		R	un ID: ICPN	IS06_358289	SeqNo:	5516587	•	17-Mar-2020	DF		
Analyte		Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit (	Qual
Arsenic		0.04444	0.00200	0.05	0.001047	86.8	75 - 125	0.04652	4.5	57 20	
Manganese		0.3988	0.00500	0.05	0.381	35.5	75 - 125	0.4168	4.4	1 20	SC
Molybdenum		0.05127	0.00500	0.05	0.006645	89.2	75 - 125	0.05387	4.9	95 20	
PDS	Sample ID:	HS20030599-05PI	DS	Units:	mg/L	Ar	alysis Date:	17-Mar-2020	23:01		
Client ID:		R	un ID: ICPN	IS06_358289	SeqNo:	5516588	PrepDate:	17-Mar-2020	DF	: 1	
Analyte		Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit (	Qual
Arsenic		0.1043	0.00200	0.1	0.001047	103	75 - 125				
Molybdenum		0.1104	0.00500	0.1	0.006645	104	75 - 125				
PDS	Sample ID:	HS20030599-05PI	DS	Units:	mg/L	Ar	alysis Date:	18-Mar-2020	14:17		
Client ID:		R	un ID: ICPN	IS05_358398	SeqNo:	5518195	PrepDate:	17-Mar-2020	DF	: 10	
Analyte		Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit (	Qual
Manganese		1.389	0.0500	1	0.3877	100	75 - 125				
SD	Sample ID:	HS20030599-05SI	D	Units:	mg/L	Ar	alysis Date:	17-Mar-2020	22:55		
Client ID:		R	un ID: ICPN	IS06_358289	SeqNo:	5516585	PrepDate:	17-Mar-2020	DF	: 5	
Analyte		Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit (	Qual
Arsenic		U	0.0100					0.001047		0 10	
Molybdenum		0.006622	0.0250					0.006645		0 10	
SD	Sample ID:	HS20030599-05SI	)	Units:	mg/L	Ar	alysis Date:	18-Mar-2020	14:14		
Client ID:		R	un ID: ICPN	1S05_358398	SeqNo:	5518194	PrepDate:	17-Mar-2020	DF	: 50	
Analyte		Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit (	Qual
Manganese		0.3781	0.250					0.3877	2.4	8 10	
The following sam	ples were analyze	ed in this batch: HS20 HS20	0030551-01 0030551-09	HS2003055	51-03	HS20030	551-05	HS20030551	-06		

### **QC BATCH REPORT**

Batch ID: 151760 ( 0 )	Inst	rument:	SV-6	M	ethod: L	.OW-LEVEL	PAHS - 8270	D
MBLK Sample ID:	MBLK-151760		Units:	mg/L	Ana	alysis Date:	18-Mar-2020	08:25
Client ID:	R	un ID: <b>SV-6</b>	6_358403	SeqNo: 5	518085	PrepDate:	17-Mar-2020	DF: <b>1</b>
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual
Benzo(a)pyrene	U	0.000100						
Surr: 2-Fluorobiphenyl	0.00349	0.000100	0.00303	0	115	32 - 130		
Surr: 4-Terphenyl-d14	0.00319	0.000100	0.00303	0	105	40 - 135		
Surr: Nitrobenzene-d5	0.00310	0.000100	0.00303	0	102	45 - 142		
LCS Sample ID:	LCS-151760		Units:	mg/L	Ana	alysis Date:	18-Mar-2020	08:44
Client ID:	R	un ID: <b>SV-6</b>	6_358403	SeqNo: 5	518086	PrepDate:	17-Mar-2020	DF: <b>1</b>
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual
Benzo(a)pyrene	0.00366	0.000100	0.00303	0	121	40 - 140		
Surr: 2-Fluorobiphenyl	0.00303	0.000100	0.00303	0	100	32 - 130		
Surr: 4-Terphenyl-d14	0.00318	0.000100	0.00303	0	105	40 - 135		
Surr: Nitrobenzene-d5	0.00270	0.000100	0.00303	0	89.0	45 - 142		
LCSD Sample ID:	LCSD-151760		Units:	mg/L	Ana	alysis Date:	18-Mar-2020	09:04
Client ID:	R	un ID: <b>SV-6</b>	6_358403	SeqNo: 5	518087	PrepDate:	17-Mar-2020	DF: <b>1</b>
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual
Benzo(a)pyrene	0.00351	0.000100	0.00303	0	116	40 - 140	0.003661	4.26 25
Surr: 2-Fluorobiphenyl	0.00322	0.000100	0.00303	0	106	32 - 130	0.003032	6.15 25
Surr: 4-Terphenyl-d14	0.00312	0.000100	0.00303	0	103	40 - 135	0.003180	1.79 25
Surr: Nitrobenzene-d5	0.00297	0.000100	0.00303	0	98.1	45 - 142	0.002698	9.66 25
The following samples were analyze	ed in this batch: HS20	0030551-07	HS200305:	51-09				

Client: Project:	SKA Consulting, L.P. MDI Superfund Site	QUALIFIERS, ACRONYMS, UNITS
WorkOrder:	HS20030551	
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	
Μ	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	
ma/l	Milligrame por Litor	

mg/L

Milligrams per Liter

### CERTIFICATIONS, ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	20-030-0	26-Mar-2021
Dept of Defense	ANAB L2231 V009	22-Dec-2021
Florida	E87611-28	30-Jun-2020
Kansas	E-10352 2019-2020	31-Jul-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2020	31-Dec-2020
Oklahoma	2019-141	31-Aug-2020
Texas	T104704231-20-26	30-Apr-2021

					Sample Receipt Checklist
Work Order ID:	HS20030551		Date/	Time Received:	<u>12-Mar-2020 11:20</u>
Client Name:	SKA		Recei	ved by:	<u>Paresh M. Giga</u>
Completed By	/S/ Paresh M. Giga	12-Mar-2020 18:35	Reviewed by: /S/	Bernadette A. Fin	i 13-Mar-2020 10:22
	eSignature	Date/Time	_	eSignature	Date/Time
Matrices:	Water		Carrier name:	<u>Client</u>	
Custody seals i Custody seals i VOA/TX1005/T Chain of custod Chain of custod Samplers name Chain of custod Samples in prop Sample contain Sufficient samp All samples rec	y signed when relinquished and r present on COC? y agrees with sample labels? per container/bottle?	ed vials? eceived?	Yes Ves Ves Ves Ves Ves Ves Ves Ves Ves V	No	Not Present Not Present Not Present Not Present 1 Page(s) COC IDs:221398
	/Thermometer(s):		0.9c U/C		IR25
Cooler(s)/Kit(s): Date/Time sam	ole(s) sent to storage:		24707 3/12/2020 18:50		
Water - VOA via	als have zero headspace? eptable upon receipt?		Yes Yes Yes	No No No No No V	N/A
Client Contacte	d:	Date Contacted:		Person Conta	cted:
Contacted By:		Regarding:			
Comments:					
Corrective Action	in:				

Cincinnati, OH +1 513 733 5336 Everett, WA			6 +1 970 4 Holland,	Fort Collins, CO +1 970 490 1511 Chain of Custody For Holland, MI Holland, MI				orm HS20030551 SKA Consulting, L.P.											
(A	ALS)	+1 425 356 260	0 +1 616 3	99 6070			oc id: 2	2139	98					MDI SU	uperfun	nd Site			
-	Customer Information						LS Project	Manager:											
Purchase Order			Desired		Project I	nforma	tion		<u> </u>										
Work Order	39004-0003		Project N		MDI Su				A ICP_DISS (Field filtered Mn & Mo)										
			Project Nur		3900	4-0	003	-	B ICP_TW (Total Mo & Mn)										
Company Name	SKA Consulting, L.P.		Bill To Com	SKA Consulting, L.P. C				3270_F					e)						
Send Report To	Steve Lewis		Invoice	Attn	Rebecca	a Fonse	ica - AP			TX100				<u>, , , , , , , , , , , , , , , , , , , </u>					
Addrose	1888 Stebbins Drive				1888 St	ebbins [	Drive		E			2044 (1							
Address Suite 100			Add	ress	Suite 10	0			F						. <u></u>				
City/State/Zip	Houston, TX 77043		City/State	/Zip	Houston	TX 77	043		G										
Phone	(713) 266-6056		Pł	ione	(713) 26	6-6056			н										
Fax	(713) 266-0996	<u> </u>		Fax (713) 266-0996															
e-Mail Address	lewissd@skaconsultin	g.com	e-Mail Add	ress			a@skaconsu	Iting com	J										
No.	Sample Description	Na ivi sulgi	Date	Tin		Matrix	Pres.	# Bottles	A	в	C	D	E	F	G	H	a and	J	
1 MW-2	78		3-11-70	69	30	W	2	2	×	X					<u> </u>	<u></u>	i sit <b>a</b> ta		Hold
2 MW-	27R2		3-11-70	123		W	81	3				X							
3 MW -	29		3-11-70	124	0 0-	W	2	2	×	×		$\sim$							
4 MW-2	6		3-11-20	141		w	1	3				X							
5 MW-8			3-11-70	143		W	2	2	X	X		$\sim$							
6 MW-7	3		3-11-70	160		$\overline{\mathcal{W}}$	2	2		$\stackrel{\scriptstyle \wedge}{\times}$									
7 MW-7	5		3-11-20	160		W	8	3	$\times$	1	$\times$								
8 MW-1			3-11-70	175		w	D	3			$\sim$	$\overline{\mathbf{v}}$							
9 RINSE,	ATE 1		3-11-20	181		$\frac{\omega}{\omega}$	120	8	$\sim$	$\mathbf{x}$	$\overline{\mathbf{x}}$	×							
10	•			101		~~~	1, 7, 8	0	×	×	$\times$	×							
Sampler(s) Please P	rint & Sign	·	Shipmen	t Metho	d	Requ	uired Turnarou	und Time: (C	heck F	3ox) (	Oth					esults D			***
John Sund Relinquished by: 0	1005 Jul Such				ALS LAB		STD 10 Wk Days		Wk Day	- ē,	-crassel	k Days		<b>]</b> 24 H		pourto D		e.	
	roles Ba		ime: 11500	Received		Fr	$)(e \vee )$	tool 1	Notes:		-MDI		<u>kan</u> o	<i>i</i> £	l				
_ VIVER		#12/20 T	11:10	Received	Laborat	tory): 2\2=:		2.	Cool	er ID		er Temp		Package	: (Checł	k One Bo	x Below	1)	
Logged by (Labgratory)	): Da	te: T	ïme:	Checker	by (Laborat				24-	107	¢	<u>.90</u>			II Std OC		X	4	Checklist
Preservative Key:	1-HCI 2-HNO <sub>3</sub> 3-H	I₂SO₄ 4-NaO	0H 5-Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	6-N	aHSO₄	7-Other	· 8-4°C	9-5035			-7	125		-1	IV SV/846	D/Raw Date 8/CLP	2 Lettersum	] TRRP	LevelIV

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

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

May 20, 2020

Steve Lewis SKA Consulting, L.P. 1888 Stebbins Drive Suite 100 Houston, TX 77043

Work Order: HS20030662

Laboratory Results for: MDI Superfund Site

Dear Steve,

ALS Environmental received 9 sample(s) on Mar 13, 2020 for the analysis presented in the following report.

This is a REVISED REPORT. Please see the Case Narrative for discussion concerning this revision.

Regards,

Sernaditte Fini

Generated By: JUMOKE.LAWAL Bernadette A. Fini Project Manager

Client:	SKA Consulting, L.P.	
Project:	MDI Superfund Site	TRRP Laboratory Data Package Cover Page
WorkOrder:	HS20030662	i ackage oover i age

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

- R1 Field chain-of-custody documentation;
- R2 Sample identification cross-reference;
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - a) Items consistent with NELAC Chapter 5,
  - b) dilution factors,
  - c) preparation methods,
  - d) cleanup methods, and
  - e) if required for the project, tentatively identified compounds (TICs).
- R4 Surrogate recovery data including:
  - a) Calculated recovery (%R), andb) The laboratory's surrogate QC limits.
- R5 Test reports/summary forms for blank samples;
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - a) LCS spiking amounts,b) Calculated %R for each analyte, andc)The laboratory's LCS QC limits.
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - a) Samples associated with the MS/MSD clearly identified,
  - b) MS/MSD spiking amounts,
  - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
  - d) Calculated %Rs and relative percent differences (RPDs), and
  - e) The laboratory's MS/MSD QC limits.
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - a) the amount of analyte measured in the duplicate,
  - b) the calculated RPD, and
  - c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.

R10 Other problems or anomalies.

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	SKA Consulting, L.P.	
Project:	MDI Superfund Site	TRRP Laboratory Data Package Cover Page
WorkOrder:	HS20030662	Fachage Cover Fage

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [] TCEQ or [] \_\_\_\_\_\_ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

) Dernadette -

Bernadette A. Fini Project Manager

3 of 37

		Laboratory Review Checklist: R						
Labor	ratory 2	Name: ALS Laboratory Group LRC	C Date: 05/20/20	020				
Projec	ct Nan	he: MDI Superfund Site Lab	oratory Job Num	ber: I	HS2003	0662		
Revie		ame: Bernadette A. Fini Prep	Batch Number(s):	1517	60, 151	763, 1517	85, 15180	18
#1	A <sup>2</sup>	Description		Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER# <sup>5</sup>
R1	OI	Chain-of-custody (C-O-C)	. 1 . 1 .					
		Did samples meet the laboratory's standard conditions of sample upon receipt?	acceptability	Х				
		Were all departures from standard conditions described in an exc	ention report?	X				
R2	OI	Sample and quality control (QC) identification						
		Are all field sample ID numbers cross-referenced to the laborator	ry ID numbers?	Х				
		Are all laboratory ID numbers cross-referenced to the correspond		Х				
R3	OI	Test reports						
		Were all samples prepared and analyzed within holding times?		Х				_
		Other than those results < MQL, were all other raw values bracked	eted by	37				
		calibration standards?		X X				
		Were calculations checked by a peer or supervisor? Were all analyte identifications checked by a peer or supervisor?		X X			-	
		Were sample detection limits reported for all analytes not detected		X				
		Were all results for soil and sediment samples reported on a dry w		1		X		
		Were % moisture (or solids) reported for all soil and sediment sa				X	1	1
	l	Were bulk soils/solids samples for volatile analysis extracted wit						
		SW-846 Method 5035?	_			Х		
	-	If required for the project, TICs reported?				Х		
R4	0	Surrogate recovery data		37				
		Were surrogates added prior to extraction?Were surrogate percent recoveries in all samples within the labor	ratom. OC	Х		_		
		limits?	atory QC	х				
R5	OI	Test reports/summary forms for blank samples		Λ				
K5	01	Were appropriate type(s) of blanks analyzed?		Х				
		Were blanks analyzed at the appropriate frequency?		Х				
		Were method blanks taken through the entire analytical process,	including					
		preparation and, if applicable, cleanup procedures?		Х				
_		Were blank concentrations < MQL?		Х				
R6	OI	Laboratory control samples (LCS):		V				
		Were all COCs included in the LCS? Was each LCS taken through the entire analytical procedure, incl	luding men and	Х				_
		cleanup steps?	ruding prep and	Х				
		Were LCSs analyzed at the required frequency?		X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory	QC limits?	Х				
		Does the detectability data document the laboratory's capability t						
		COCs at the MDL used to calculate the SDLs?		Х				
		Was the LCSD RPD within QC limits?			X			1
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data	11/(75)	V				
		Were the project/method specified analytes included in the MS a	nd MSD?	Х	v			2
		Were MS/MSD analyzed at the appropriate frequency? Were MS (and MSD, if applicable) %Rs within the laboratory Q	C limits?	Х	X	+	+	2
		Were MS/MSD RPDs within laboratory QC limits?		X			+	+
<b>R8</b>	OI	Analytical duplicate data						
		Were appropriate analytical duplicates analyzed for each matrix?				X		
		Were analytical duplicates analyzed at the appropriate frequency	?			Х		
		Were RPDs or relative standard deviations within the laboratory	QC limits?			Х		
R9	OI	Method quantitation limits (MQLs):		17				
		Are the MQLs for each method analyte included in the laboratory		Х				
		Do the MQLs correspond to the concentration of the lowest non- standard?	zero calibration	$\mathbf{v}$				
		Are unadjusted MQLs and DCSs included in the laboratory data	nackage?	X X		+	+	+
R10	OI	Other problems/anomalies	puckage:	Λ				
		Are all known problems/anomalies/special conditions noted in th	is LRC and					
		ER?		Х				3
		Were all necessary corrective actions performed for the reported		Х				
		Was applicable and available technology used to lower the SDL	and minimize					
		the matrix interference affects on the sample results?	<b>D</b>	Х				
	i	Is the laboratory NELAC-accredited under the Texas Laboratory	Program for		1			
				v				
		the analytes, matrices and methods associated with this laborator		Х				

Labor	ratory ]	Laboratory Review Chec Name: ALS Laboratory Group	LRC Date: 05/20/2020	)				
Proje	ct Nan	ne: MDI Superfund Site	Laboratory Job Numbe	er: HS	200306	62		
Revie	ewer N	ame: Bernadette A. Fini	Prep Batch Number(s): 1	51760	, 151763	3, 151785,	151808	
#1	A <sup>2</sup>	Description		Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER#
S1	OI	Initial calibration (ICAL)						
		Were response factors and/or relative response factors for	each analyte within QC					
		limits?		Х				
		Were percent RSDs or correlation coefficient criteria met		Х				
		Was the number of standards recommended in the method		Х				
		Were all points generated between the lowest and highest s	standard used to					
		calculate the curve?		Х				
		Are ICAL data available for all instruments used?		Х				_
		Has the initial calibration curve been verified using an app	ropriate second source					
		standard?		Х				
<b>GA</b>		Initial and continuing calibration verification (ICCV and	nd CCV) and					
S2	OI	continuing calibration blank (CCB)		V				4
		Was the CCV analyzed at the method-required frequency?		X X				<u> </u>
		Were percent differences for each analyte within the method	ba-required QC limits?	X X				<u> </u>
		Was the ICAL curve verified for each analyte?	in annual CCD (MDL 2	Λ	X			4
63	0	Was the absolute value of the analyte concentration in the	inorganic CCB < MDL?		X			4
<b>S3</b>	0	Mass spectral tuning:	-in -9	v				
		Was the appropriate compound for the method used for tur		X X				_
64	0	Were ion abundance data within the method-required QC l	nimits ?	Λ				-
<b>S4</b>	0	Internal standards (IS): Were IS area counts and retention times within the method	and OC limits?	Х				
		<b>Raw data</b> (NELAC section 1 appendix A glossary, and sec		Λ				+
<b>S</b> 5	OI	17025 section	cuon 5.12 or ISO/IEC					
35	01	Were the raw data (for example, chromatograms, spectral of	data) raviawad by an					
		analyst?	data) leviewed by all	Х				
		Were data associated with manual integrations flagged on	the raw data?	X				-
<b>S6</b>	0	Dual column confirmation	Λ					
50		Did dual column confirmation results meet the method-req	wired OC?			X		
<b>S7</b>	0	Tentatively identified compounds (TICs):				Λ		
57		If TICs were requested, were the mass spectra and TIC dat	a subject to appropriate					
		checks?	a subject to appropriate			Х		
<b>S8</b>	Ι	Interference Check Sample (ICS) results:						
50	-	Were percent recoveries within method QC limits?		Х				
<b>S</b> 9	Ι	Serial dilutions, post digestion spikes, and method of sta	andard additions					
		Were percent differences, recoveries, and the linearity wit						
		specified in the method?		Х				
S10	OI	Method detection limit (MDL) studies						
		Was a MDL study performed for each reported analyte?		Х				
		Is the MDL either adjusted or supported by the analysis of	DCSs?	Х				
S11	OI	Proficiency test reports:						
		Was the laboratory's performance acceptable on the application	able proficiency tests or					
		evaluation studies?		Х				
S12	OI	Standards documentation						
		Are all standards used in the analyses NIST-traceable or ol	btained from other					
		appropriate sources?		Х				
S13	OI	Compound/analyte identification procedures						
		Are the procedures for compound/analyte identification do	ocumented?	Х				
S14	OI	Demonstration of analyst competency (DOC)						
		Was DOC conducted consistent with NELAC Chapter 5C		Х				
		Is documentation of the analyst's competency up-to-date a		Х				
		Verification/validation documentation for methods (NE	ELAC Chap 5 or					
S15	OI	ISO/IEC 17025 Section 5)						
		Are all the methods used to generate the data documented,	verified, and validated,					
		where applicable?		Х				
S16	OI	Laboratory standard operating procedures (SOPs):						
		Are laboratory SOPs current and on file for each method p		Х				
A	entified b	by the letter "R" must be included in the laboratory data package submi	itted in the TRRP-required repor	t(s). Ite	ems identi	tied by the l	etter "S" sho	ould be

NA = Not Applicable; NR = Not Reviewed; R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

	Laboratory Review Checklist: Exception Reports								
Labor	atory Name: ALS Laboratory Group	LRC Date: 05/20/2020							
Projec	et Name: MDI Superfund Site	Laboratory Job Number: HS20030662							
Revie	wer Name: Bernadette A. Fini	Prep Batch Number(s): 151760, 151763, 151785, 151808							
ER# <sup>5</sup>	Description								
1	Batch 151785, Texas TPH by TX1005, LCSD RPD recovered above upper limits for nC6 to nC12.								
2	Batch 151760, PAH Semivolatile Organics Method SW8270, LCS/LCSD were analyzed and reported in lieu of an MS/MSD for this batch								
	Report revised on May 20, 2020 to add arsenic to total and disso	lved metals by 6020.							
3	Login notes:								
	MW-13 & MW-4 Dissolved Metals pH>2 (7) Preserved with 0.5	5ml HNO3 3/16/2020 @ 07:55 Final pH (1)							
4	See Run Log and CCB Exception Reports								
retained O = Orga NA = No NR = No	L entified by the letter "R" must be included in the laboratory data package subm and made available upon request for the appropriate retention period. anic Analyses; I = Inorganic Analyses (and general chemistry, when applicable t Applicable; it Reviewed; ception Report identification number (an Exception Report should be complete								

### FORM 13 - ANALYSIS RUN LOG

Run ID:ICPMS05\_358398 Instrument:ICPMS05 Method:SW6020

SKA Consulting, L.P. Client: MDI Superfund Site Project:

WorkOrder: HS20030662

Start Date: 18-Mar-2020

End Date: 19-Mar-2020

Sample No.	D/F	Time	FileID	Analytes
ICV	1	18-Mar-2020 12:12	019_ICV.d	AS MN MO
LLICV2	1	18-Mar-2020 12:14	020LCV2.d	AS MN MO
LLICV5	1	18-Mar-2020 12:17	021LCV5.d	AS MN MO
ICB	1	18-Mar-2020 12:19	022_ICB.d	AS MN MO
ICSA	1	18-Mar-2020 13:17	024ICSA.d	AS MN MO
ICSAB	1	18-Mar-2020 13:19	025ICSB.d	AS MN MO
CCV 1	1	18-Mar-2020 13:50	036_CCV.d	AS MN MO
CCB 1	1	18-Mar-2020 13:53	037_CCB.d	AS MN MO
CCV 2	1	18-Mar-2020 14:19	048_CCV.d	AS MN MO
CCB 2	1	18-Mar-2020 14:21	049 CCB.d	AS MN MO
CCV 3	1	18-Mar-2020 14:57	058_CCV.d	AS MN MO
CCB 3	1	18-Mar-2020 14:59	059_CCB.d	AS MN MO
ICCV 4	1	18-Mar-2020 15:47	072_ICV.d	AS MN MO
LLCCV2	1	18-Mar-2020 15:50	073LCV2.d	AS MN MO
LLCCV5	1	18-Mar-2020 15:52	074LCV5.d	AS MN MO
ICCB 4	1	18-Mar-2020 15:54	075_ICB.d	AS MN MO
CCV 5	1	18-Mar-2020 16:16	084_CCV.d	AS MN MO
CCB 5	1	18-Mar-2020 16:18	085_CCB.d	AS MN MO
CCV 6	1	18-Mar-2020 17:22	096_CCV.d	AS MN MO
CCB 6		18-Mar-2020 17:22	090_CCV.d	AS MN MO
MBLK-151763	1	18-Mar-2020 17:32		
	1		098SMPL.d	AS MN MO AS MN MO
LCS-151763	1	18-Mar-2020 17:34	099SMPL.d	
CCV 7	1	18-Mar-2020 17:56	108_CCV.d	AS MN MO
CCB 7	1	18-Mar-2020 17:59	109_CCB.d	AS MN MO
CCV 8	1	18-Mar-2020 18:06	112_CCV.d	AS MN MO
CCB 8	1	18-Mar-2020 18:09	113_CCB.d	AS MN MO
ZZZZZSD	5	18-Mar-2020 18:11	114SMPL.d	AS MN MO
ZZZZZMS	1	18-Mar-2020 18:13	115SMPL.d	AS MN MO
ZZZZZMSD	1	18-Mar-2020 18:16	116SMPL.d	AS MN MO
ZZZZZPDS	1	18-Mar-2020 18:18	117SMPL.d	AS MN MO
CCV 9	1	18-Mar-2020 18:30	122_CCV.d	AS MN MO
CCB 9	1	18-Mar-2020 18:32	123_CCB.d	AS MN MO
MW-13	1	18-Mar-2020 18:41	127SMPL.d	AS MN MO
MW-24	1	18-Mar-2020 18:44	128SMPL.d	AS MN
MW-4	1	18-Mar-2020 18:46	129SMPL.d	AS MN MO
Rinsate 2	1	18-Mar-2020 18:48	130SMPL.d	AS MN MO
DUP 1	1	18-Mar-2020 18:51	131SMPL.d	AS MN MO
CCV 10	1	18-Mar-2020 18:56	133_CCV.d	AS MN MO
CCB 10	1	18-Mar-2020 18:58	134_CCB.d	AS MN MO
CCV 11	1	18-Mar-2020 22:19	156_CCV.d	AS MN MO
CCB 11	1	18-Mar-2020 22:21	157_CCB.d	AS MN MO
MBLK-151808	1	18-Mar-2020 22:24	158SMPL.d	AS MN MO
LCS-151808	1	18-Mar-2020 22:26	159SMPL.d	AS MN MO
ZZZZZSD	5	18-Mar-2020 22:31	161SMPL.d	AS MN MO
ZZZZZMS	1	18-Mar-2020 22:33	162SMPL.d	AS MN MO
ZZZZZMSD	1	18-Mar-2020 22:35	163SMPL.d	AS MN MO
ZZZZZPDS	1	18-Mar-2020 22:38	164SMPL.d	AS MN MO
CCV 12	1	18-Mar-2020 22:40	165_CCV.d	AS MN MO
CCB 12	1	18-Mar-2020 22:42	166_CCB.d	AS MN MO
MW-13	1	18-Mar-2020 22:47	168SMPL.d	AS MN MO
MW-24	1	18-Mar-2020 22:49	169SMPL.d	AS MN

### FORM 13 - ANALYSIS RUN LOG

Run ID:ICPMS05\_358398 Instrument:ICPMS05 Method:SW6020

Client:SKA Consulting, L.P.Project:MDI Superfund SiteWorkOrder:HS20030662

Start Date: 18-Mar-2020

End Date: 19-Mar-2020

Sample No.	D/F	Time	FileID	Analytes	
MW-4	1	18-Mar-2020 22:52	170SMPL.d	AS MN MO	
Rinsate 2	1	18-Mar-2020 22:54	171SMPL.d	AS MN MO	
DUP 1	1	18-Mar-2020 22:56	172SMPL.d	AS MN MO	
CCV 13	1	18-Mar-2020 22:59	173_CCV.d	AS MN MO	
CCB 13	1	18-Mar-2020 23:01	174_CCB.d	AS MN MO	
CCV 14	1	18-Mar-2020 23:30	185_CCV.d	AS MN MO	
CCB 14	1	18-Mar-2020 23:32	186_CCB.d	AS MN MO	
CCV 15	1	18-Mar-2020 23:44	191_CCV.d	AS MN MO	
CCB 15	1	18-Mar-2020 23:46	192_CCB.d	AS MN MO	
ICCV 16	1	19-Mar-2020 00:23	208_ICV.d	AS MN MO	
LLCCV2	1	19-Mar-2020 00:26	209LCV2.d	AS MN MO	
LLCCV5	1	19-Mar-2020 00:28	210LCV5.d	AS MN MO	
ICCB 16	1	19-Mar-2020 00:30	211_ICB.d	AS MN MO	
CCV 17	1	19-Mar-2020 00:52	220_CCV.d	AS MN MO	
CCB 17	1	19-Mar-2020 00:54	221_CCB.d	AS MN MO	
CCV 18	1	19-Mar-2020 01:19	232_CCV.d	AS MN MO	
CCB 18	1	19-Mar-2020 01:22	233_CCB.d	AS MN MO	
CCV 19	1	19-Mar-2020 01:47	244_CCV.d	AS MN MO	
CCB 19	1	19-Mar-2020 01:50	245_CCB.d	AS MN MO	
CCV 20	1	19-Mar-2020 01:57	248_CCV.d	AS MN MO	
CCB 20	1	19-Mar-2020 01:59	249_CCB.d	AS MN MO	
LLICV2	1	19-Mar-2020 02:02	250LCV2.d	AS MN MO	
LLICV5	1	19-Mar-2020 02:04	251LCV5.d	AS MN MO	
ICSA	1	19-Mar-2020 02:06	252ICSA.d	AS MN MO	
ICSAB	1	19-Mar-2020 02:09	253ICSB.d	AS MN MO	

## **CCB EXCEPTIONS REPORT**

Client:	SKA Consulting, L.P.	Run ID:ICPMS05_358398				
Project:	MDI Superfund Site		Instrument:ICPMS05			
WorkOrder	r: HS20030662			1	Method:SW6020	
	Date: 18-Mar-2020 23:01 Seq: 5519351 D/F: 1 Units: ug/L					
CCB 13	Date: 18-Mar-2020 23:01	Seq: 5519351		D/F:	1 Units: ug/L	
CCB 13	Date: 18-Mar-2020 23:01 Analyte	•	Result	D/F: <b>MDL</b>	1 Units: ug/L Report Limit	

### SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20030662-01	MW-13	Water		12-Mar-2020 08:53	13-Mar-2020 11:40	
HS20030662-02	MW-24	Water		12-Mar-2020 10:40	13-Mar-2020 11:40	
HS20030662-03	MW-4	Water		12-Mar-2020 12:21	13-Mar-2020 11:40	
HS20030662-04	MW-3R	Water		12-Mar-2020 17:00	13-Mar-2020 11:40	
HS20030662-05	MW-20R	Water		12-Mar-2020 13:35	13-Mar-2020 11:40	
HS20030662-06	Rinsate 2	Water		12-Mar-2020 17:35	13-Mar-2020 11:40	
HS20030662-07	DUP 1	Water		12-Mar-2020 12:23	13-Mar-2020 11:40	
HS20030662-08	DUP 2	Water		12-Mar-2020 17:05	13-Mar-2020 11:40	
HS20030662-09	DUP 3	Water		12-Mar-2020 13:40	13-Mar-2020 11:40	

**CASE NARRATIVE** 

Client:SKA Consulting, L.P.Project:MDI Superfund SiteWork Order:HS20030662

#### Work Order Comments

• Report revised on May 20, 2020 to add arsenic to total and dissolved metals by 6020.

Login notes:

MW-13 & MW-4 Diss Metals pH>2 (7) Preserved with 0.5ml HNO3 3/16/2020 @ 07:55 Final pH (1)

Client:	SKA Consulting, L.F	D.		ANALYTICAL REPORT			
Project:	MDI Superfund Site				order:HS20	030662	
Sample ID:	MW-13		Lab ID:HS20030662-01				
Collection Date:	12-Mar-2020 08:53		Matrix:Water				
ANALYSES	RESULT QUA	L SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED	
ICP-MS METALS BY SW60204	A Meth	od:SW6020		Prep:SW3010A	/ 17-Mar-2020	Analyst: JC	
Arsenic	0.00442	0.000400	0.00200	mg/L	1	18-Mar-2020 18:41	

Alsellie		0.000400	0.00200	ing/E		10 1012020 10.41
Manganese	0.0311	0.000700	0.00500	mg/L	1	18-Mar-2020 18:41
Molybdenum	0.426	0.000600	0.00500	mg/L	1	18-Mar-2020 18:41
DISSOLVED METALS BY SW6020A	Method:S	W6020 (dissolved)		Prep:SW3010	A / 18-Mar-2	2020 Analyst: JC
Arsenic	0.00411	0.000400	0.00200	mg/L	1	18-Mar-2020 22:47
Manganese	0.0238	0.000700	0.00500	mg/L	1	18-Mar-2020 22:47
Molybdenum	0.430	0.000600	0.00500	mg/L	1	18-Mar-2020 22:47

Client:	SKA Consulting, L.P.			ANALYTICAL REPORT			
Project:	MDI Superfund Site	WorkOrder:HS20030662			030662		
Sample ID:	MW-24		Lab ID:HS20030662-02				
Collection Date:	12-Mar-2020 10:40		Matrix:Water			r	
ANALYSES	RESULT QUAL	SDL	DILUTION DATE MQL UNITS FACTOR ANALYZED				
ICP-MS METALS BY SW60204	A Method	:SW6020		Prep:SW3010A	A / 17-Mar-2020	Analyst: JC	
Arsenic	<b>0.00161</b> Ј	0.000400	0.00200	mg/L	1	18-Mar-2020 18:44	

Arsenic	0.00101	J	0.000400	0.00200	mg/∟	1	10-IVIAI-2020 10.44
Manganese	0.297		0.000700	0.00500	mg/L	1	18-Mar-2020 18:44
Molybdenum	3.76		0.0120	0.100	mg/L	20	19-Mar-2020 13:27
DISSOLVED METALS BY SW6020A	Metho	d:SW6	020 (dissolved)		Prep:SW3010A	A / 18-Mar-2	Analyst: JC
Arsenic	0.00142	J	0.000400	0.00200	mg/L	1	18-Mar-2020 22:49
Manganese	0.239		0.000700	0.00500	mg/L	1	18-Mar-2020 22:49
Molybdenum	2.93		0.0120	0.100	mg/L	20	19-Mar-2020 14:18

Client:	SKA Consulting, L	P.	ANALYTICAL REPORT			
Project:	MDI Superfund Sit	te	WorkOrder:HS20030662			
Sample ID:	MW-4		Lab ID:HS20030662-03			
Collection Date:	12-Mar-2020 12:2	1	Matrix:Water			
ANALYSES	RESULT QU	AL SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A	A Me	thod:SW6020		Prep:SW3010A	/ 17-Mar-2020	Analyst: JC
Arsenic	0.0265	0.000400	0.00200	mg/L	1	18-Mar-2020 18:46

Manganese	0.356	0.000700	0.00500	mg/L	1	18-Mar-2020 18:46
Molybdenum	0.0570	0.000600	0.00500	mg/L	1	18-Mar-2020 18:46
DISSOLVED METALS BY SW6020A	Method:	SW6020 (dissolved)		Prep:SW3010/	A / 18-Mar-2	Analyst: JC
Arsenic	0.0171	0.000400	0.00200	mg/L	1	18-Mar-2020 22:52
Manganese	0.280	0.000700	0.00500	mg/L	1	18-Mar-2020 22:52
Molybdenum	0.0565	0.000600	0.00500	mg/L	1	18-Mar-2020 22:52

Client:	SKA Consulting, L.P.	ANALYTICAL REPORT
Project:	MDI Superfund Site	WorkOrder:HS20030662
Sample ID:	MW-3R	Lab ID:HS20030662-04
Collection Date:	12-Mar-2020 17:00	Matrix:Water

ANALYSES	RESULT QU	AL SDL	MQL	UNITS	FACTOR	ANALYZED
LOW-LEVEL PAHS - 8270D	Ме	ethod:SW8270		Prep:SW3511 /	17-Mar-2020	Analyst: LG
Benzo(a)pyrene	0.000748	0.0000197	0.0000987	mg/L	1	18-Mar-2020 13:34
Surr: 2-Fluorobiphenyl	82.9		32-130	%REC	1	18-Mar-2020 13:34
Surr: 4-Terphenyl-d14	88.8		40-135	%REC	1	18-Mar-2020 13:34
Surr: Nitrobenzene-d5	86.0		45-142	%REC	1	18-Mar-2020 13:34

Client:	SKA Consulting, L.P.	ANALYTICAL REPORT
Project:	MDI Superfund Site	WorkOrder:HS20030662
Sample ID:	MW-20R	Lab ID:HS20030662-05
Collection Date:	12-Mar-2020 13:35	Matrix:Water

ANALYSES	RESULT	QUAL SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL TEXAS TPH BY TX1005		Method:TX1005		Prep:TX1005P	R / 17-Mar-2020	Analyst: MBG
nC6 to nC12	U	0.20	0.49	mg/L	1	18-Mar-2020 13:09
>nC12 to nC28	U	0.20	0.49	mg/L	1	18-Mar-2020 13:09
>nC28 to nC35	U	0.20	0.49	mg/L	1	18-Mar-2020 13:09
Total Petroleum Hydrocarbon	U	0.20	0.49	mg/L	1	18-Mar-2020 13:09
Surr: 2-Fluorobiphenyl	76.8		70-130	%REC	1	18-Mar-2020 13:09
Surr: Trifluoromethyl benzene	87.4		70-130	%REC	1	18-Mar-2020 13:09

Client:	SKA Consulting, L.P.	ANALYTICAL REPORT
Project:	MDI Superfund Site	WorkOrder:HS20030662
Sample ID:	Rinsate 2	Lab ID:HS20030662-06
Collection Date:	12-Mar-2020 17:35	Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS - 8270D		Method	d:SW8270		Prep:SW3511	/ 17-Mar-2020	Analyst: LG
Benzo(a)pyrene	U		0.0000198	0.0000992	mg/L	1	18-Mar-2020 13:53
Surr: 2-Fluorobiphenyl	73.6			32-130	%REC	1	18-Mar-2020 13:53
Surr: 4-Terphenyl-d14	103			40-135	%REC	1	18-Mar-2020 13:53
Surr: Nitrobenzene-d5	108			45-142	%REC	1	18-Mar-2020 13:53
LOW-LEVEL TEXAS TPH BY TX100	05	Metho	d:TX1005		Prep:TX1005P	R / 17-Mar-2020	Analyst: MBG
nC6 to nC12	U		0.20	0.49	mg/L	1	18-Mar-2020 13:39
>nC12 to nC28	U		0.20	0.49	mg/L	1	18-Mar-2020 13:39
>nC28 to nC35	U		0.20	0.49	mg/L	1	18-Mar-2020 13:39
Total Petroleum Hydrocarbon	U		0.20	0.49	mg/L	1	18-Mar-2020 13:39
Surr: 2-Fluorobiphenyl	79.1			70-130	%REC	1	18-Mar-2020 13:39
Surr: Trifluoromethyl benzene	94.0			70-130	%REC	1	18-Mar-2020 13:39
ICP-MS METALS BY SW6020A Method:SW		d:SW6020		Prep:SW30104	A / 17-Mar-2020	Analyst: JC	
Arsenic	U		0.000400	0.00200	mg/L	1	18-Mar-2020 18:48
Manganese	U		0.000700	0.00500	mg/L	1	18-Mar-2020 18:48
Molybdenum	0.00235	J	0.000600	0.00500	mg/L	1	18-Mar-2020 18:48
DISSOLVED METALS BY SW6020A	A Meth	nod:SW6	020 (dissolved)		Prep:SW30104	A / 18-Mar-2020	Analyst: JC
Arsenic	U		0.000400	0.00200	mg/L	1	18-Mar-2020 22:54
Manganese	U		0.000700	0.00500	mg/L	1	18-Mar-2020 22:54
Molybdenum	0.00231	J	0.000600	0.00500	mg/L	1	18-Mar-2020 22:54

Client:	SKA Consulting, L.P.				ANALYTI	NALYTICAL REPORT	
Project:	MDI Superfund	Site			WorkOrder:HS20030662		
Sample ID:	DUP 1			Lab ID:HS20030662-07			030662-07
Collection Date:	12-Mar-2020 1	2:23		Matrix:Water			ſ
ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020	A Method:SW6020			Prep:SW3010A / 17-Mar-2020 Ana		Analyst: JC	
Arsenic	0.0253		0.000400	0.00200	mg/L	1	18-Mar-2020 18:51
Manganese	0.352		0.000700	0.00500	mg/L	1	18-Mar-2020 18:51

Manganese	0.002	0.000700	0.00300	ing/∟	1	10-10101-2020 10.51
Molybdenum	0.0414	0.000600	0.00500	mg/L	1	18-Mar-2020 18:51
DISSOLVED METALS BY SW6020A	Method:SW6020 (dissolved)			Prep:SW3010A / 18-Mar-2020 Analyst: JC		
Arsenic	0.0174	0.000400	0.00200	mg/L	1	18-Mar-2020 22:56
Manganese	0.303	0.000700	0.00500	mg/L	1	18-Mar-2020 22:56
Molybdenum	0.0458	0.000600	0.00500	mg/L	1	18-Mar-2020 22:56

Client:	SKA Consulting, L.P.	ANALYTICAL REPORT				
Project:	MDI Superfund Site	WorkOrder:HS20030662				
Sample ID:	DUP 2	Lab ID:HS20030662-08				
Collection Date:	12-Mar-2020 17:05	Matrix:Water				

ANALYSES	RESULT QU	UAL SDL	MQL	UNITS	FACTOR	ANALYZED
LOW-LEVEL PAHS - 8270D	М	lethod:SW8270		Prep:SW3511 /	17-Mar-2020	Analyst: LG
Benzo(a)pyrene	0.000633	0.0000200	0.0000998	mg/L	1	18-Mar-2020 14:13
Surr: 2-Fluorobiphenyl	76.5		32-130	%REC	1	18-Mar-2020 14:13
Surr: 4-Terphenyl-d14	91.2		40-135	%REC	1	18-Mar-2020 14:13
Surr: Nitrobenzene-d5	99.7		45-142	%REC	1	18-Mar-2020 14:13

Client:	SKA Consulting, L.P.	ANALYTICAL REPORT
Project:	MDI Superfund Site	WorkOrder:HS20030662
Sample ID:	DUP 3	Lab ID:HS20030662-09
Collection Date:	12-Mar-2020 13:40	Matrix:Water

ANALYSES	RESULT	QUAL SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL TEXAS TPH BY TX1005		Method:TX1005		Prep:TX1005F	PR / 17-Mar-2020	Analyst: MBG
nC6 to nC12	U	0.19	0.48	mg/L	1	18-Mar-2020 14:08
>nC12 to nC28	U	0.19	0.48	mg/L	1	18-Mar-2020 14:08
>nC28 to nC35	U	0.19	0.48	mg/L	1	18-Mar-2020 14:08
Total Petroleum Hydrocarbon	U	0.19	0.48	mg/L	1	18-Mar-2020 14:08
Surr: 2-Fluorobiphenyl	74.5		70-130	%REC	1	18-Mar-2020 14:08
Surr: Trifluoromethyl benzene	91.1		70-130	%REC	1	18-Mar-2020 14:08

### Client: SKA Consulting, L.P. Project: MDI Superfund Site

WorkOrder: HS20030662

Batch ID: 151760		Start Date	: 17 Mar 20	20 08:27	End Date:
Method: SW3511					Prep Code: 3511_PAH
Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS20030662-04		33.45 (mL)	2 (mL)	0.05979	
HS20030662-06		33.27 (mL)	2 (mL)	0.06011	
HS20030662-08		33.06 (mL)	2 (mL)	0.0605	
Batch ID: 151763		Start Date	: 17 Mar 20	20 10:00	End Date: 17 Mar 2020 14:00
Method: WATER - SW301	10A				Prep Code: 3010A
Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS20030662-01		10 (mL)	10 (mL)	1	
HS20030662-02		10 (mL)	10 (mL)	1	
HS20030662-03		10 (mL)	10 (mL)	1	
HS20030662-06		10 (mL)	10 (mL)	1	
HS20030662-07		10 (mL)	10 (mL)	1	
Batch ID: 151785		Start Date	: 17 Mar 20	20 11:00	End Date: 17 Mar 2020 14:30
Method: TX 1005 PREP					Prep Code: TX 1005_W PR
Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS20030662-05	1	30.76 (g)	3 (mL)	0.09753	
HS20030662-06	1	30.62 (g)	3 (mL)	0.09798	
HS20030662-09	1	31.23 (g)	3 (mL)	0.09606	
Batch ID: 151808		Start Date	: 18 Mar 20	020 09:28	End Date: 18 Mar 2020 13:30
Method: DISS METALS P	REP - WATE	R - SW3010A			Prep Code: 3010A DISS
Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS20030662-01		10 (mL)	10 (mL)	1	
HS20030662-02		10 (mL)	10 (mL)	1	
HS20030662-03		10 (mL)	10 (mL)	1	
HS20030662-06		10 (mL)	10 (mL)	1	
HS20030662-07		10 (mL)	10 (mL)	1	

### Weight / Prep Log

1

### Client: SKA Consulting, L.P.

Project: WorkOrder:	MDI Sup HS2003	perfund Site 0662				DATES R	EPORT
Sample ID	Client Sam	o ID Collection	on Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 151760	D(0)	Test Name : LOW-LEVE	L PAHS - 82	70D		Matrix: Water	
HS20030662-04	MW-3R	12 Mar 2	020 17:00		17 Mar 2020 08:	27 18 Mar 2020 13:34	1
HS20030662-06	Rinsate 2	12 Mar 2	020 17:35		17 Mar 2020 08:	27 18 Mar 2020 13:53	1
HS20030662-08	DUP 2	12 Mar 2	020 17:05		17 Mar 2020 08:	27 18 Mar 2020 14:13	1
Batch ID: 151763	3(0)	Test Name : ICP-MS ME	TALS BY SV	V6020A		Matrix: Water	
HS20030662-01	MW-13	12 Mar 2	020 08:53		17 Mar 2020 14:0	00 18 Mar 2020 18:41	1
HS20030662-02	MW-24	12 Mar 2	020 10:40		17 Mar 2020 14:0	00 19 Mar 2020 13:27	20
HS20030662-02	MW-24	12 Mar 2	020 10:40		17 Mar 2020 14:0	00 18 Mar 2020 18:44	1
HS20030662-03	MW-4	12 Mar 2	020 12:21		17 Mar 2020 14:0	00 18 Mar 2020 18:46	1
HS20030662-06	Rinsate 2	12 Mar 2	020 17:35		17 Mar 2020 14:0	00 18 Mar 2020 18:48	1
HS20030662-07	DUP 1	12 Mar 2	020 12:23		17 Mar 2020 14:0	00 18 Mar 2020 18:51	1
Batch ID: 151785	5(0)	Test Name : LOW-LEVE	L TEXAS TP	H BY TX1005		Matrix: Water	
HS20030662-05	MW-20R	12 Mar 2	020 13:35		17 Mar 2020 11:0	00 18 Mar 2020 13:09	1
HS20030662-06	Rinsate 2	12 Mar 2	020 17:35		17 Mar 2020 11:0	00 18 Mar 2020 13:39	1
HS20030662-09	DUP 3	12 Mar 2	020 13:40		17 Mar 2020 11:0	00 18 Mar 2020 14:08	1
Batch ID: 151808	3(0)	Test Name : DISSOLVE	D METALS E	SW6020A		Matrix: Water	
HS20030662-01	MW-13	12 Mar 2	020 08:53		18 Mar 2020 13:	30 18 Mar 2020 22:47	1
HS20030662-02	MW-24	12 Mar 2	020 10:40		18 Mar 2020 13:	30 19 Mar 2020 14:18	20
HS20030662-02	MW-24	12 Mar 2	020 10:40		18 Mar 2020 13:	30 18 Mar 2020 22:49	1
HS20030662-03	MW-4	12 Mar 2	020 12:21		18 Mar 2020 13:	30 18 Mar 2020 22:52	1
HS20030662-06	Rinsate 2	12 Mar 2	020 17:35		18 Mar 2020 13:	30 18 Mar 2020 22:54	1
HS20030662-07	DUP 1	12 Mar 2	020 12:23		18 Mar 2020 13:	30 18 Mar 2020 22:56	1

Work	Order:	HS20030662					-
Instru	umentID:	FID-12				REPORTING	LIMITS
Test	Code:	TX1005_W_Low					
Test	Number:	TX1005		Matrix: Aque		Jnits: mg/L	
Test	Name:	Low-level Texas TF	PH by TX1005	Watrix: Aqui	2003		
Туре	Analyte		CAS	DCS Spik	e DCS	MDL	PQL
А	nC6 to nC12	2	TPH-1005-1	0.2	5 0.28	0.20	0.50
А	>nC12 to n	228	TPH-1005-2	0.2	5 0.29	0.20	0.50
А	>nC28 to nC	C35	TPH-1005-4	0.2	5 0.28	0.20	0.50
А	Total Petrol	eum Hydrocarbon	TPH	0.2	5 0.28	0.20	0.50
S	2-Fluorobipl	henyl	321-60-8		0 0	0	0
S	Trifluoromet	hyl benzene	98-08-8		0 0	0	0

Instru	Order: umentID: Code:	HS20030662 ICPMS05 ICP DISS				THOD DETEC EPORTING LI	
Test	Number: Name:	SW6020 (dissolved) Dissolved Metals by SW6	020A	Matrix: Aqueous	Un	its: mg/L	
Туре	Analyte		CAS	DCS Spike	DCS	MDL	PQL
А	Arsenic		7440-38-2	0.000500	0.000499	0.000400	0.00200
А	Manganese		7439-96-5	0.00250	0.00403	0.000700	0.00500
А	Molybdenum		7439-98-7	0.00100	0.000856	0.000600	0.00500

Work	(Order:	HS20030662			ME	THOD DETEC	TION /
Instru	umentID:	ICPMS05			RE	EPORTING LI	MITS
Test	Code:	ICP_TW					
Test	Number:	SW6020		Matrix: Aqueous	llm	its: mg/L	
Test	Name:	ICP-MS Metals by SW6020A		Wallix: Aqueous	Un		
Туре	Analyte		CAS	DCS Spike	DCS	MDL	PQL
А	Arsenic		7440-38-2	0.000500	0.000499	0.000400	0.00200
А	Manganese		7439-96-5	0.00250	0.00403	0.000700	0.00500
А	Molybdenum		7439-98-7	0.00100	0.000856	0.000600	0.00500

Work	WorkOrder: HS20030662				ME		CTION /
Instru	umentID:	SV-6			R	EPORTING L	IMITS
Test	Code:	8270_PAH_LVI					
Test	Number:	SW8270		Matrix Aqueo		nits: mg/L	
Test	Name:	Low-Level PAHs - 8270D		Matrix: Aqueo	us U	nits: mg/L	
Туре	Analyte		CAS	DCS Spike	DCS	MDL	PQL
А	Benzo(a)py	rene	50-32-8	0.0000500	0.0000419	0.0000200	0.000100
S	2-Fluorobip	henyl	321-60-8	0	0	0	0.000100
S	4-Terpheny	I-d14	1718-51-0	0	0	0	0.000100
S	Nitrobenzene-d5		4165-60-0	0	0	0	0.000100

# Client:SKA Consulting, L.P.Project:MDI Superfund SiteWorkOrder:HS20030662

Batch ID: 151785 (	0)	In	strument:	FID-12	м	ethod: L	OW-LEVEL	. TEXAS TPH	BY TX1005	
MBLK S	Sample ID:	MBLK-151785		Units:	mg/L	Ana	alysis Date:	18-Mar-2020	08:26	
Client ID:			Run ID: FID-	12_358444	SeqNo: 5	519192	PrepDate:	17-Mar-2020	DF: <b>1</b>	
Analyte		Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit C	Qual
nC6 to nC12		U	0.50							
>nC12 to nC28		U	0.50							
>nC28 to nC35		U	0.50							
Total Petroleum Hydr	ocarbon	U	0.50							
Surr: 2-Fluorobiphen	yl	2.33	0	2.5	0	93.2	70 - 130			
Surr: Trifluoromethyl	benzene	2.515	0	2.5	0	101	70 - 130			
LCS	Sample ID:	LCS-151785		Units:	mg/L	Ana	alysis Date:	18-Mar-2020	09:42	
Client ID:			Run ID: FID-	12_358444	SeqNo: 5	519193	PrepDate:	17-Mar-2020	DF: <b>1</b>	
Analyte		Result	MQL	– SPK Val	SPK Ref Value	%REC	Control Limit		RPD %RPD Limit C	Qual
nC6 to nC12		25.3	0.50	25	0	101	75 - 125			
>nC12 to nC28		26.67	0.50	25	0	107	75 - 125			
Surr: 2-Fluorobiphen	yl	2.381	0	2.5	0	95.3	70 - 130			
Surr: Trifluoromethyl	benzene	2.604	0	2.5	0	104	70 - 130			
LCSD S	Sample ID:	LCSD-151785		Units:	mg/L	Ana	alysis Date:	18-Mar-2020	10:11	
Client ID:			Run ID: FID-	12_358444	SeqNo: 5	519194	PrepDate:	17-Mar-2020	DF: <b>1</b>	
Analyte		Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit C	Qual
nC6 to nC12		20.14	0.50	25	0	80.6	75 - 125	25.3	22.7 20	
>nC12 to nC28		22.75	0.50	25	0	91.0	75 - 125	26.67	15.9 20	
Surr: 2-Fluorobiphen	γI	2.285	0	2.5	0	91.4	70 - 130	2.381	4.13 20	
Surr: Trifluoromethyl	benzene	2.419	0	2.5	0	96.8	70 - 130	2.604	7.37 20	
MS S	Sample ID:	HS20030619-02	MS	Units:	mg/L	Ana	alysis Date:	18-Mar-2020	11:10	
Client ID:			Run ID: FID-	12_358444	SeqNo: 5	519196	PrepDate:	17-Mar-2020	DF: <b>1</b>	
Analyte		Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit C	Qual
nC6 to nC12		24.63	0.48	24.19	0	102	75 - 125			
>nC12 to nC28		27.56	0.48	24.19	0	114	75 - 125			
Surr: 2-Fluorobiphen	yl	2.389	0	2.419	0	98.8	70 - 130			
Surr: Trifluoromethyl	·	2.553		2.419	0	106	70 - 130			

## Client:SKA Consulting, L.P.Project:MDI Superfund SiteWorkOrder:HS20030662

MSD Sample II	D: HS20030619-02MS	D	Units	mg/L	Ana	alysis Date:	18-Mar-2020	11:39
Client ID:	Ru	n ID: <b>FID-1</b> 2	2_358444	SeqNo: 5	519197	PrepDate:	17-Mar-2020	DF: <b>1</b>
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qua
nC6 to nC12	22.43	0.48	24.15	0	92.9	75 - 125	24.63	9.36 20
>nC12 to nC28	26.75	0.48	24.15	0	111	75 - 125	27.56	2.99 20
Surr: 2-Fluorobiphenyl	2.43	0	2.415	0	101	70 - 130	2.389	1.67 20
Surr: Trifluoromethyl benzene	2.55	0	2.415	0	106	70 - 130	2.553	0.118 20

#### Date: 20-May-20

**QC BATCH REPORT** 

#### SKA Consulting, L.P. **Client: MDI Superfund Site Project:** WorkOrder: HS20030662

Batch ID: 1	51763 ( 0 )	Inst	rument:	ICPMS05	Me	ethod: I	CP-MS MET	ALS BY SWO	6020A
MBLK	Sample ID:	MBLK-151763		Units:	mg/L	Ana	alysis Date:	18-Mar-2020	17:32
Client ID:	·	Ru	un ID: ICPN	AS05_358398	SeqNo: 5	519290	PrepDate:	17-Mar-2020	DF: <b>1</b>
				_	SPK Ref		Control	RPD Ref	RPD
Analyte		Result	MQL	SPK Val	Value	%REC	Limit	Value	%RPD Limit Qual
Arsenic		U	0.00200						
Manganese		U	0.00500						
Molybdenum		U	0.00500						
LCS	Sample ID:	LCS-151763		Units:	mg/L	Ana	alysis Date:	18-Mar-2020	17:34
Client ID:		Ru	un ID: ICPN	AS05_358398	SeqNo: 5	519291	PrepDate:	17-Mar-2020	DF: <b>1</b>
					SPK Ref		Control	RPD Ref	RPD
Analyte		Result	MQL	SPK Val	Value	%REC	Limit	Value	%RPD Limit Qual
Arsenic		0.04791	0.00200	0.05	0	95.8	80 - 120		
Manganese		0.04796	0.00500	0.05	0	95.9	80 - 120		
Molybdenum		0.04497	0.00500	0.05	0	89.9	80 - 120		
мз	Sample ID:	HS20030614-05MS	6	Units:	mg/L	Ana	alysis Date:	18-Mar-2020	18:13
Client ID:		Ru	un ID: ICPN	AS05_358398	SeqNo: 5	519307	PrepDate:	17-Mar-2020	DF: <b>1</b>
Analyte		Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual
Arsenic		0.04448	0.00200	0.05	0.000142	88.7	80 - 120		
Manganese		0.05806	0.00500	0.05	0.01519	85.7	80 - 120		
Molybdenum		0.04412	0.00500	0.05	0.001553	85.1	80 - 120		
MSD	Sample ID:	HS20030614-05MS	SD	Units:	mg/L	Ana	alysis Date:	18-Mar-2020	18:16
Client ID:		Rı	un ID: ICPN	AS05_358398	SeqNo: 5	519308	PrepDate:	17-Mar-2020	DF: <b>1</b>
Analyte		Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual
Arsenic		0.04389	0.00200	0.05	0.000142	87.5	80 - 120	0.04448	1.33 20
Manganese		0.05575	0.00500	0.05	0.01519	81.1	80 - 120	0.05806	4.05 20
Molybdenum		0.04174	0.00500	0.05	0.001553	80.4	80 - 120	0.04412	5.56 20

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### Date: 20-May-20

# Client:SKA Consulting, L.P.Project:MDI Superfund SiteWorkOrder:HS20030662

QC	BAT	СН	REP	ORT
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Batch ID: 1517	763(0)	Instru	ument:	ICPMS05	М	ethod: I	CP-MS MET	ALS BY SW6	020A		
PDS	Sample ID:	HS20030614-05PD	6	Units:	mg/L	Ana	lysis Date:	18-Mar-2020	18:18		
Client ID:		Ru	n ID: ICPN	MS05_358398	SeqNo: 5	5519309	PrepDate:	17-Mar-2020	DF	=: 1	
Analyte		Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	
Arsenic		0.1094	0.00200	0.1	0.000142	109	75 - 125				
Manganese		0.1196	0.00500	0.1	0.01519	104	75 - 125				
Molybdenum		0.1031	0.00500	0.1	0.001553	102	75 - 125				
SD	Sample ID:	HS20030614-05SD		Units:	mg/L	Ana	lysis Date:	18-Mar-2020	18:11		
Client ID:		Ru	n ID: ICPN	MS05_358398	SeqNo: 5	5519306	PrepDate:	17-Mar-2020	DF	=: <b>5</b>	
Analyte		Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic		U	0.0100					0.000142		0 10	)
Manganese		0.01619	0.0250					0.01519		0 10	) .
Molybdenum		U	0.0250					0.001553		0 10	)
The following sam				HS2003066		HS200306		HS20030662-			

# Client:SKA Consulting, L.P.Project:MDI Superfund SiteWorkOrder:HS20030662

Batch ID:	151808 ( 0 )	Ins	strument:	ICPMS05	Me	eniou.	DISSOLVED	METALS BY	SW6020A
MBLK	Sample ID:	MBLK-151808		Units:	mg/L	An	alysis Date:	18-Mar-2020	22:24
Client ID:		F	Run ID: ICPN	AS05_358398	SeqNo: 5	519335	PrepDate:	18-Mar-2020	DF: <b>1</b>
Analyte		Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual
Arsenic		U	0.00200						
Manganese	9	U	0.00500						
Molybdenu	m	U	0.00500						
LCS	Sample ID:	LCS-151808		Units:	mg/L	An	alysis Date:	18-Mar-2020	22:26
Client ID:		F	Run ID: ICPN	NS05_358398	SeqNo: 5	519336	PrepDate:	18-Mar-2020	DF: <b>1</b>
Analyte		Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual
Arsenic		0.04604	0.00200	0.05	0	92.1	80 - 120		
Manganese	9	0.04557	0.00500	0.05	0	91.1	80 - 120		
Molybdenu	m	0.04237	0.00500	0.05	0	84.7	80 - 120		
MS	Sample ID:	HS20030747-02N	IS	Units:	mg/L	An	alysis Date:	18-Mar-2020	22:33
Client ID:		F	Run ID: ICPN	AS05_358398	SeqNo: 5	519339	PrepDate:	18-Mar-2020	DF: <b>1</b>
Analyte		Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual
Arsenic		0.05102	0.00200	0.05	-0.000021	102	75 - 125		
Manganese	9	0.05023	0.00500	0.05	0.000801	98.9	75 - 125		
Molybdenu	m	0.04806	0.00500	0.05	0.000286	95.5	75 - 125		
MSD	Sample ID:	HS20030747-02N	ISD	Units:	mg/L	An	alysis Date:	18-Mar-2020	22:35
Client ID:		F	Run ID: ICPN	AS05_358398	SeqNo: 5	519340	PrepDate:	18-Mar-2020	DF: <b>1</b>
Analyte		Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual
Arsenic		0.04514	0.00200	0.05	-0.000021	90.3	75 - 125	0.05102	12.2 20
Manganese	9	0.04476	0.00500	0.05	0.000801	87.9	75 - 125	0.05023	11.5 20
Molybdenu	m	0.04171	0.00500	0.05	0.000286	82.9	75 - 125	0.04806	14.1 20

# Client:SKA Consulting, L.P.Project:MDI Superfund SiteWorkOrder:HS20030662

Batch ID: 1518	308 ( 0 )	Inst	trument:	ICPMS05	Μ	emoa.	DISSOLVED	METALS BY	SW602	A
PDS	Sample ID:	HS20030747-02PI	DS	Units:	mg/L	Ana	alysis Date:	18-Mar-2020	22:38	
Client ID:		R	Run ID: ICP	MS05_358398	SeqNo:	5519341	PrepDate:	18-Mar-2020	DF	1
Analyte		Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value		RPD Limit Qual
Arsenic		0.1124	0.00200	0.1	-0.000021	112	75 - 125			
Manganese		0.111	0.00500	0.1	0.000801	110	75 - 125			
Molybdenum		0.1061	0.00500	0.1	0.000286	106	75 - 125			
SD	Sample ID:	HS20030747-02SI	D	Units:	mg/L	Ana	alysis Date:	18-Mar-2020	22:31	
Client ID:		R	Run ID: ICP	MS05_358398	SeqNo:	5519338	PrepDate:	18-Mar-2020	DF	5
										0/ D
Analyte		Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit Qual
Analyte Arsenic		Result	MQL 0.0100	SPK Val		%REC		=		
				SPK Val		%REC		Value		Limit Qual
Arsenic		U	0.0100			%REC		Value -0.000021		Limit Qual

# Client:SKA Consulting, L.P.Project:MDI Superfund SiteWorkOrder:HS20030662

Batch ID: 151760 ( 0 )	Ins	trument:	SV-6	M	ethod: L	.OW-LEVEL	PAHS - 8270	D
MBLK Sample ID:	MBLK-151760		Units:	mg/L	Ana	alysis Date:	18-Mar-2020	08:25
Client ID:	R	un ID: <b>SV-6</b>	6_358403	SeqNo: 5	518085	PrepDate:	17-Mar-2020	DF: <b>1</b>
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual
Benzo(a)pyrene	U	0.000100						
Surr: 2-Fluorobiphenyl	0.00349	0.000100	0.00303	0	115	32 - 130		
Surr: 4-Terphenyl-d14	0.00319	0.000100	0.00303	0	105	40 - 135		
Surr: Nitrobenzene-d5	0.00310	0.000100	0.00303	0	102	45 - 142		
LCS Sample ID:	LCS-151760		Units:	mg/L	Ana	alysis Date:	18-Mar-2020	08:44
Client ID:	R	un ID: <b>SV-6</b>	6_358403	SeqNo: 5	518086	PrepDate:	17-Mar-2020	DF: <b>1</b>
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual
Benzo(a)pyrene	0.00366	0.000100	0.00303	0	121	40 - 140		
Surr: 2-Fluorobiphenyl	0.00303	0.000100	0.00303	0	100	32 - 130		
Surr: 4-Terphenyl-d14	0.00318	0.000100	0.00303	0	105	40 - 135		
Surr: Nitrobenzene-d5	0.00270	0.000100	0.00303	0	89.0	45 - 142		
LCSD Sample ID:	LCSD-151760		Units:	mg/L	Ana	alysis Date:	18-Mar-2020	09:04
Client ID:	R	Run ID: <b>SV-6</b>	6_358403	SeqNo: 5	518087	PrepDate:	17-Mar-2020	DF: <b>1</b>
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual
Benzo(a)pyrene	0.00351	0.000100	0.00303	0	116	40 - 140	0.003661	4.26 25
Surr: 2-Fluorobiphenyl	0.00322	0.000100	0.00303	0	106	32 - 130	0.003032	6.15 25
Surr: 4-Terphenyl-d14	0.00312	0.000100	0.00303	0	103	40 - 135	0.003180	1.79 25
Surr: Nitrobenzene-d5	0.00297	0.000100	0.00303	0	98.1	45 - 142	0.002698	9.66 25
The following samples were analyz	ed in this batch: HS2	0030662-04	HS2003060	62-06	HS200306	62-08		_

Client: Project:	SKA Consulting, L.P. MDI Superfund Site	QUALIFIERS, ACRONYMS, UNITS
WorkOrder:	HS20030662	
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	
Μ	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	
 ma/l	Milligrams por Liter	

mg/L

Milligrams per Liter

### CERTIFICATIONS, ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	20-030-0	26-Mar-2021
Dept of Defense	ANAB L2231 V009	22-Dec-2021
Florida	E87611-28	30-Jun-2020
Kansas	E-10352 2019-2020	31-Jul-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2020	31-Dec-2020
Oklahoma	2019-141	31-Aug-2020
Texas	T104704231-20-26	30-Apr-2021

					Sample Receipt Checklist
Work Order ID:	HS20030662 SKA			Time Received: ived by:	<u>13-Mar-2020 11:40</u> Donald Gilmore
Completed By:	/S/ Paresh M. Giga	16-Mar-2020 10:22	Reviewed by: /S/	Bernadette A. Fin	<i>i</i> 16-Mar-2020 12:39
	eSignature	Date/Time		eSignature	Date/Time
Matrices:	Water		Carrier name:	ALS Courier	
Custody seals in Custody seals in VOA/TX1005/TX Chain of custody Chain of custody Samplers name Chain of custody Samples in prope Sample containe Sufficient sample All samples rece	v signed when relinquished and present on COC? v agrees with sample labels? er container/bottle? ers intact? e volume for indicated test? ived within holding time?	aled vials? received?	Yes Ves Ves Ves Ves Ves Ves Ves Ves Ves V		Not Present Not Present Not Present Not Present 1 Page(s) COC IDs:Blue
Temperature(s)/	Blank temperature in complian Thermometer(s):		3.0C U/c		IR25
Cooler(s)/Kit(s):			Blue		
Date/Time samp	le(s) sent to storage:		3/13/2020 19:00		
Water - pH accep pH adjusted? pH adjusted by:	Is have zero headspace? ptable upon receipt?		Yes 🔽 Yes 🛄 Yes 🔽 Si Ma	No 🔽 No 🚺	O VOA vials submitted
Login Notes:	MW-13 & MW-4 Diss Metals pH	I>2 (7) Preserved with 0	.5ml HNO3 3/16/2020	@ 07:55 Final pH (1	)
Client Contacted	Ŀ	Date Contacted:		Person Contac	cted:
Contacted By:		Regarding:			
Comments:					
Corrective Actior	1.				

	Λ	Cincinnati, OH +1 513 733 5336 Everett, WA +1 425 356 2600	Fort Coll +1 970 4 Holland, +1 616 3	90 1511 MI	Cha	ain Pag	of Cus	tody F	orn	n			SKA	Con	sultin	<b>662</b> g, L.P	<sup>)</sup> .		
()	ALS)		2 6. 1 4.				oc id: 2		-					DI Sup	ertund	d Site			
	Customer Informatio	n	T	F	Project Inf		LS Project	Manager:	:										
Purchase Order	39004-0003		Project N		MDI Supe				A							I NELLE EI	ICE BITTE	1181 1881	
Work Order			Project Nur		39004.				++-						No)				
Company Name	SKA Consulting, L.F	».	Bill To Com	pany	SKA Cons														
Send Report To	Steve Lewis		Invoice	Attn	Rebecca				+_+	8270				]pyren	e)				
	1888 Stebbins Drive	9	and and the second s		1888 Steb				E	TX100	<u></u>	LOW (I	PH)						
Address	Suite 100		Add	ress	Suite 100				F										
City/State/Zip	Houston, TX 77043	**************************************	City/State	/Zip	Houston T	X 77	043		G										·
Phone	(713) 266-6056		Pł		(713) 266-				Н										
Fax	(713) 266-0996				(713) 266-				1										
e-Mail Address	lewissd@skaconsult	ing.com	e-Mail Add	and the second			@skaconsi	ulting.com	J										
No.	Sample Description		Date	Time	e Ma	atrix	Pres.	# Bottles		B	C	D	E	F	G	[S. <b>H</b> as]		J	Hold
1 Mw-13		3	-17-70	085	53 i	N	2	2	$\left  \right\rangle$	X	-					1.26			
2 MW-21	1			104	0 1	N	2	2	X	×	1								
3 MW-4				122	1 1	N	2	2	X										
4 MW-:				170	00 1	N N	8	3		1	X								
5 Atto	TOR MW-20	DR		133		N	1	3				X							
6 RIVSA-	TE 2			173		J	2,8	8	X	X	×	X							
7 DUP 1				122		N	2	2	$\frac{1}{2}$	X		,			•				
8 DUP 7	L			170		/	8	3		<b></b>	X		-						
9 DUP3	>		V	134		V	1	3				$\times$							
10								~				6							
Sampler(s) Please P	rint & Sign u ders July		Shipmen	t Method	20.00		ired Turnaro					1er	<u>1</u>		R	esults D	)ue Da	te:	
Relinquished by:		ー Date: ろー13ーアじ / c	and a second	Received b	oy:		STD 10 Wk Days		Wk Da		20/40/00	ik Days		<b>]</b> 24 H	lour				
Relinquished by:	1	Date: Tim		つら	by (Laborator	y):			07-14-14-14-14-14-00-00	SK, bler ID	A-MDI	er Temp		Jookog -	. (Obc =	1. O			
Logged by (Laboratory)		<u>3 13 20</u> , Date: Tim	140 e:	D_2_ Checked b	y (Laboratory	<u>A:</u>					ι	10			Il Std CX	ck One Bo	<u>эх веюч</u> Г		P Checklist
Proconvotivo Vor	1.1101 0.11110							-	131	σĒ		3-0		-		C/Raw Dal	te	-	PLevelIV
Preservative Key:	1-HCI 2-HNO <sub>3</sub> 3	-H <sub>2</sub> SO <sub>4</sub> 4-NaOH	5-Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	6-Na	HSO <sub>4</sub> 7-	-Other	8-4°C	9-5035						Level Other	IV SW84	H/CLP			

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

March 25, 2020

Steve Lewis SKA Consulting, L.P. 1888 Stebbins Drive Suite 100 Houston, TX 77043

Work Order: HS20030823

Laboratory Results for: MDI Superfund Site

Dear Steve,

ALS Environmental received 4 sample(s) on Mar 18, 2020 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,

Sernadette Fini

Generated By: JUMOKE.LAWAL Bernadette A. Fini Project Manager

Client:	SKA Consulting, L.P.	
Project:	MDI Superfund Site	TRRP Laboratory Data Package Cover Page
WorkOrder:	HS20030823	i ackage oover i age

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

- R1 Field chain-of-custody documentation;
- R2 Sample identification cross-reference;
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - a) Items consistent with NELAC Chapter 5,
  - b) dilution factors,
  - c) preparation methods,
  - d) cleanup methods, and
  - e) if required for the project, tentatively identified compounds (TICs).
- R4 Surrogate recovery data including:
  - a) Calculated recovery (%R), andb) The laboratory's surrogate QC limits.
- R5 Test reports/summary forms for blank samples;
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - a) LCS spiking amounts,b) Calculated %R for each analyte, andc)The laboratory's LCS QC limits.
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - a) Samples associated with the MS/MSD clearly identified,
  - b) MS/MSD spiking amounts,
  - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
  - d) Calculated %Rs and relative percent differences (RPDs), and
  - e) The laboratory's MS/MSD QC limits.
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - a) the amount of analyte measured in the duplicate,
  - b) the calculated RPD, and
  - c) the laboratory's QC limits for analytical duplicates.

R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.

R10 Other problems or anomalies.

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	SKA Consulting, L.P.	
Project:	MDI Superfund Site	TRRP Laboratory Data Package Cover Page
WorkOrder:	HS20030823	i ackage cover i age

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [] TCEQ or [] \_\_\_\_\_\_ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

) Dernadette -

Bernadette A. Fini Project Manager

3 of 19

		Laboratory Review Checklist: F	Reportable Data	1				
Labo	ratory ]	Name: ALS Laboratory Group LRO	C Date: 03/25/20	020				
Proje	ct Nan	he: MDI Superfund Site Lab	oratory Job Nun	nber: l	HS2003	0823		
			Batch Number(s)	: 15191	2			
#1	A <sup>2</sup>	Description		Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER# <sup>5</sup>
R1	OI	Chain-of-custody (C-O-C) Did samples meet the laboratory's standard conditions of sample	accentability					
		upon receipt?	acceptability	Х				
		Were all departures from standard conditions described in an exc	eption report?	Х				
R2	OI	Sample and quality control (QC) identification						
		Are all field sample ID numbers cross-referenced to the laborator Are all laboratory ID numbers cross-referenced to the correspond		X X				
R3	OI	Test reports		Λ				
10	01	Were all samples prepared and analyzed within holding times?		Х				
		Other than those results < MQL, were all other raw values brack	eted by					
		calibration standards? Were calculations checked by a peer or supervisor?		X X				
		Were all analyte identifications checked by a peer of supervisor?		X				
		Were sample detection limits reported for all analytes not detected		X				
		Were all results for soil and sediment samples reported on a dry	weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment sa				Х		-
		Were bulk soils/solids samples for volatile analysis extracted wit SW-846 Method 5035?	n meutanoi per			Х		
		If required for the project, TICs reported?				X		
R4	0	Surrogate recovery data						
		Were surrogates added prior to extraction? Were surrogate percent recoveries in all samples within the labor	ratom, OC	Х				-
		limits?	atory QC	Х				
R5	OI	Test reports/summary forms for blank samples						
		Were appropriate type(s) of blanks analyzed?		Х				
		Were blanks analyzed at the appropriate frequency?	:	Х				
		Were method blanks taken through the entire analytical process, preparation and, if applicable, cleanup procedures?	including	Х				
		Were blank concentrations < MQL?		X				
R6	OI	Laboratory control samples (LCS):						
		Were all COCs included in the LCS?		Х				
		Was each LCS taken through the entire analytical procedure, include cleanup steps?	luding prep and	Х				
		Were LCSs analyzed at the required frequency?		X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory		Х				
		Does the detectability data document the laboratory's capability COCs at the MDL used to calculate the SDLs?	to detect the	Х				
		Was the LCSD RPD within QC limits?		<u>л</u> Х				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data						
		Were the project/method specified analytes included in the MS a	nd MSD?	Х				
		Were MS/MSD analyzed at the appropriate frequency?	C limita?		X	v		1
		Were MS (and MSD, if applicable) %Rs within the laboratory Q Were MS/MSD RPDs within laboratory QC limits?	C mmus ?			X X	+	
<b>R8</b>	OI	Analytical duplicate data						
		Were appropriate analytical duplicates analyzed for each matrix?				X		
		Were analytical duplicates analyzed at the appropriate frequency				X		
R9	OI	Were RPDs or relative standard deviations within the laboratory <b>Method quantitation limits (MQLs):</b>	QC nmits?			X		
		Are the MQLs for each method analyte included in the laboratory	y data package?	Х				
		Do the MQLs correspond to the concentration of the lowest non-						
		standard?	maalsa ga?	X				
R10	OI	Are unadjusted MQLs and DCSs included in the laboratory data Other problems/anomalies	package?	Х				
		Are all known problems/anomalies/special conditions noted in th	is LRC and					
		ER?		X				
		Were all necessary corrective actions performed for the reported		Х				
		Was applicable and available technology used to lower the SDL the matrix interference affects on the sample results?	and minimize	Х				
		Is the laboratory NELAC-accredited under the Texas Laboratory					1	1
		the analytes, matrices and methods associated with this laborator		Х				
		4 of 19						
	1	4 of 19			I	1	1	1

Labor	ratory ]	Laboratory Review Checklist           Name: ALS Laboratory Group         LR	C Date: 03/25/2020					
			boratory Job Number	r: HS	200308	323		
		*	p Batch Number(s): 15					
#1	A <sup>2</sup>	Description	-	Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER#
<u>S1</u>	OI	Initial calibration (ICAL)		105	110	111		
~ -		Were response factors and/or relative response factors for each	analyte within OC					
		limits?		Х				
		Were percent RSDs or correlation coefficient criteria met?		Х				
		Was the number of standards recommended in the method used	for all analytes?	Х				
		Were all points generated between the lowest and highest stand						
		calculate the curve?		Х				
		Are ICAL data available for all instruments used?		Х				
		Has the initial calibration curve been verified using an appropri-	ate second source					
		standard?		Х				
S2	OI	Initial and continuing calibration verification (ICCV and Co continuing calibration blank (CCB)	CV) and					
		Was the CCV analyzed at the method-required frequency?		Х				
		Were percent differences for each analyte within the method-re-	quired QC limits?	Х				
		Was the ICAL curve verified for each analyte?		Х				
		Was the absolute value of the analyte concentration in the inorg	anic CCB < MDL?			Х		
<b>S</b> 3	0	Mass spectral tuning:						
		Was the appropriate compound for the method used for tuning?		Х				
		Were ion abundance data within the method-required QC limits	?	Х				
<b>S4</b>	0	Internal standards (IS):						
		Were IS area counts and retention times within the method-requ	ired QC limits?	Х				
		Raw data (NELAC section 1 appendix A glossary, and section	5.12 or ISO/IEC					
<b>S</b> 5	OI	17025 section						
		Were the raw data (for example, chromatograms, spectral data)	reviewed by an					
		analyst?		Х				
		Were data associated with manual integrations flagged on the ra	w data?	Х				
<b>S6</b>	0	Dual column confirmation						
		Did dual column confirmation results meet the method-required	QC?			Х		
S7	0	Tentatively identified compounds (TICs):						
		If TICs were requested, were the mass spectra and TIC data sub checks?	ject to appropriate			х		
<b>S8</b>	Ι	Interference Check Sample (ICS) results:						
		Were percent recoveries within method QC limits?				Х		
S9	Ι	Serial dilutions, post digestion spikes, and method of standa	rd additions					
		Were percent differences, recoveries, and the linearity within the	ne QC limits					
		specified in the method?				Х		
S10	OI	Method detection limit (MDL) studies						
		Was a MDL study performed for each reported analyte?		Х				
		Is the MDL either adjusted or supported by the analysis of DCS	s?	Х				
S11	OI	Proficiency test reports:						
		Was the laboratory's performance acceptable on the applicable	proficiency tests or					
		evaluation studies?		Х				
S12	OI	Standards documentation						
		Are all standards used in the analyses NIST-traceable or obtained	ed from other					
G10	01	appropriate sources?		Х		_		
S13	OI	Compound/analyte identification procedures Are the procedures for compound/analyte identification docume		V				
C14	OI		ented?	Х				
S14	OI	<b>Demonstration of analyst competency (DOC)</b>	O/IEC 49	v				
		Was DOC conducted consistent with NELAC Chapter 5C or IS		X		-		_
		Is documentation of the analyst's competency up-to-date and or		Х				
S15	OI	Verification/validation documentation for methods (NELAC	Chap 5 or					
S15		ISO/IEC 17025 Section 5)	ind and validated					
		Are all the methods used to generate the data documented, verif	ieu, and validated,	Х			1	
S16	OI	where applicable?		Λ				
310	UI	Laboratory standard operating procedures (SOPs):	10	Х				
510		Are laboratory SOPs current and on file for each method perfor						

NA = Not Applicable; NR = Not Reviewed; R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Exception Reports							
Labor	atory Name: ALS Laboratory Group	LRC Date: 03/25/2020					
Projec	ct Name: MDI Superfund Site	Laboratory Job Number: HS20030823					
Revie	wer Name: Bernadette Fini	Prep Batch Number(s): 151912					
ER# <sup>5</sup>	Description						
1       Batch 151912, PAH Semivolatile Organics Method SW8270, LCS/LCSD were analyzed and reported in lieu of an MS/MSD for this batch.							
retained O = Orga	entified by the letter "R" must be included in the laboratory data and made available upon request for the appropriate retention anic Analyses; I = Inorganic Analyses (and general chemistry, t Applicable;						

R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

#### Date: 25-Mar-20

# Client:SKA Consulting, L.P.Project:MDI Superfund SiteWork Order:HS20030823

#### SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20030823-01	MW-24	Water		18-Mar-2020 09:58	18-Mar-2020 13:20	
HS20030823-02	DUP-4	Water		18-Mar-2020 10:05	18-Mar-2020 13:20	
HS20030823-03	MW-4	Water		18-Mar-2020 11:30	18-Mar-2020 13:20	
HS20030823-04	RINSTATE 3	Water		18-Mar-2020 11:45	18-Mar-2020 13:20	

Client:	SKA Consulting, L.P.	ANALYTICAL REPORT
Project:	MDI Superfund Site	WorkOrder:HS20030823
Sample ID:	MW-24	Lab ID:HS20030823-01
Collection Date:	18-Mar-2020 09:58	Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS - 8270D		Method:S	W8270		Prep:SW3511 /	Analyst: LG	
Benzo(a)pyrene	U	0.	0000199	0.0000994	mg/L	1	24-Mar-2020 22:20
Surr: 2-Fluorobiphenyl	110			32-130	%REC	1	24-Mar-2020 22:20
Surr: 4-Terphenyl-d14	102			40-135	%REC	1	24-Mar-2020 22:20
Surr: Nitrobenzene-d5	129			45-142	%REC	1	24-Mar-2020 22:20

Client:	SKA Consulting, L.P.	ANALYTICAL REPORT
Project:	MDI Superfund Site	WorkOrder:HS20030823
Sample ID:	DUP-4	Lab ID:HS20030823-02
Collection Date:	18-Mar-2020 10:05	Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS - 8270D		Method:S	N8270		Prep:SW3511 / 20-Mar-2020		Analyst: LG
Benzo(a)pyrene	U	0.0	0000199	0.0000997	mg/L	1	24-Mar-2020 22:39
Surr: 2-Fluorobiphenyl	103			32-130	%REC	1	24-Mar-2020 22:39
Surr: 4-Terphenyl-d14	96.1			40-135	%REC	1	24-Mar-2020 22:39
Surr: Nitrobenzene-d5	134			45-142	%REC	1	24-Mar-2020 22:39

Client:	SKA Consulting, L.P.	ANALYTICAL REPORT
Project:	MDI Superfund Site	WorkOrder:HS20030823
Sample ID:	MW-4	Lab ID:HS20030823-03
Collection Date:	18-Mar-2020 11:30	Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS - 8270D		Method:S	W8270		Prep:SW3511 / 20-Mar-2020		Analyst: LG
Benzo(a)pyrene	U	0.0	0000196	0.0000980	mg/L	1	24-Mar-2020 22:59
Surr: 2-Fluorobiphenyl	104			32-130	%REC	1	24-Mar-2020 22:59
Surr: 4-Terphenyl-d14	106			40-135	%REC	1	24-Mar-2020 22:59
Surr: Nitrobenzene-d5	122			45-142	%REC	1	24-Mar-2020 22:59

Client:	SKA Consulting, L.P.	ANALYTICAL REPORT
Project:	MDI Superfund Site	WorkOrder:HS20030823
Sample ID:	RINSTATE 3	Lab ID:HS20030823-04
Collection Date:	18-Mar-2020 11:45	Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS - 8270D		Method:S	W8270		Prep:SW3511 / 20-Mar-2020		Analyst: LG
Benzo(a)pyrene	U	0.0	0000195	0.0000973	mg/L	1	24-Mar-2020 23:19
Surr: 2-Fluorobiphenyl	111			32-130	%REC	1	24-Mar-2020 23:19
Surr: 4-Terphenyl-d14	107			40-135	%REC	1	24-Mar-2020 23:19
Surr: Nitrobenzene-d5	98.7			45-142	%REC	1	24-Mar-2020 23:19

### Weight / Prep Log

## Client:SKA Consulting, L.P.Project:MDI Superfund SiteWorkOrder:HS20030823

Batch ID: 151912		Start Dat	e: 20 Mar 20	20 09:03	End Date:
Method: SW3511					Prep Code: 3511_PAH
Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS20030823-01		33.21 (mL)	2 (mL)	0.06022	
HS20030823-02		33.1 (mL)	2 (mL)	0.06042	
HS20030823-03		33.69 (mL)	2 (mL)	0.05936	
HS20030823-04		33.93 (mL)	2 (mL)	0.05894	

HS20030823-01	MW-24	18 Mar 2020 09:58	20 Mar 2020 09:03	24 Mar 2020 22:20	1			
HS20030823-02	DUP-4	18 Mar 2020 10:05	20 Mar 2020 09:03	24 Mar 2020 22:39	1			
HS20030823-03	MW-4	18 Mar 2020 11:30	20 Mar 2020 09:03	24 Mar 2020 22:59	1			
HS20030823-04	RINSTATE	3 18 Mar 2020 11:45	20 Mar 2020 09:03	24 Mar 2020 23:19	1			

Work	Order:	HS20030823			ME		CTION /	
Instru	umentID:	SV-6			R	EPORTING L	IMITS	
Test	Code:	8270_PAH_LVI						
Test	Number:	SW8270		Matrix: Aqueo		Units: mg/L		
Test	Name:	Low-Level PAHs - 8270D		Matrix: Aqueo	us U	Units: mg/L		
Туре	Analyte		CAS	DCS Spike	DCS	MDL	PQL	
А	Benzo(a)py	rene	50-32-8	0.0000500	0.0000419	0.0000200	0.000100	
S	2-Fluorobip	henyl	321-60-8	0	0	0	0.000100	
S	4-Terpheny	I-d14	1718-51-0	0	0	0	0.000100	

# Client:SKA Consulting, L.P.Project:MDI Superfund SiteWorkOrder:HS20030823

Batch ID: 151912 ( 0 )	Inst	trument:	SV-6	M	ethod: L	OW-LEVEL	PAHS - 8270	D
MBLK Sample ID:	MBLK-151912		Units:	mg/L	Ana	alysis Date:	24-Mar-2020	21:20
Client ID:	R	un ID: SV-6	358877	SeqNo: 5	529561	PrepDate:	20-Mar-2020	DF: <b>1</b>
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual
Benzo(a)pyrene	U	0.000100						
Surr: 2-Fluorobiphenyl	0.00307	0.000100	0.00303	0	101	32 - 130		
Surr: 4-Terphenyl-d14	0.00311	0.000100	0.00303	0	103	40 - 135		
Surr: Nitrobenzene-d5	0.00388	0.000100	0.00303	0	128	45 - 142		
LCS Sample ID:	LCS-151912		Units:	mg/L	Ana	alysis Date:	24-Mar-2020	21:40
Client ID:	R	un ID: SV-6	358877	SeqNo: 5	529562	PrepDate:	20-Mar-2020	DF: <b>1</b>
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual
Benzo(a)pyrene	0.00346	0.000100	0.00303	0	114	40 - 140		
Surr: 2-Fluorobiphenyl	0.00304	0.000100	0.00303	0	100	32 - 130		
Surr: 4-Terphenyl-d14	0.00313	0.000100	0.00303	0	103	40 - 135		
Surr: Nitrobenzene-d5	0.00357	0.000100	0.00303	0	118	45 - 142		
LCSD Sample ID:	LCSD-151912		Units:	mg/L	Ana	alysis Date:	24-Mar-2020	22:00
Client ID:	R	un ID: SV-6	358877	SeqNo: 5	529563	PrepDate:	20-Mar-2020	DF: <b>1</b>
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual
Benzo(a)pyrene	0.00376	0.000100	0.00303	0	124	40 - 140	0.003457	8.31 25
Surr: 2-Fluorobiphenyl	0.00320	0.000100	0.00303	0	106	32 - 130	0.003035	5.33 25
Surr: 4-Terphenyl-d14	0.00317	0.000100	0.00303	0	105	40 - 135	0.003129	1.38 25
Surr: Nitrobenzene-d5	0.00393	0.000100	0.00303	0	130	45 - 142	0.003567	9.59 25
The following samples were analyze	ed in this batch: HS20	0030823-01	HS2003082	23-02	HS200308	23-03	HS20030823-	-04

Client:	SKA Consulting, L.P.	QUALIFIERS,	
Project:	MDI Superfund Site	ACRONYMS, UNITS	
WorkOrder:	HS20030823		
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		
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		
•	Millionene en Liter		

mg/L

Milligrams per Liter

### CERTIFICATIONS, ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	19-028-0	27-Mar-2020
California	2919, 2019-2020	30-Apr-2020
Dept of Defense	ANAB L2231 V009	22-Dec-2021
Florida	E87611-28	30-Jun-2020
Illinois	2000322019-2	09-May-2020
Kansas	E-10352 2019-2020	31-Jul-2020
Kentucky	123043, 2019-2020	30-Apr-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2020	31-Dec-2020
North Dakota	R-193 2019-2020	30-Apr-2020
Oklahoma	2019-067	31-Aug-2020
Texas	T104704231-19-25	30-Apr-2020

Client Name: SKA Work Order: HS200	030823		Time Received: ived by:	Sample Receipt Checklist <u>18-Mar-2020 13:20</u> <u>AC</u>
Checklist completed by		-2020Reviewed by:	Bernadette eSignature	
Matrices: <u>V</u>	VATER	Carrier name:	<u>Client</u>	
Custody seals intact or VOA/TX1005/TX1006 Chain of custody prese Chain of custody signe Samplers name preser Chain of custody agree Samples in proper con Sample containers inta Sufficient sample volur All samples received w	n shipping container/cooler? n sample bottles? Solids in hermetically sealed vials? ent? ed when relinquished and received? nt on COC? es with sample labels? tainer/bottle? ect? ne for indicated test?	Yes Yes Yes Yes Yes Yes Yes Yes	No	Not Present Not Present Not Present Not Present 1 Page(s) COC IDs:221399
Temperature(s)/Therm	ometer(s):	3.3 c UC/c		IR 25
Cooler(s)/Kit(s): Date/Time sample(s) s	ent to storage:	24456 MAR/18/2020 13::	20	
Water - VOA vials have Water - pH acceptable pH adjusted? pH adjusted by: Login Notes:		Yes Yes Yes		No VOA vials submitted  N/A  N/A
Client Contacted:	Date Contacte	ed:	Person Cor	ntacted:
Contacted By: Comments:	Regarding:			
Corrective Action:				

		Cincinnati, OH +1 513 733 5336 Everett, WA +1 425 356 2600	Fort Coll +1 970 4 Holland, +1 616 3	90 1511 MI	Ch	Pa	of Cus			m			Sk	KA Co	2003 Onsult Uperfu	tina. L	P	<b></b>	
	Customer Information		1				ALS Projec	t Manager	:										
Purchase Order	39004-0003		Drojaat M		Project In				-										
Work Order	35004-0003		Project N		MDI Sup				A	ICP_D	DISS (F	ield fill	tered N	Mn & M	Mo)			1.000 1111 10	181
Company Name	0/(4.0		Project Nur		390	04	-0003	•	В	ICP_1	W(To	tal Mo	& Mn)						
	SKA Consulting, L.P.		Bill To Com	pany	SKA Cor	nsulting	g, L.P.		c	8270_	PAH_L	.VI (Be	enzo[a]	lpyren	e)				•
Send Report To	Steve Lewis		Invoice	Attn	Rebecca	Fonse	eca - AP		D		)5_W_I			<u></u>					PROS. A.L.
Address	1888 Stebbins Drive Suite 100		Add	ress	1888 Ste Suite 100		Drive		E										
City/State/Zip	Houston, TX 77043	·····	01. /01	·····					F										
Phone	(713) 266-6056		City/State		Houston				G										
			Ph		(713) 260				H										
Fax	(713) 266-0996				(713) 266				1										
e-Mail Address No.	lewissd@skaconsultin	g.com	e-Mail Add	ress	rebecca.f	fonsec	a@skacon:	sulting.com	J										
1	Sample Description		Date	Tim		latrix	Pres.	# Bottles	A	B	C	<b>D</b> . <sup>1</sup>	E	F	G	H H		<b>J</b> _	Hold
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6	2 <b>1</b>																		
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10																			
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-ogged by (Laboratory): Preservative Key:	Dat	te: Time	*:	Checked I	oy (Laborato				240	156	3	2/C 		Level	II Std OC III Std OC	YRaw Dat	X	) TRIRI (	Checklist Level IV
	$\frac{1-\text{HCl}}{2-\text{HNO}_3} = 3-\text{H}$	<sub>2</sub> SO <sub>4</sub> 4-NaOH	5-Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>		HSO <sub>4</sub>	7-Othe	r 8-4°C	<b>9-</b> 5035			1	F.o. ?	-	Cther	IV SVA846	/CLP			

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

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**APPENDIX 4** 

DATA VALIDATION REPORT

#### DATA VALIDATION REPORT MONITORED NATURAL ATTENUATION REPORT NO. 11 MARCH 2020 GROUNDWATER MONITORING EVENT MANY DIVERSIFIED INTERESTS, INC. SUPERFUND SITE OPERABLE UNIT 1 3617 BAER STREET HOUSTON, HARRIS COUNTY, TEXAS

SKA Consulting, L.P. (SKA) reviewed field and groundwater analytical data collected in March 2020 for the Many Diversified Interests, Inc. (MDI) Superfund Site Operable Unit 1 (OU1) (subject property). The groundwater samples were collected by SKA personnel and analyzed by ALS Laboratory Group (ALS) in Houston, Texas. The purpose of completing a Data Validation Report (DVR) is to determine whether the field sampling and analytical processes produced quality data and identify any biases in the data.

The field procedures, field data, and laboratory analytical data were reviewed in accordance with the site-specific Remedial Action (RA) Monitored Natural Attenuation (MNA) Plan dated July 17, 2007, RA Quality Assurance Project Plan (RA QAPP) dated July 17, 2007, the U.S. Environmental Protection Agency (EPA) Guidance on Environmental Data Verification and Data Validation (EPA QA/G-8) dated November 2002, and the Texas Commission on Environmental Quality (TCEQ) Texas Risk Reduction Program (TRRP) Regulatory Guidance for the Review and Reporting of Chemical of Concern Concentration Data under TRRP (RG-366/TRRP-13) dated May 2010.

The RA MNA Plan and RA QAPP were prepared by ENTACT as part of the RA Work Plan for the subject property. As detailed in the RA Work Plan, MNA was selected as the groundwater remedy for two of the three Plume Management Zones (PMZs) on the subject property. The list of monitoring wells and parameters to be sampled were initially approved in the RA MNA Plan, which was modified per the EPA Approval Letter dated September 2, 2009. This Approval Letter re-defined Point of Compliance (POC) wells and defined the Attenuation Monitoring Point (AMP) wells for the site PMZs.

In accordance with the plans and documents, groundwater samples were collected from the following monitoring wells and analyzed for the following constituents of concern (COCs):

- Total and dissolved arsenic (As), manganese (Mn), and molybdenum (Mo): monitoring wells MW-4, MW-8, MW-13, MW-23, MW-24, MW-28, and MW-29;
- Benzo(a)pyrene (BaP): monitoring wells MW-3R, MW-4, MW-24, and MW-25; and
- Total petroleum hydrocarbons (TPH): monitoring wells MW-1, MW-20R, MW-26, and MW-27R2.

Field data was verified for completeness and conformance/compliance with project methods, as outlined in the RA MNA Plan and RA QAPP. SKA reviewed ALS Laboratory Reports Nos. HS20030551, HS20030662, and HS20030823 for conformance to the EPA guidance document (EPA QA/G-8) and adherence to project objectives. These laboratory data packages were verified by ALS and laboratory qualifiers to data were assigned, as necessary, prior to being issued to SKA.

# FIELD DATA

SKA reviewed the field records with respect to field instrument calibrations, filtering procedures, sampling procedures, and preservation procedures prior to shipping the samples to the laboratory. Field records were found to be consistent with the methods set forth in the RA MNA Plan and RA QAPP.

SKA collected 13 groundwater samples in March 2020. No deviations are reported for the field procedures or the collection of field data, except for the following:

- Groundwater samples collected for dissolved metals analyses (As, Mn, and Mo) were field filtered by SKA personnel using a 0.45-micron filter, which is the correct filter to use for the analysis of dissolved metals.
- Field measurements for pH were not recorded correctly by SKA personnel during lowflow groundwater sampling for monitoring wells MW-01, MW-25, MW-26, and MW-27R2. Measurements of pH were recorded in millivolts instead of the proper pH scale. These measurements provide only relative pH concentrations and cannot be converted to actual pH measurements. However, the other field parameters were recorded correctly, and the groundwater samples collected from these monitoring wells are valid.
- Monitoring well MW-20R contained a measurable light, non-aqueous phase liquid (LNAPL) thickness of 0.01 foot on March 10, 2020. The TCEQ considers any LNAPL thickness less than 0.10 foot to be non-recoverable. As such, SKA removed the LNAPL from the well by purging three (3) well volumes from monitoring well MW-20R using a dedicated, disposable bailer on March 11, 2020. The monitoring well was then allowed to recharge overnight to return to static conditions. On March 12, 2020, SKA gauged monitoring well MW-20R, and measurable LNAPL was not encountered. Groundwater samples were then collected from monitoring well MW-20R using low-flow groundwater sampling methods as specified in the RA MNA Plan and RA QAPP.

No data qualifications were added due to the above-listed deviations. The field procedures employed for groundwater sample collection complied with the RA MNA Plan and RA QAPP and are not expected to adversely impact the usability of the groundwater analytical data.

## LABORATORY ANALYTICAL DATA

Data were reviewed and validated as described in the EPA Guidance on Environmental Data Verification and Data Validation (EPA QA/G-8) and the TCEQ Regulatory Guidance for the Review and Reporting of Chemical of Concern Concentration Data (RG-366/TRRP-13), and the results of the review/validation are discussed in this DVR. The following laboratory submittals were examined:

- the reportable data, and
- the laboratory review checklists and associated exception reports.

The results of supporting quality control (QC) analyses were summarized on the Laboratory Review Checklists (LRCs), Exception Reports (ERs), and in the case narratives, all of which were included in this review. The LRCs, associated ERs, and reportable data included in this review are attached to this DVR.

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The ALS data packages included QC Reports for method blanks, laboratory control samples (LCS) and duplicate spikes, matrix spikes (MS), and continuing calibration verification (CCV) standards. All available QC information was reviewed and is included in the laboratory data packages.

Laboratory analyses requested from ALS included:

- EPA Method SW-846 6020A Inductively Coupled Plasma (ICP) Metals (Total and Dissolved) by Mass Spectrometry (MS) for As, Mn, and Mo;
- EPA Method SW-846 8270D Polycyclic Aromatic Hydrocarbons (PAHs) by Gas Chromatography/Mass Spectrometry (GC/MS) for BaP; and
- Texas (TX) Method 1005 TPH by Gas Chromatography/Flame Ionization Detector (GC/FID)

The target compounds for the aforementioned soil analyses and the Chemical Abstracts Service (CAS) Number with which each compound is associated are listed in the attached **Tables 1** through **3**.

The following samples were collected by SKA and delivered to ALS:

- Eight groundwater samples and one rinsate sample were collected on March 11, 2020 and delivered to ALS on March 12, 2020;
- Five groundwater samples, one rinsate sample, and three duplicate samples were collected on March 12, 2020 and delivered to ALS on March 13, 2020; and
- Two groundwater samples, one rinsate sample, and one duplicate sample were collected and delivered to ALS on March 18, 2020.

All samples received by ALS were analyzed for one or more of the aforementioned analyses. The sample field identifications and their respective cross-referenced laboratory identifications and associated laboratory analytical reports is presented in *Table 4*.

The project objectives for the laboratory analyses performed on the above-referenced groundwater samples are detailed below:

Organic Compounds:	Recovery between 60% and 140% Relative Percent Difference (RPD) <40%
Inorganic Compounds:	Recovery between 70% and 130% RPD <30%
Duplicate Samples:	RPD <30%

For laboratory analyses that the laboratory objectives are less stringent than the project objectives, the laboratory objectives will be utilized as the project objectives.

# **Analytical Results**

In the ALS data packages, non-detect results are reported as less than the value of the sample detection limits (SDLs) as defined by the TRRP rule. Where applicable, qualified analytical data are listed in *Table 5*.

## **Preservation and Holding Times**

The groundwater samples were evaluated for agreement with the applicable chain of custody, which is included at the end of each analytical report. The chain of custody contains information regarding requested analyses, sample preservation, and sample collection details. According to the sample receipt checklists included in the ALS analytical reports, the samples were received by ALS in the appropriate containers and in good condition.

A temperature blank was included in each cooler with the samples. The sample receipt checklists document that the samples were received at temperatures between 0.9 and 3.3 degrees Celsius (°C). Sample receipt temperatures were within the acceptance criteria of 0°C to 6°C for ALS Laboratory Report Nos. HS20030551, HS20030662, and HS20030823.

According to the chains of custody, the samples were properly preserved in accordance with the published analytical method as specified in SW-846 Table 2-40(A) and Table 2-40(B). According to the laboratory sample receipt checklist for ALS Laboratory Report No. HS20030662, the groundwater samples submitted for dissolved metals analysis from monitoring wells MW-04 and MW-13 exhibited a pH greater than 2 and were preserved with an additional 0.5 milliliters (mL) of nitric acid (HNO<sub>3</sub>) by ALS. Since pH of the sample was adjusted to the proper range prior to the laboratory analysis, no data qualifiers were applied to these analytical results. Samples were prepared and analyzed within holding times specified in SW-846.

The review of additional sample preparation information was not required for the analyses performed for this project. Analysis dates for the samples are included in the laboratory analytical reports. All of the samples analyzed for total and dissolved Mn and Mo, BaP, and TPH were analyzed within their respective method-specific holding times.

## Calibrations

The LRCs for the ALS data packages were reviewed for information regarding instrument calibration for each method. According to the LRCs, initial and continuing calibration verification (ICCV and CCV) data met applicable analytical method requirements. There were no exception reports noted related to ICCVs.

Continuing calibration blanks (CCBs) were analyzed prior to and after analysis of each laboratory analytical batch. One exception report for CCBs was noted in ALS Laboratory Report No. HS20030662 after Batch No. 151808. According to the CCB Exception Report, dissolved molybdenum was detected at 0.000653 milligrams per liter (mg/L) in CCB 13 which is slightly greater than the method detection limit (MDL)/SDL of 0.000600 mg/L but less than the reporting limit (RL)/method quantitation limit (MQL) of 0.005000 mg/L. Project samples included in Batch No. 151808 were MW-04, MW-13, MW-24, Rinsate 2, and DUP-2. None of the project samples in Batch No. 151808 were affected except for Rinsate 2. The detected molybdenum results for Rinsate 2 were less than 5 times the CCB detected result; therefore, the total and dissolved molybdenum results for Rinsate 2 are considered non-detect results and are qualified as summarized in **Table 5**.

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## Blanks

Method blanks were analyzed for each analyte in each analytical batch and the results are included in each analytical report. No qualifiers relating to the laboratory method blanks applied to the analytical data, and no trip blanks were analyzed.

#### **Internal Standard and Surrogate Recoveries**

Surrogate recoveries and RPDs for metals (total and dissolved), PAHs, and TPH analyses were within the project objectives. No qualifiers relating to surrogate and internal standard recoveries were applied to the analytical data.

#### Laboratory Control Samples

Laboratory control samples (LCSs) and laboratory control sample duplicates (LCSDs) were analyzed for each analyte in each analytical batch. LCS/LCSD recoveries for all analyses met the laboratory specifications and/or project objectives. No qualifiers relating to LCS and LCSD analyses were applied to the analytical data.

#### Matrix Spike/Matrix Spike Duplicates

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) precision and accuracy results met the laboratory specifications and/or project objectives with the following exceptions.

MS and MSD analyses were performed at the appropriate frequency except for the PAH analyses for Batch No. 151760 in ALS Laboratory Report HS20030551 and Batch No. 151912 in ALS Laboratory Report HS20030823. Batch No. 151760 included project samples MW-25 and Rinsate 1, and Batch No. 151912 included project samples MW-04, MW-24, Rinsate 3, and DUP-4. MS/MSD analyses were not performed for these batches due to insufficient sample volume; however, LCS and LCSD data were provided as batch quality control, and no data qualifiers were applied.

According to ALS Laboratory Report HS20030551, the percent recoveries for manganese in the MS and MSD analyses for Batch No. 151776 were 71.5% and 35.5%, respectively, which were less than the laboratory objective of 80%. Matrix interference was suspected. While the percent recovery for the MS of 71.5% is within the acceptable range for the stated project objective, the percent recovery for the MSD of 35.5% is less than the minimum project objective. However, the unspiked parent sample was from an unrelated project and had a reported manganese concentration of 0.381 mg/L, which was more than 4 times the manganese concentration used for the matrix spike (0.05 mg/L). As a result, no data qualifiers were applied to the reported manganese concentrations for the project samples associated with this batch.

## **Field Precision**

Duplicate groundwater samples were collected from monitoring wells MW-03R (DUP-1), MW-04 (DUP-2), MW-20R (DUP-3), and MW-24 (DUP-4) in March 2020 and analyzed for metals, PAHs, and/or TPH. The analytical results for the duplicate samples met the project objectives (RPD <30%).

Three equipment rinsate blanks (Rinsate 1 through Rinsate 3) were collected during groundwater sampling activities conducted in March 2020. Equipment rinsate blank sample SKA Consulting, L. P. March 2020 Houston, Texas

Rinsate 1 was collected on March 11, 2020 after the last sample of the day and analyzed for metals, PAHs, and TPH, and the results were all non-detect. Equipment rinsate blank sample Rinsate 3 was collected on March 18, 2020 after the last sample of the day and analyzed for PAHs, and the results were non-detect. These analytical results do not indicate that field sampling equipment used on March 11, 2020 and March 18, 2020 contained or contributed any detectable concentrations of COCs.

Equipment rinsate blank sample Rinsate 2 was collected on March 12, 2020 after the last sample of the day and analyzed for metals, PAHs, and TPH, and the results were non-detect except for molybdenum. As previously discussed, the detected molybdenum results for the Rinsate 2 sample were less than 5 times the CCB detected result; therefore, the total and dissolved molybdenum results for Rinsate 2 are considered non-detect results and are qualified as summarized in *Table 5*. These analytical results do not indicate that field sampling equipment used on March 12, 2020 contained or contributed any detectable concentrations of COCs.

# SUMMARY

The analytical data are considered usable for purposes of determining COC concentrations in groundwater on and near the subject property. All other analytical data reported and detailed within this DVR are considered usable as qualified.

Table 1 - Metal target compounds (Total and Dissolved) analyzed by SW-846 6020 (ICP/MS)

Analyte	CAS Number
Arsenic	7440-38-2
Manganese	7439-96-5
Molybdenum	7439-98-7

Table 2 - TPH target compounds analyzed by TX Method 1005 (GC/FID)

Analyte	CAS
nC6 to nC12	TPHGRO
>nC12 to nC28	TPHDRO
>nC28 to nC35	10W40MOTOROIL
Total Petroleum Hydrocarbon	ТРН

*Table 3* – Polycyclic Aromatic Hydrocarbons analyzed by SW-846 8270 (GC/MS)

Analyte	CAS
Benzo(a)pyrene	50-32-8

Table 4 - Cross-Reference Field Sample Identifications and Laboratory Identifications

ALS	Analytical Report. HS2003	30551
Field Sample ID	Laboratory Sample ID	Environmental Media
MW-28	HS20030551-01	Groundwater
MW-27R2	HS20030551-02	Groundwater
MW-29	HS20030551-03	Groundwater
MW-26	HS20030551-04	Groundwater
MW-8	HS20030551-05	Groundwater
MW-23	HS20030551-06	Groundwater
MW-25	HS20030551-07	Groundwater
MW-1	HS20030551-08	Groundwater
Rinstate 1	HS20030551-09	Water
ALS	Analytical Report. HS2003	30622
Field Sample ID	Laboratory Sample ID	Environmental Media
MW-13	HS20030662-01	Groundwater
MW-24	HS20030662-02	Groundwater
MW-4	HS20030662-03	Groundwater
MW-3R	HS20030662-04	Groundwater
MW-20R	HS20030662-05	Groundwater
Rinsate 2	HS20030662-06	Water
DUP 1	HS20030662-07	Groundwater
DUP 2	HS20030662-08	Groundwater
DUP 3	HS20030662-09	Groundwater
ALS	Analytical Report. HS2003	30823
Field Sample ID	Laboratory Sample ID	Environmental Media
MW-24	HS20030823-01	Groundwater
DUP-4	HS20030823-02	Groundwater
MW-4	HS20030823-03	Groundwater
Rinsate 3	HS20030823-04	Water

## Table 5 - Qualified Analytical Data.

	ALS Laboratory Rep	orts HS20030551	and HS20030823
Field Sample ID	Analyte	Qualification	Reason for Qualification
	Not applicable for	these laboratory d	ata packages.
	ALS Labora	atory Report HS2	0030662
Field Sample ID	Analyte	Qualification	Reason for Qualification
Rinsate 2	Total and Dissolved Molybdenum	U	CCB Exception. Analyte result for project sample is less than 5 times the CCB result.

#### **Qualifiers**

- U Not detected: Analysis for the analyte was performed, but was not detected above the level of the associated value. The associated value is the SQL.
- J Estimated: The analyte was detected and identified. The associated numerical value is the approximate concentration of the analyte in the sample.
- UJ Not detected, SQL is estimated: The analyte was not detected above the reported SQL. The numerical value of the SQL is estimated and may be inaccurate.
- NJ Tentatively identified, reported concentration is estimated: The analysis indicates the presence of an analyte for which there is presumptive evidence to make a tentative identification and the associated numerical value represents its approximate concentration.
- S Spike Recovery outside laboratory control limits.
- R Rejected: The data are unusable.

#### Bias Codes

- H Bias in sample result likely to be high.
- L Bias in sample result likely to be low.

**APPENDIX 5** 

POST-REMEDIAL ACTION INSPECTION FORMS

# MDI Superfund Post-Remedial Action Inspection Record Form

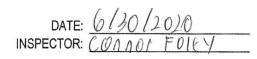
# DATE: 4/15/20 INSPECTOR: CONNOL FOLLY

		STATUS	
POSSIBLE ERROR, MALFUNCTION,		UNACCEP	TABLE
OR DETERIORATION	ACCEPTABLE	CORRECTIVE ACTION	DATE COMPLETED
PERIMETER FENCING		1	
GATE LOCK/CHAIN MISSING	YES		
CHAIN LINK FABRIC CUT/DAMAGED	NO		
FENCE POLES DAMAGED	NO		
FENCE FOUNDATION DAMAGED	Yes		
COMMENTS MA: 1 Gate Suppor	+ Pole dome	yed On Harest	
CUT in Fence along Ha	18 St 27ft	FIOM ANN-29	
Cut in fence along Har Graf in fence at Drin	g hurst on A	ACLINE	
Bearst fence sagging	due to ti	ash Leaning agail	18+ ;+
BACKFILLED AREAS			
SETTLEMENT OR SUBSIDENCE	NO		
EROSION	NO		
LOSS OF VEGETATION	ŇŐ		
SOIL LOSS	NÖ		
COMMENTS			
SURFACE WATER CONVEYANCES &	FEATURES		
STORM SEWER BLOCKED	NO		
CHECK DAM DAMAGED	NO		
SILT-FENCE DAMAGED	NÖ		
SWALE VEGETATION LOST	NO		
COMMENTS			
GENERAL SITE			
REFUSE PILES	NO		
EVIDENCE OF INSTRUSION	YES		
VANDALISM	NÖ		
COMMENTS			
Instrsion: people wol	KTheir d	095 01 Site.	

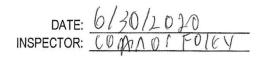
Note: Monitoring Well related Observations are included with MNA Daily Log and Records.

RECORD OF NORMAL M.	AINTENANCE ACTIVITIES		
VEGETATIVE COVER			
Regularly s	cheduled mo	wing events.	
SURFACE WATER CONV	EYANCES & FEATURES		
OTHER	•		
MW-1, Dama	get hinge on	Stick-up cover	
5 DIVINS CLOUD	KA MA S'IG Dand		•
- 0000	Bd on site, Pend	ing analysis.	
NINWS OLE	1968122 and are	La wood con lilla	<i>(</i>
1		IN JUUY LUNAITINA	6
		in yood condition	5.
		IN JOOD CONDITION	5.
		IN JOOD CONDITION	5.
COMMENTS		IN GOOD CONDITION	· <b>&gt;</b> ,
		IN JOOD CONDITION	5.
		IN JOOD CONDITION	5.
		IN JOOD CONDITION	5.
		IN JOOG CON JIYION	· <b>5</b> .
		IN JOOG CON JIYION	
		IN JOOD CON JIYION	
		IN JOOG CON JIYION	5.
		IN GOOD CON GIFION	· <b>&gt;</b> .
	TITLE Staff EAV: 10 A MONTO	SIGNATURE	DATE 1/15/20

# MDI Superfund Post-Remedial Action Inspection Record Form



		STATUS	
POSSIBLE ERROR, MALFUNCTION,		UNACCEPT	ABLE
OR DETERIORATION	ACCEPTABLE	CORRECTIVE ACTION	DATE COMPLETED
PERIMETER FENCING		-0	
GATE LOCK/CHAIN MISSING	NO	Replace FEDALE	6/30/20
CHAIN LINK FABRIC CUT/DAMAGED	NO		
FENCE POLES DAMAGED	NO		
FENCE FOUNDATION DAMAGED	NO	REPLOCE FRANCE	6/30/20
COMMENTS			
BACKFILLED AREAS SETTLEMENT OR SUBSIDENCE	N 0	Γ	
EROSION			
LOSS OF VEGETATION	NO		
SOIL LOSS	N N		
COMMENTS	1111	1	
SURFACE WATER CONVEYANCES &	FEATURES		
STORM SEWER BLOCKED	NO		
CHECK DAM DAMAGED	NO		
SILT-FENCE DAMAGED	ŇÔ		
SWALE VEGETATION LOST	NO		
COMMENTS			~
GENERAL SITE			
REFUSE PILES	NQ		
EVIDENCE OF INSTRUSION	NQ	Feele fixed	6/30/20
VANDALISM	NO	*	
COMMENTS			
Note: Monitoring Well related Observations are in	cluded with MNA Daily	Log and Records.	



RECORD OF NORMAL MAINTENANCE ACTIVITIES
VEGETATIVE COVER
REJUIONIY Scheduled mowing EVENTS
SURFACE WATER CONVEYANCES & FEATURES
OTHER
COMMENTS
NAME COANOS FOLEY Intestoff FOLEY Intestoff Scientist Date 6/30/20
FOLEY SCIENTIST UTTE 6/30/20

**APPENDIX 6** 

WASTE DISPOSAL DOCUMENTATION

1

LOAD #
--------

Shipper:	Bill Of Lading	
Shipper Name: Fe	nway Development, Inc.	
	520 Oliver St, Houston, TX 77007	
Site Address: 3617		
City: <u>Houston</u>	State: <u>TX</u> Zip Code <u>77020</u>	
Profile Number: _	₩ <u>0637200624</u> 0637200625	PO Number:
Material: Material Description Solid 2 Dr Water 3 Dr Sludge XXXX Scrap Metal for R	2	
Shipper Signatu  Transporter:	iners: <u>1</u> TYPE <u>DM</u> VOL	UME <u>1 Drum</u> Date: <u>7/20/2020</u>
-	ress: 226 E Tidwell, Houston, TX 770 ne Number: <b>832-493-8063</b>	22
Truck Number: Transporter Sign	nature	Date: 7-20-2020
<b>Receiving Faci</b> Receiving Facil Receiving Facil Phone Number:	lity: ity: <u>Southern Core Supply</u> ity Address: <u>7911 Fallbrook, Houston</u>	a, TX 77064

		ator ID Number	2. Page 1 of 3. E	mergency Respor	se Phone	4. Waste T	racking Nu	umber		
	5. Generator's Name and Mailing Andrews									
	Fenway Developement Inc Fenway Developement, Inc. 1520 Oliver Street 3617 Baer St.									
	Hybrid Rec Transporter 2 Company Name		U.S. EPA ID Number							
7	. Transporter 2 Company Name		U.S. EPA ID Number							
-	Designated E. 199 No. 100 Add									
Î	Designated Facility Name and Site Add		U.S. EPA ID Number							
1	4115 Davis Esta	ute TZd				TYD	200	0084600		
F	ferdville, TX 7-	1-161				1 / 10	. 000			
	9. Waste Shipping Name and Descr			10. Cor	ntainers	11. Total	12. Unit			
1-	-		2 Calila	No.	Туре	Quantity	Wt./Vol.			
B	MON ICACHIN	on DOT Class	z Jonas			1 mm		100020	17	
INERATOR	CIDW SOIL COTI	ngs) Per 40	1 44 CFR	2	DM	750	P	VSQG30	12	
GEN	2 NON RCRA-1	UOT-DOT Class	2 Liquids						-	
	LIDW Purge	Nater) per 40	T 40 CED	3	DM	950	P	VS@6 119	2	
2	3.	0 10	THE URK		01.1					
				5						
	4.								1	
					-					
13. 5	pecial Handling Instructions and Additio	nal Information								
1										
1. Approval #0637200624										
2	Approval # (	1637200625								
	111.0									
	NERATOR'S/OFFEROR'S CERTIFICA							ne, and are classified, packaged	,t	
	irked and labeled/placarded, and are in ator's/Offeror's Printed/Typed Name	all respects in proper condition for tran	isport according to applicable in Signature	ternational and h	ational governm	nental regulations	i.	Month Day	Year	
5	tephen Lewis	, authorized o		Aur	A	$\sim$		07202	a	
15. Inte	rnational Shinments	/ port to U.S.	Export from U.S.	Port of	entry/exit:					
Fransp	orter Signature (for exports only):	AT 10 0.0.			Mng U.S.:					
	nsporter Acknowledgment of Receipt of	Materials		16	)			Month Day	Year	
	orter 1 Printed/Typed Name		Signature	-dN	イス			07 2.013	20	
	RIC Hunt-	~	Signature	XA	$\mathcal{F}$			Month Day	Year	
ranspo	nter z r nnteu ryped riante				-					
7. Disc	crepancy	I.C. Marine								
7a. Di	screpancy Indication Space	uantity	Type	Residue		Partial Rej	ection	Full Rejection	n	
		A Start A	Ma	nifest Reference	Number:	U.S. EPA ID I	Number			
7b. Alt	ernate Facility (or Generator)	i dil								
	Dhanai	A.F.			×					
7c. Sic	s Phone: Inature of Alternate Facility (or Generat	or)						Month Day	Year	
10.01										