Report to:

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Groundwater Closure Report and Request for No Further Action
AFFC Pipeline 23rd Avenue Release
23rd Avenue and Union Pacific Railroad (UPRR)
Phoenix, Arizona
Site Code: 509039-00

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1 INTRODUCTION

The Arizona Fueling Facilities Corporation (AFFC) retained ECM Consultants (ECM) to manage site assessment and remedial activities associated with the AFFC Pipeline 23rd Avenue Release Site (the Site). The Arizona Department of Environmental Quality (ADEQ) issued a Notice of Violation (NOV) letter dated August 14, 2007 in response to a violation of a numeric aquifer water quality standard related to a release of jet fuel to the soil and groundwater near 23rd Avenue and the Union Pacific Railroad in Phoenix, Arizona (**Figure 1**). In response to the NOV, AFFC submitted an application to the Voluntary Remediation Program (VRP) of the ADEQ in September 2007 for the Site. The Site was accepted into the VRP on November 16, 2007. Investigation and remedial activities have been ongoing since the discovery of the release in December 2006. AFFC is now seeking a no further action (NFA) determination for the groundwater investigation activities at the Site.

This *Groundwater Closure Report* and *Request for No Further Action* summarizes the groundwater investigative work completed to-date, referencing additional reports where appropriate, to document that the Site has been adequately characterized and meets the requirements for an NFA determination in groundwater, as defined in Arizona Revised Statute (A.R.S.) §49-181 (ARS, 2000).

1.1 Description of Release

ECM was contacted by Swissport Fueling, Inc. (Swissport) on December 21, 2006 to observe an excavation near 23rd Avenue and the Union Pacific Railroad in Phoenix, Arizona (**Figure 1**). Swissport is the pipeline and fueling system operator for AFFC. Soil had been excavated for the purpose of exposing a segment of the pipeline that connects AFFC's Phoenix Sky Harbor Airport bulk fuel storage facility to their remote fuel storage facility at 5555 West Van Buren Street.

During the excavation, performed by SDB, Inc. (SDB) under contract to Swissport, a leak was discovered and visible signs of fuel impacts to the surrounding soil were observed. Soil sampling indicated that impacted soil was present at the base of the excavation at a depth of approximately 10 feet below ground surface (bgs). Upon discovery of the leak, SDB temporarily repaired the pipeline and returned on Tuesday, December 26, 2006 to complete the pipeline repair. AFFC reported its discovery of the pipeline leak to the Arizona Department of Environmental Quality and to the Arizona Corporation Commission by letters dated December 22, 2006.

In response to the jet fuel detections in soil beneath the pipeline at the Site, ECM mobilized to drill three soil investigation borings. The borings were located along the east-west trending pipeline: one beneath the identified leak area and two step-out borings located east and west of the leak to investigate the lateral extent of soil impact (**Figure 2**). Due to difficult drilling conditions, the two step-out borings were terminated at approximately 35 feet below ground surface (bgs). To complete the investigation of the vertical extent of impacts, ECM returned to the Site with different drilling equipment and installed groundwater monitoring well, MW-1 on

April 14 and April 15, 2007 (Table 1). A bailer sample was collected on April 15, 2007 indicating that there were 13 inches of free phase product (FPP) in the well. The well was monitored using an interface probe on Wednesday, April 18, 2007, and 2.16 feet of FPP was observed.

1.2 Site Description

The area impacted by the Jet-A release is located in Section 12, Township 1 North (T1N), Range 2 East (R2E) of the Gila and Salt River Baseline and Meridian. This area appears on the United States Geological Survey (U.S.G.S.) Phoenix 7½-minute quadrangle map and on **Figure 1**. A map showing current Site monitoring wells associated with the AFFC Pipeline 23rd Avenue Jet A release are on **Figure 3**.

The Site is located near milepost 904.15 on the west side of 23rd Avenue north of the Union Pacific Railroad (UPRR) tracks in the UPRR right-of-way in Phoenix, Arizona (**Figure 1**). The site extends approximately 400 feet west from 23rd Avenue (the eastern boundary) to the western-most well, MW-5. The Site lies completely within the UPRR ROW, including parcels 109-52-974, 109-52-971, and 109-52-970 and is bounded by parcel 109-46-011 (302 S. 23rd Avenue) on the north and parcel 109-52-041A (2322 W. Lincoln Street) on the south.

The Site topography is generally flat, except the northeastern section of the Site near MW-1 which slopes downward in an easterly direction approximately twenty-four feet toward south 23rd Avenue. Coarse-grained rip-rap gravel (UPRR ballast) and native silty sandy soil covers most of the Site along the UPRR railroad tracks which are elevated above the surrounding ground level.

Known underground utilities include the Jet A fuel line, water, telephone, electrical services, fiber optic lines, sanitary sewer lines, and storm sewer lines. Aboveground power lines are also present at the Site.

1.3 Site Hydrogeology

The AFFC Pipeline 23rd Avenue Site is located in the western Salt River Valley (WSRV) area of the Phoenix Active Management Area (AMA). The Phoenix AMA is the largest AMA basin at approximately 5,646 square miles and is characterized by Sonoran desert valleys that are generally from 1,000 to 2,500 feet above mean sea level, surrounded by mid-elevation mountain ranges (ADWR, 2010). The basin is drained by five major rivers, the Salt, Gila, Verde, Agua Fria and Hassayampa. The state's most important water producing watersheds, the Salt and the Verde, converge in the Phoenix AMA, representing an important water supply for the area. Elevations range from 755 feet where the Gila River exits the basin to almost 5,900 feet in the New River Mountains on the northern basin boundary.

A large portion of the AMA is located in what are categorized as the Central basins (ADWR, 2010). Stream alluvial deposits and upper basin fill are the principal water bearing sediments in these basins. The Central basins are characterized by relatively small to moderate amounts of mountain-front recharge, streamflow infiltration and significant underflow in and out of the basins. Groundwater flows

tend to move inward from the edges of the basin and higher elevations and then downstream towards the outflow portion of the basin.

1.3.1 Phoenix AMA

The primary source of groundwater in the Phoenix AMA is basin-fill sediments (ADWR, 2010). Three distinct water bearing units are identified in most of the sub-basins in the AMA: an upper alluvial unit, a middle fine-grained unit, and a lower conglomerate unit. Although conditions and circumstances vary across the AMA, most groundwater is pumped from the middle unit. Bedrock, consisting of metamorphic and igneous rock, underlies the basin-fill sediments and is not considered an aquifer. Groundwater occurs under generally unconfined conditions throughout most of the AMA. Depth to water ranges from just below land surface (bls) to more than 800 feet bls.

There are seven groundwater sub-basins in the Phoenix AMA: East Salt River Valley (ESRV), West Salt River Valley (WSRV), Hassayampa, Rainbow Valley, Fountain Hills, Lake Pleasant, and Carefree. Hydrogeology of the WSRV is discussed below.

1.3.2 West Salt River Valley Sub-basin

The WSRV Sub-basin includes the communities of Phoenix, Buckeye, Surprise, Glendale, Peoria, Goodyear, Tolleson and Avondale. It is a broad, gently-sloping alluvial plain bounded by hills and low-elevation mountains with a depth to bedrock of over 10,000 feet beneath the Luke Air Force Base area located approximately 20 miles west-northwest of the Site. Groundwater in the sub-basin is obtained almost evenly between the upper, middle and lower basin fill (ADWR, 2010). The middle basin fill ranges in thickness from less than 100 feet to over 1,300 feet southwest of Glendale. Natural groundwater recharge occurs along stream channels and from mountain front recharge. Groundwater also enters the sub-basin from the Lake Pleasant, northern Hassayampa and ESRV sub-basins, and from the Maricopa-Stanfield Sub-basin in the Pinal AMA. Incidental recharge of agricultural irrigation water and effluent discharged from the City of Phoenix 23rd and 91st Avenue wastewater treatment plants also recharges the aquifer.

Groundwater flow historically was toward and along the Salt and Gila Rivers. Depths to groundwater vary widely in the sub-basin with shallower levels present south of I-10 along the Salt and Gila River drainage. Well yields commonly exceed 1,000 to 2,000 gpm.

The ground surface elevation in the study area ranges from 1,068.33 feet amsl (well MW-3) to 1,069.71 feet amsl (well MW-6), based on survey elevations measured for the Site investigation wells. During the Site investigation period, groundwater elevations have ranged from within 91 feet of the ground surface in 2011 (ECM, 2017), to 134 feet bgs in 2016 (**Figure 4**). Local groundwater migration is predominantly to the west at a gradient of 0.001 to 0.0007 feet per foot, which is consistent with regional groundwater conditions.

2 FLUID LEVEL AND GROUNDWATER MONITORING

2.1 Groundwater Monitoring Network

To track groundwater conditions at the Remote Pipeline Site, AFFC monitored fluid levels monthly and performed quarterly groundwater sampling until Fourth Quarter 2016. At that time VRP approved monthly monitoring and semi-annual sampling. Six wells at the Site were monitored for groundwater and FPP levels (if present) twice monthly. Quarterly groundwater samples were collected from the Site wells if no FPP was present. Additionally, AFFC monitored and sampled three off-site groundwater monitoring wells, AVB84-01, AVB116-01, or AVB l32-01 located up-gradient and cross gradient of the Site in Second Quarter 2016, Third Quarter 2016, and Fourth Quarter 2016 at the request of ADEQ VRP (**Figure 5**). Groundwater level data for on-site wells were used to generate potentiometric contour maps.

The wells included in the groundwater monitoring network for the Site are MW-1, MW-2, MW-3, MW-4, MW-5, and MW-6. Monitoring and sampling in well MW-1 began in Second Quarter 2007. Wells MW-2 and MW-3 were added in Second Quarter 2008 and wells MW-4, MW-5, and MW-6 were added in First Quarter 2015. As indicated above, groundwater monitoring wells, AVB84-01, AVB116-01, or AVB l32-01 were sampled in Second Quarter 2016, Third Quarter 2016, and Fourth Quarter 2016. Well locations are shown on **Figure 3** and **Figure 5**.

2.2 Groundwater Constituents of Concern

The constituents of concern (COCs) that would be expected at the Site based on the release of Jet A fuel are volatile organic compounds (VOCs) such as middle carbon range hydrocarbons and polynuclear aromatic hydrocarbons (PAHs). Historic analysis of the 23rd Avenue Release of Jet A fuel detected benzene, toluene, ethylbenzene, and total xylenes (collectively referred to as BTEX). Of these detections, only BTEX constituents have applicable remediation levels for groundwater, established as the Arizona Aquifer Water Quality Standards (AWQS). The applicable AWQS are as follows for this Site are:

Constituent	**AWQS** **micrograms/liter (µg/L)**
benzene	5
toluene	1,000
ethylbenzene	700
xylenes	10,000

Groundwater COCs have been monitored through groundwater wells installed at the Site. This monitoring network is further described in **Section 2.6**.

2.3 Laboratory Analyses

Each quarter, an Arizona Department of Health Services (ADHS) certified environmental laboratory analyzed groundwater samples utilizing the following methods:

- EPA Method 8021B – BTEX;
- EPA Method 8310 – PAHs (MW-2 and MW-3, Second Quarter 2008 only)
- EPA Method 8260B – Full VOCs (First Quarter 2016 only), and
- EPA Method 8270C-SIM – SVOCs (First Quarter 2016 only).

On March 4, 2016, groundwater samples collected from wells MW-1 through MW-6 were analyzed for concentrations of volatile organic compounds (VOC) by EPA Method 8260B and semi volatile organic compounds (SVOC) by EPA Method 8270C-SIM at the request of ADEQ VRP. Following review of the results of the analysis by VRP, AFFC returned to analysis by EPA Method 8021B only.

2.4 Jet Fuel Characterization

ECM collected a product sample from well MW-1 on April 18, 2007 for verification of fuel type. Two samples, one from well MW-1 and a Jet A sample collected from the AFFC Tank Farm at 55th Avenue in Phoenix to serve as a standard (*i.e.* Jet A Standard) were submitted for analysis. The chromatograms presented in Appendix C of the Well Installation Report, 23rd Avenue and UPRR, Phoenix, Arizona (ECM, 2007) indicated the shapes of the chromatograms of the two samples were similar. The first chromatogram was from well MW-1 and the second was the Jet A Standard. The next two pages showed the two analyses overlaid for comparison. The differences observed were primarily in terms of peak magnitude and were most likely due to scaling differences caused by the dilution process. The samples were also analyzed for BTEX concentrations in accordance with EPA Method 8021B. BTEX concentrations of the product sample were 60 ppm, 620 ppm, 590 ppm, and 5900 ppm, respectively as compared to 85 ppm, 870 ppm, 560 ppm, and 7500 ppm, respectively in the Jet A Standard. The comparable chromatograms and similar BTEX concentrations suggest the product sample and the Jet A Standard were equivalent fuel types.

2.5 Non-Aqueous Phase Liquid

Non-Aqueous Phase Liquids (NAPLs) are liquids that have low to almost no solubility in water. NAPLs such as Jet A fuel are lighter than water and are referred to as LNAPLs. Although LNAPLs float on the water table, they can become entrapped in the saturated zone of subsurface soils due to fluctuating water table conditions, leaving residual LNAPL in soil pore spaces.

2.5.1 History and Current Status of LNAPL Plume Monitoring

Historically, free-phase Jet A fuel, or LNAPL[1], was present in monitoring wells MW-1, MW-2, and MW-3. The farthest downgradient (westerly) wells to historically contain LNAPL were MW-2 (west-northwest) and MW-3 (southwest). The distance between wells is approximately 90 feet in the north-south direction and 110 feet in the east-west direction. These three wells were used to estimate the LNAPL plume extent of approximately 4,950 square feet. **Figure 6** illustrates this area, denoting the wells at the Site which have historically contained free product.

LNAPL had historically been observed in Site wells from 2007, the time of the installation of well MW-1 following the initial release, through May 2015 (**Figure 4**). Several strategies to remediate LNAPL were used at the Site, and more detailed information is provided in **Section 3**. None of the Site wells has contained FPP since May 26, 2015.

Groundwater monitoring well, MW-1 was installed on April 14 and April 15, 2007. A bailer sample was collected on April 15, 2007 indicating that there were 13 inches of free phase product in the well. The well was monitored using an interface probe on Wednesday, April 18, 2007, and 2.16 feet of free phase product was observed. In May 2008, ECM installed two additional groundwater monitoring wells located west-northwest (MW-2) and southwest (MW-3) of monitoring well MW-1 (**Figure 3**) to investigate the lateral extent of FPP and groundwater impact. FFP was observed in well MW-2 beginning in July 2008.

On July 11, 2012, FPP was observed in well MW-3 for first time since the well was installed. In January 2015, two wells (MW-4 and MW-5) were installed west and southwest of well MW-3 to delineate the downgradient extent of impacts to soil and groundwater at the Site. A third well, MW-6, was installed in November 2015 to clarify the distribution of FPP between wells MW-1 and MW-3 where FPP has been reported.

LNAPL has not been observed in any well since May 26, 2015.

2.6 Dissolved Phase Plume

The following sections discuss the dissolved phase plume monitoring and sampling.

2.6.1 History of Quarterly Monitoring

Periodic groundwater and FPP monitoring has been conducted in accordance with procedures established for the Site (Appendix A of each quarterly groundwater monitoring report since Second Quarter 2010) at well MW-1 since its installation in April 2007. Monitoring of wells MW-2 and MW-3 began following their installation and development in June 2008; monitoring of wells MW-4 and MW-5 began in January 2015. Well MW-6 was installed and developed in November 2015, and was monitored for the first time in December 2015. To supplement site

[1] Also referred to as free phase product (FPP) in this document.

characterization and plume delineation as requested by ADEQ VRP, monitoring of offsite wells AVB84-01, AVB116-01, and AVB132-01 located up-gradient (to the east) and cross-gradient (north and south) of the Site (**Figure 5**) were incorporated into the groundwater monitoring network beginning June 2016 and ending December 2016.

2.6.2 Quarterly Monitoring Results Third Quarter 2016 to Second Quarter 2017

The period from Third Quarter 2016 to Second Quarter 2017 represents four consecutive quarters of groundwater monitoring data with concentrations of COCs below AWQS. The results are summarized in the sections that follow.

2.6.2.1 Third Quarter 2016

Benzene, toluene, ethylbenzene, and total xylenes concentrations were below the respective reporting limits for each analyte in groundwater samples from wells MW-4 and MW-5 (**Table 2**). Toluene was reported in the Third Quarter sample collected from MW-6 duplicate (0.00501 milligrams per liter [mg/L]) which has an Arizona Water Quality Standard (AWQS) of 1.0 mg/L. Ethylbenzene was reported in the September 2016 MW-6 (0.00385 mg/L) and MW-6 duplicate (0.0318 mg/L) samples. Total Xylenes were reported in the samples collected from MW-6 (0.012 mg/L) and MW-6 duplicate (0.0878 mg/L) during the September 2016 sampling event. No samples collected during the Third Quarter 2016 monitoring period contained VOC concentrations that exceeded the AWQS.

Groundwater samples were collected from offsite wells on September 23, 2016 and analyzed for concentrations of VOC by EPA Method 8021B. Well AVB84-01 was dry so no sample was collected. Wells AVB116-01 and AVB132-01 were both below reporting limits for benzene, toluene, ethylbenzene, and total xylenes during the third quarter sampling event.

2.6.2.2 Fourth Quarter 2016

Benzene, toluene, ethylbenzene, and total xylenes concentrations were below the respective reporting limits for each analyte in groundwater samples from wells MW-4 and MW-5. Ethylbenzene was reported in the fourth quarter sample collected from MW-6 duplicate (0.000642 milligrams per liter [mg/L]) which has an Arizona Water Quality Standard (AWQS) of 0.7 mg/L. Wells MW-1, MW-2 and MW-3 were not sampled because they were dry during the fourth quarter 2016. No samples collected during the Fourth Quarter 2016 monitoring period contained VOC concentrations that exceeded the AWQS.

Groundwater samples were collected from offsite wells on December 21, 2016 and analyzed for concentrations of VOC by EPA Method 8021B. Wells AVB84-01, AVB116-01 and AVB132-01 were all below reporting limits for benzene, toluene, ethylbenzene, and total xylenes during the fourth quarter sampling event.

2.6.2.3 First Quarter 2017

Benzene was reported in the March 2017 samples at MW-1 (0.0027 mg/L), MW-3 (0.00126 mg/L), MW-6 (0.00111 mg/L), and MW-6 duplicate (0.000988 mg/L). Benzene was below reporting limits in samples collected from wells MW-2, MW-4, and MW-5 during the first quarter 2017 sampling event. Toluene was below reporting limits in all wells in First Quarter 2017, except MW-1 at 0.00518 mg/L. Ethylbenzene was reported in the samples collected from MW-1 (0.00363 mg/L), MW-2 (0.000626 mg/L), MW-3 (0.112 mg/L), MW-6 (0.103 mg/L), and MW-6 duplicate (0.095 mg/L). Ethylbenzene was below reporting limits in wells MW-4 and MW-5 in First Quarter 2017. Total xylenes were reported in samples collected from MW-1 (0.0186 mg/L), MW-2 (0.00314 mg/L), MW-3 (0.00233 mg/L), MW-6 (0.00234 mg/L), and MW-6 duplicate (0.00189 mg/L). Total xylenes were below reporting limits in wells MW-4 and MW-5 in First Quarter 2017. No samples collected during the first quarter 2017 monitoring period contained VOC concentrations that exceeded the AWQS.

2.6.2.4 Second Quarter 2017

Benzene was reported in the May 2017 samples at MW-1 (0.000628 mg/L), MW-3 (0.000613 mg/L), MW-6 (0.000689 mg/L), and MW-6 duplicate (0.000738 mg/L). Benzene was below reporting limits in samples collected from wells MW-2, MW-4, and MW-5 during the second quarter 2017 sampling event. Toluene was below reporting limits in all wells in Second Quarter 2017. Ethylbenzene was reported in the samples collected from MW-1 (0.00206 mg/L), MW-2 (0.00126 mg/L), MW-3 (0.00271 mg/L), MW-6 (0.00213 mg/L), and MW-6 duplicate (0.00214 mg/L). Ethylbenzene was below reporting limits in wells MW-4 and MW-5 in Second Quarter 2017. Total xylenes were reported in samples collected from MW-1 (0.00255 mg/L), MW-2 (0.00151 mg/L), MW-3 (0.00214 mg/L), MW-6 (0.00283 mg/L), and MW-6 duplicate (0.00281 mg/L). Total xylenes were below reporting limits in wells MW-4 and MW-5 in Second Quarter 2017. No samples collected during the second quarter 2017 monitoring period contained VOC concentrations that exceeded the AWQS.

2.6.3 Delineation of Dissolved Phase Impacts

Quarterly monitoring data provide all of the information regarding dissolved phase impacts from the 23rd Avenue Pipeline Release. As indicated in **Section 2.6.1**, groundwater monitoring has been conducted in the release area since 2007, and quarterly groundwater monitoring has been conducted since Third Quarter 2008. **Figure 7** illustrates the historic maximum extent of the dissolved phase 23rd Avenue Pipeline Release, based upon BTEX results.

When reviewing historical site analytical data (**Table 2**), only dissolved benzene has been present above the AWQS except a single ethylbenzene exceedance of 710 µg/L in well MW-3 in November 2012. Benzene concentrations have historically ranged from below laboratory reporting limits, to a maximum of 89 µg/L, which was observed in December 2009 in well MW-1. Benzene was last detected

above the AWQS in December 2015 at 5.2 µg/L in well MW-1. Historic analytical data indicate no exceedances of the AWQS for toluene and xylenes.

3 SUMMARY OF REMEDIAL ACTION

3.1 Pipeline Repair

As indicated in **Section 1.1** of this report, the initial release was first identified on December 21, 2006. SDB removed soil from around the pipeline and clamped a sleeve around the pipeline to seal it temporarily. SDB covered the excavation with trench plates prior to departing the Site. SDB returned on December 26 to permanently repair the leak.

3.2 Excavation Activities

During pipeline investigation and repair excavation, stockpiled soil was segregated according to how close to the source of the leak it had originated. Approximately one cubic yard of soil with obvious indications of impact was placed on plastic sheeting. The stockpiles were screened with a photoionization detector (PID) to measure any vapors in the excavated soil and soil samples were collected from the soil stockpile and the sides of the excavation.

Following receipt of laboratory analytical results, ECM prepared the soil disposal profile paperwork and coordinated the profiling procedure with the landfill for the disposal of the stockpiled soils from the pipeline repair excavation that were staged on plastic at the Site.

3.3 Bail Down Test

ECM conducted bail down tests in well MW-1 on April 7 and April 16, 2008 (ECM 2008). FPP was removed from MW-1 with a disposable bailer. On April 7, 2008, 0.33 feet of FPP was present in MW-1 prior to initiation of the bail down test. Approximately 685 ml of FPP was removed during two hours and 49 minutes of bailing. Field personnel measured the depth to water and depth to FPP with an oil-water interface probe in approximately five-minute intervals for 15 minutes, in 10-minute intervals for 60 minutes, in 15-minute intervals for 1 hour and once on April 8 at 9:50 AM. The initial recovery rate for MW-1 was 1.2 gallons per day (gal/day).

On April 16, 2008, 0.38 feet of FPP was present in MW-1 prior to the initiation of the bail-down test. Approximately 1,475 ml of FPP was removed during one hour and 52 minutes of bailing. Field personnel measured the depth to water and depth to FPP with an oil-water interface probe in approximately 10-minute intervals for 60 minutes, and once on April 17 at 6:16 AM. Figure 6 presents the test results at MW-1 on April 16. The recovery rate for MW-1 was 1.0 gal/day.

3.4 Free Phase Product Removal

FPP removal events were conducted twice per month at the Site beginning March 2008. Prior to August 20, 2008, FPP removal was conducted with a disposable bailer. Beginning with the August 20, 2008 removal event, ECM conducted LNAPL removal with a portable pump. During Fourth Quarter 2008, monitoring and removal events were increased from monthly to weekly.

During the Fourth Quarter 2009 a macro purge was performed to remove additional product from MW-1. ECM conducted a large scale removal event or *macro purge* on December 15, 2009. The macro purge was intended to draw down the aquifer and remove water and FPP out of the formation. The event was conducted using a 3-inch submersible Grundfos redi-flow 3 pump and an interface probe, to target the FPP in the well. In 2008 and 2009, the largest quantities of FPP were recovered when groundwater levels were lower during the summer months and when macro purges were implemented. Macro purging events were conducted at the Site until May 2015. In 2010, 400 to 500 gallons of water was typically removed from MW-1 during a macro purge event. By 2014 the total water purged had dropped below 100 gallons. Historically FPP removal using the macro purge technique with a portable pump was successful in MW-1 when free phase product thicknesses were greater than a few inches.

FPP removal was conducted from well MW-2 beginning in August 2008. Historically when FPP was detected in MW-2, it was removed using a disposable bailer or portable grundfos pump. Bailers or absorbent material was used to remove FPP from all wells, when FFP thicknesses were less than a few inches.

A passive product skimmer was installed in MW-1 on August 14, 2012 and passive product skimmers were installed in wells MW-2 and MW-3 in October 2012 to remove FPP that accumulated in these wells between macro purging events. The passive product skimmers were effective for the removal of small amounts of FPP (1 - 2 gallons) following a macro purge event. Skimmers were removed from the wells permanently on May 28, 2014.

Approximately 626 gallons of FPP have been removed from well MW-1, 187 gallons from MW-2, and 111 gallons from MW-3 since FPP removal was implemented. No FPP has been detected in wells MW-4, MW-5 or MW-6 since their installation, so macro purging was not performed in these wells. **Figure 4** shows total monthly gallons of FPP removed from wells MW-1, MW-2, and MW-3 since March 2008, when FPP removal was initiated. The largest monthly total FPP recovered from well MW-1 was in December 2009, when 50 gallons were removed (**Appendix B**).

4 ADDITIONAL ASSESSMENT AND MITIGATION ACTIVITIES

4.1 Initial Site Characterization Activities

ECM performed all of the initial site characterization for the AFFC Pipeline 23rd Avenue Release Site. The results of the site characterization investigations were

presented in *Well Installation Report* (May 2007), an *Second Quarter 2008 Groundwater Monitoring Report* (October 2008), *Well Installation and First Quarter 2015 Groundwater Monitoring Report* (July 2015), and a *Well Installation and Fourth Quarter 2015 Groundwater Monitoring Report*, (April 2016). These reports documented the technical investigations conducted as part of the site assessment and characterization. These investigations included the installation of six groundwater monitoring wells (MW-1 through MW-6) to delineate the extent of the LNAPL plume. The reports include soil, soil vapor, and groundwater data in addition to groundwater data presented in the quarterly reports.

AFFC utilized historic soil vapor data to complete an ADEQ-approved soil-gas to soil solid conversion table which was presented in the October 2008 *Second Quarter 2008 Groundwater Monitoring Report* and in *Determination of Site-Specific Groundwater Protection Levels (GPLs*) (ECM 2018; see **Section 4.2**). The resulting concentrations, reviewed and approved by ADEQ, indicated that none of the samples collected from soil vapor sampling exceeded the Carcinogen or Non-carcinogen Residential and Non-Residential Soil Remediation Levels (SRLs) for any applicable COC in soil at the Site.

4.2 Determination of Site-Specific Groundwater Protection Levels

ECM utilized the GPL Model software to evaluate whether the maximum concentrations of all chemicals detected and potentially remaining in soil at the Site exceeded their respective groundwater protection levels. ECM conducted this evaluation by choosing values for site-specific parameters used by the GPL Model which are documented in *Determination of Site-Specific Groundwater Protection Levels (GPLs)* (ECM 2018), and are consistent with a conservative approach. The results of the GPL Model analyses show that the maximum concentrations of COCs remaining in soil at the Site do not exceed their respective groundwater protection levels. Additionally, ECM used historical soil and soil gas concentrations converted to soil concentrations. These concentrations did not account for natural biodegradation of COCs since the samples were collected. By letter dated June 19, 2018, VRP approved AFFC's calculated alternative site-specific GPLs which demonstrate contaminant concentrations remaining in soil are protective of groundwater. VRP further indicated that the Site is eligible for an NFA for groundwater.

5 OTHER ENVIRONMENTAL SITES NEAR AFFC PIPELINE 23RD AVENUE PIPELINE RELEASE SITE

The 23rd Avenue Pipeline Release Site is located within the boundaries of the West Van Buren Water Quality Assurance Revolving Fund (WQARF) site, an area that has groundwater impacts due to historical releases of constituents from industrial sources that are unrelated to 23rd Avenue Pipeline Release. Monitoring and remediation of the WQARF site are administered by the ADEQ. The information that follows, including a site overview and summary of the site history, was obtained from the ADEQ website (ADEQ 2018).

5.1 Site Overview

Location: Western portion of Phoenix, Maricopa County, bounded approximately to the north by West McDowell Road, to the east by 7th Avenue, to the south by West Lower Buckeye Road and to the west by 75th Avenue. In addition, a finger shaped plume exists from approximately West Buckeye Road and South 41st Avenue to West Watkins Street and South 11th Avenue. The plume is approximately 7 miles long, and there's also a finger shaped plume from approximately West Buckeye Road and South 41st Avenue to West Watkins Street and South 11th Avenue.

Contaminants of concern: Tetrachloroethene (PCE), trichloroethene (TCE), 1,1,1-trichloroethane (1,1,1-TCA), 1,1-dichloroethane (1,1-DCA), cis-1,2-dichloroethene (cis-1,2-DCE), 1,1-dichloroethene (1,1-DCE) and chromium

Action taken: More than 50 monitor wells have been installed to further delineate the plume for an approximate total of 123 groundwater monitor wells. The final remedial investigation (RI) report was completed in August 2012. An early response action (ERA) has been proposed by the Roosevelt Irrigation District (RID) and conditionally approved by ADEQ. The RID wells that comprise the ERA are pumped approximately eight out of 12 months of the year. As of August 2016, the RID wells have removed approximately 3,000 pounds of contaminants from groundwater since 2012.

Groundwater monitoring and sampling has been conducted on a semiannual basis, generally in March and September, up until 2014. Two interested parties, the RID and the West Van Buren Working Group (WVBWG), submitted individual draft feasibility studies (FS) reports in July 2014. The FS reports were developed as part of the WQARF process that follows completion of the RI. In 2015, a reduced groundwater sampling event was conducted of selected wells throughout the plume.

Multiple sources of contamination have been identified since 1998. Source removal through soil vapor extraction has taken place at some facilities for the volatile contaminants under Consent Orders or Working Agreements. Other facilities continue to be monitored and/or evaluated through other ADEQ programs, most notably Hazardous Waste, and still other facilities have settled liability with ADEQ.

Status: ADEQ is in the process of sampling the far western toe of the groundwater plume for additional plume definition and confirmation of containment. Regular plume-wide groundwater monitoring and sampling is not currently being conducted and the existing well network and groundwater concentrations are being evaluated for focused future sampling efforts. Groundwater in the area is not used for drinking water purposes. The area is served by the city of Phoenix municipal water system or other regulated systems. Strategies for the next phase of WQARF, the Proposed Remedial Action Plan (PRAP), are currently being developed.

5.2 Site Hydrogeology

As of Sept. 2006, the water level in the aquifer was approximately 98 feet bgs in the eastern portion of the site and 130 feet bgs in the western portion of the site. As of March 2013, the water level in the UAU aquifer was approximately 95 feet bgs in the eastern portion of the site and 105 feet bgs in the western portion of the site. Water levels are influenced by pumping and drought conditions. Multiple sources are responsible for the commingled plume of contaminated groundwater. Contaminated groundwater also enters the site from the north and the east.

5.3 Site History

1987: The November 13 Decision Record created the Van Buren Tank Farm WQARF area. The amended decision record dated December 11 changed the name to West Van Buren.

1992: In November, Univar (formerly Vopak, formerly Van Waters and Rogers Inc.) began operations of a soil vapor extraction (SVE) system.

1994: ChemResearch Company, Inc. (ChemResearch) entered into a Resource Conservation and Recovery Act (RCRA) Consent Order with ADEQ.

1996: On September 20, Univar entered into Consent Order W-109-96 with ADEQ.

1997: Maricopa County began SVE system operation. After six months of operation, soil containment levels were reduced below the regulatory standards. In May, American Linen Supply Company (ALSCo), 720 W. Buchanan Street, settled with ADEQ for $2 million dollars.

1998: In April, West Van Buren (WVB) was placed on the WQARF Registry with an Eligibility and Evaluation score of 50 out of a possible 120. In October, Dolphin Incorporated (Dolphin), 740 S. 59th Avenue, began operation of SVE and air sparge systems at their facility.

2000: In 2000, Reynolds Metals (now ALCOA), between 35th Avenue and 43rd Avenue and West Van Buren Street and Southern Pacific Railroad right-of-way, excavated and removed contaminated soil from their site and received a No Further Action (NFA) for soils in specific areas from ADEQ. In January, Dolphin entered into RCRA Consent Order Z-2-00. Consent Judgment CV 2000-001824 was filed.

2001: In March, ADEQ/ALSCo began an Early Response Action (ERA) utilizing SVE, air sparge and groundwater pump and treat systems. Union Pacific Railroad Company and Maricopa County settled with ADEQ for $450,000.

2002: In June, Reynolds/Alcoa settled with ADEQ for $1.96 million. In August, Univar received a NFA determination for soil from ADEQ and the Univar Consent Order W-109-96 was terminated by ADEQ. By October, the ALSCo SVE system had removed over 900 pounds of volatile organic compounds (VOCs) from the soil and the system operation was ceased. In December, Dolphin ceased remedial system operation and conducted rebound testing.

2003: The ALSCo ERA groundwater pump and treat system ceased operation in September after treating approximately 118 million gallons of groundwater.

2004: In April, Dolphin completed rebound testing and received ADEQ authorization for SVE system shut down.

2006: In September, ADEQ installed seven monitor wells and sampled 125 groundwater monitor wells as part of the semi-annual sampling process. Dolphin satisfied the Consent Order and Consent Judgment, which were closed on June 6.

2007: A new Land and Water Use Questionnaire was sent to stakeholders to update the Land and Water Use Study completed in October 2001. In June, ADEQ completed installation of six groundwater monitor wells. Air Liquide USA, LLC and Air Liquide America Specialty Gases, LLC (Air Liquide) signed a Consent Order to continue conducting investigation work on their property.

2008: Three monitor wells were installed by ADEQ to help delineate the extent of the groundwater contamination and to further investigate potential source areas. Air Liquide completed the installation of four groundwater monitor wells and conducted quarterly groundwater sampling. Prudential Overall Supply (Prudential) signed a Consent Order to continue investigating soil and groundwater at their facility. Prudential also conducted a passive soil gas survey at their facility in May and June and installed three groundwater monitor wells in July. Water levels were measured monthly and groundwater samples were collected in August and September.

2009: Air Liquide and Prudential continued to do work under consent orders. ADEQ solicited comments for the remedial objectives (ROs) of West Van Buren . ADEQ signed a working agreement with RID to review its regional groundwater ERA proposal.

2010: Groundwater monitoring and sampling was conducted in June and September. Groundwater sampling of RID wells and surface sampling of RID canals was also conducted in June. Prudential performed a pilot test to determine if SVE would be suitable for soil remediation. ADEQ conditionally approved RID's ERA on June 24.

2011: Groundwater monitoring and sampling was conducted in March and September. Groundwater sampling of RID wells and surface sampling of RID canals was also conducted in April and September. Prudential began installation of a SVE system to remediate soils beneath the facility. RID began a pilot test at RID well RID-95 to observe and study the effects of VOCs in groundwater on granular activated carbon (GAC).

2012: Groundwater monitoring and sampling was conducted in March and September. Air Liquide finalized a SVE pilot test work plan in March and conducted testing in June. The Remedial Investigation (RI) was completed for West Van Buren in August. RID submitted a modified ERA in October.

2013: Groundwater monitoring and sampling was conducted in March and September. Groundwater sampling of RID wells and surface sampling of RID canals was conducted in April and September. ADEQ conditionally approved RID's ERA on February 1. Prudential began operation of a SVE system in December to remediate soils beneath the facility. ADEQ signed a working agreement with the West Van Buren Working Group (WVBWG) to review their regional feasibility study (FS) work plan. RID submitted a separate regional FS work plan for approval. ADEQ solicited public comments on the FSs. RID and the WVBWG have begun conducting two FSs. Penn Racquet Sports, Inc., (Penn), 306 South 45th Avenue, settled with ADEQ for $30,000 dollars under Consent Decree 13-01631.

2014: Groundwater monitoring and sampling was conducted in March. Groundwater sampling of RID wells and surface sampling of RID canals was conducted in March. Three new monitor wells were installed by ADEQ to help delineate the extent of the groundwater contamination and to investigate potential source areas. Air Liquide continued to monitor groundwater conditions underneath their facility. Prudential continued to operate their SVE system and monitor groundwater conditions below their facility. The operations and maintenance manual (O&M) for RID's modified ERA was put out for public comment in June. The WVBWG and RID submitted individual regional FS reports for WVB in July.

6 FUTURE SITE CHANGES AND WATER USE

6.1 Proposed Site Changes

The Site is located in the right-of-way owned by the Union Pacific Railroad Company (UPRR). AFFC is unaware of any plans for proposed changes to the Site by UPRR.

6.2 Future Water Use

6.2.1 Drinking Water Use

Groundwater in the area is not used for drinking water purposes. The area is served by the city of Phoenix municipal water system or other regulated systems. According to the City of Phoenix, over 90% of Phoenix's tap water supply is from precipitation north of the valley that becomes surface water.

According to a list of wells supplied by ADEQ, there are 131 registered wells within one mile of the AFFC Pipeline 23rd Avenue Release Site. Water use for most of the wells is identified as monitoring, test, irrigation, other or unknown. One well, HOLS-1 registered to Holsum Bakery is listed as domestic; however, Holsum Bakery is listed as a former Leaking Undergrouind Storage Tank (LUST) site.

ECM conducted a well search for wells within Section 12, T1N, R2E. Results of this search indicated 63 wells within approximately 0.5-miles of the Site. Wells were identified by ADWR as either monitor wells, exempt wells, non-exempt wells, or "other". Of the 63 wells identified search, one exempt well (a non-irrigation well with a maximum pump capacity of 35 gpm) was listed as owned by 19th Avenue

Commercial c/o William Bouchard. A second exempt well is listed as owned by Roosevelt Irrigation District.

These well search results provided by ADEQ are included as **Appendix C**.

6.2.2 Industrial/Agricultural Water Use

The Roosevelt Irrigation District (RID) owns and operates the RID Main Canal, the RID CC1 Canal, and the RID CC2 Canal which delivers irrigation water pumped from groundwater sources to approximately 38,000 acres of land in the Avondale, Goodyear and Buckeye areas of Arizona. Currently the District uses 50 miles of main canals and 185 miles of lateral canals (mostly lined with concrete) to transport water for irrigation to customers in the West Valley, southwest of Phoenix Arizona. AFFC is aware of eight RID irrigation wells located within a 1-mile radius of the Site (**Appendix C**).

7 SELECTION OF NO FURTHER ACTION BOUNDARIES

A.R.S. §49-171 defines a “site” as “the areal extent of contamination”. The VRP further interprets the definition of a “site” in regards to groundwater investigations as the entire parcel or parcels encompassing the areal extent of the plume at the plume’s historic maximum footprint. For this Site, the most downgradient wells MW-4 and MW-5 are approximately 430 feet west of the South 23rd Avenue right-of-way. These wells, which were not impacted, define the western boundary. Although no COCs were anticipated east of the release point at MW-1, AFFC is requesting that the western edge of the 23rd Avenue right-of-way serve as the eastern boundary. ECM assumes the right-of-way aligns with the eastern boundaries of parcels 109-46-011 and 109-52-970. Since the release occurred in the UPRR right-of-way and no parcel could be identified, AFFC requests that the southern boundary of parcel 109-46-011 serve as the northern boundary of the No Further Action area and that the southern boundaries of parcels 109-52-970, 109-52-971, and 109-52-974, as appropriate, serve as the southern No Further Action Boundary. The NFA Boundaries for this Site, defined by an area 430 feet in the east-west direction and 100 feet in the north-south direction, are presented on **Figure 8**, with the county parcels identified for reference.

8 SEVEN ELEMENTS DEFINED IN A.R.S. §49-181 FOR NFA

Per A.R.S. §49-181(A), upon achieving remediation levels pursuant to A.R.S. §49-175(B), an applicant approved pursuant to A.R.S. §49-174 may request the department to provide an NFA determination for a site. In requesting the NFA determination, the applicant must acknowledge the “seven elements” defined §49-181(A)(1) - (7), where applicable.

1. A description of the specific contaminants for which a no further action determination is being sought.

As indicated in Section 2.2 of this report, AFFC is requesting an NFA determination for benzene, toluene, ethylbenzene, and total xylenes in groundwater.

2. A description of the actions taken to achieve remediation levels or controls determined in accordance with section 49-175, subsection B.

Remedial actions for this Site are described in **Section 3** of this report, and further discussed in ECM's *Quarterly Groundwater Monitoring* reports from 2008 to 2017.

3. A description of any soil, water, or soil and water treatment systems used as part of the remediation.

No treatment systems were employed at this site. Excavated soil was disposed of at Waste Management's Butterfield Station Landfill facility. Purge water, FPP and absorbent materials, temporarily containerized at the site, was transferred to a Swissport vacuum truck and disposed through Swissport's fuel disposal system.

4. Whenever institutional or engineering controls are placed on the site:

(a) A demonstration that any engineering control or combination of engineering controls has been constructed, is functioning, and will be maintained.

Not Applicable.

(b) A description of the proposed land use for the site and a demonstration that the use will not compromise the integrity of the engineering controls and will be in accordance with any institutional controls.

Not Applicable.

5. If post-remediation monitoring is proposed, a description of the type of monitoring, monitoring locations, contaminants to be monitored, monitoring frequency and sampling procedures is required.

No post-remediation monitoring is proposed.

6. A description of community involvement activities undertaken to meet the requirements of section §49-176.

Because the Site is located entirely within UPRR right-of-way, AFFC has coordinated access with UPRR and provided UPRR with copies of the reports documenting remedial activities at the Site.

It is anticipated that AFFC's future community involvement activities will include the following:

- AFFC will continue to provide project updates to UPRR regarding any intrusive activities at the Site such as well abandonment;
- Per the requirements of A.R.S. §49-181(A), a draft Public Notice is provided in Appendix D for ADEQ review. Following ADEQ approval of the draft Public Notice, AFFC proposes publication of the notice in the Phoenix Business Journal. The public will then have a period of 30 days from the date of publication to comment on AFFC's request for an NFA determination.
- If requested by a member of the public, and deemed relevant by ADEQ, AFFC will provide a public meeting or other forum, as directed by ADEQ, to discuss any comments or issues raised by the Public Notice.

7. A list of permits under this title obtained for the remedial action or held by the applicant pertaining to the site.

AFFC has obtained permits for all monitoring wells related to the site. These permits include well installation permits. These permits are on file with ADWR and can be viewed at: https://gisweb.azwater.gov/WellRegistry/SearchWellReg.aspx. This directory files permit information by registry (55) number. The 55-number for each well is provided in Table 1.

Because the Site is located on UPRR right-of-way, AFFC was required to obtain a Right of Entry Agreement with UPRR prior to each phase of remedial activities at the Site.

9 CONCLUSIONS

Numerous environmental investigations (including soil, groundwater, and soil-gas,) have been completed at the AFFC Pipeline 23rd Avenue Release Site since the discovery of the leak in December 2006. Quarterly groundwater monitoring and monthly FPP removal have been conducted at the Site. These activities have been documented in various reports submitted to ADEQ.

The geology of the Site is characterized by very coarse-grained formations with large amounts of gravel and cobble sized material, which has made the collection of representative soil samples difficult. Samples collected tend to be biased toward the finer grained deposits.

This report and the results of the *Determination of Site-Specific Groundwater Protection Levels (GPLs), AFFC Pipeline 23rd Avenue Release (VRP SITE #509039-00), 23rd Avenue and UPRR, Phoenix, Arizona*; fully define the historic extent of the Release area in terms of the maximum historic extent of LNAPL. The footprint of AFFC Pipeline 23rd Avenue Release extended approximately 110 feet

east-west (from MW-1 to MW-3) and 90 feet north-south direction (from MW-2 to MW-3) at its maximum areal extent. Free product has not been observed in any wells since May 26, 2015. Dissolved COCs have not been present at or above AWQS in wells at the Site since December 2015.

10 REQUEST FOR NFA DETERMINATION

An NFA determination means that no further action shall be taken by ADEQ under Title 49 of the Arizona Administrative Code, to require remediation of a site, or portion of a site, covered by the NFA determination, unless the NFA determination is rescinded or amended at a later date, pursuant to A.R.S. §49-181. An NFA determination under A.R.S. §49-181 does not release or discharge AFFC from liability under Title 49, or any other law for a release of contaminants not covered by the work plan approved pursuant to A.R.S. §49-177, or any requirements outside the boundary of the site or portion of the site covered by the NFA determination. A determination of no further action shall not preclude the ADEQ Director from obtaining access to the area covered by the determination under VRP Statute(s) or any other applicable laws.

Pursuant to the requirements of the VRP, AFFC hereby formally requests that ADEQ grant an unconditional NFA determination for groundwater at the AFFC Pipeline 23rd Avenue Release Site in the Maricopa County Parcels and UPRR right-of-way identified in **Figure 8** (Parcels 109-52-970, 109-52-971, and 109-52-974, as appropriate).

11 REFERENCES

Arizona Administrative Code, Title 18, Chapter 7, Appendix B; Soil Remediation Levels: http://www.azsos.gov/public_services/Title_18/18-07.pdf **(AAC, 1997)**

Arizona Department of Environmental Quality, *A Screening Method to Determine Soil Concentrations Protective of Groundwater Quality*, September 1996 **(ADEQ, 1996)**

Arizona Geological Survey, *Subsurface Geology of the Easternmost Phoenix Basin, Arizona: Implications for Groundwater Flow*, August 2002. **(AGS, 2002)**

Arizona Revised Statute §49-181; Voluntary Remediation Program, http://www.azleg.state.az.us/FormatDocument.asp?inDoc=/ars/49/00181.htm&Title=49&DocType=ARS **(ARS, 2000)**

Arizona Department of Environmental Quality, 2018. West Van Buren\Site Overview. https://azdeq.gov/node/754. Revised May 16, 2018.

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ECM, 2008a. *Site Investigation and Well Installation Work Plan, Remote Pipeline Site, 23rd Avenue and UPRR, Phoenix, Arizona*, February 20, 2008.

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ECM, 2015a. *Well Installation Work Plan, AFFC Pipeline 23rd Avenue Release, 23rd Avenue and UPRR, Phoenix, Arizona*, June 1, 2015.

ECM, 2015b. *Well Installation and First Quarter 2015 Groundwater Monitoring Report, AFFC Pipeline 23rd Avenue Release, 23rd Avenue and Union Pacific Railroad (UPRR), Phoenix, Arizona*, July 1, 2015.

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ECM, 2018. *Subject: Determination of Site-Specific Groundwater Protection Levels (GPLs), AFFC Pipeline 23rd Avenue Release (VRP SITE #509039-00), 23rd Avenue and UPRR, Phoenix, Arizona*; March 29, 2018.

Reynolds, Stephen J. and R. Douglas Bartlett, 2002. *Subsurface geology of the easternmost Phoenix basin, Arizona: Implications for groundwater flow*. Arizona Geological Survey Contributed Report CR-02-A, August 2002.

FIGURES

Figure 1: Site Location Map
Figure 2: Historical Soil Boring Location Map
Figure 3: Site Groundwater Monitoring Wells
Figure 4: Water Level and FPP History
Figure 5: Groundwater Monitoring Wells Map
Figure 6: Historical Extent of LNAPL Plume
Figure 7: Historical Extent of Dissolved Phase COC Concentrations
Figure 8: Groundwater NFA Boundary Map for BTEX with Maricopa County Parcels

TABLES

Table 1: Groundwater Monitoring Well Construction Summary
Table 2: Historical Groundwater Analytical Data (BTEX)

APPENDICES

Appendix A: Site Boring and Well Completion Logs
Appendix B: Historical Groundwater Monitoring and Product Removal Data
Appendix C: One-Mile Radius ADEQ Well Search
Appendix D: Public Notice for Groundwater No Further Action Request

Figures

Drafter: JWP | Chkd by: TL | Date drafted: 5/17/2017 | Proj. Manager TL | Project: Remote Pipeline | File Path: S:/AFFC/RemotePipeline/Deliverables/Reports/2017

N

0 50 100

SCALE (FEET)

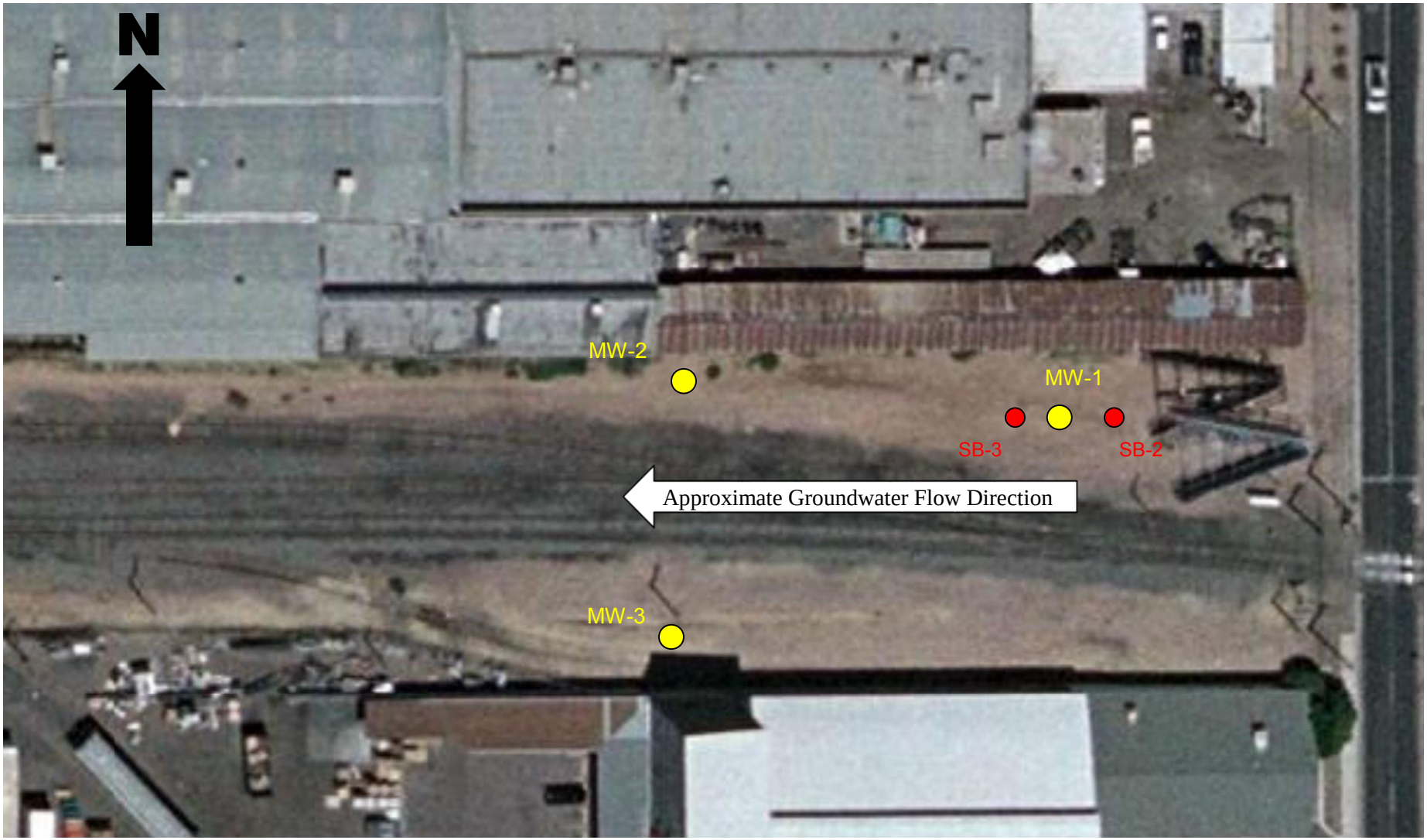
Arizona Fueling Facilities Corp.
4000 E. Sky Harbor Blvd.
Phoenix, Arizona

ECM Consultants

address 3525 Hyland Ave. #200
Costa Mesa, CA 92626
phone 714.662.2759
web ecmconsults.com

Site Location Map
AFFC Pipeline 23rd Avenue Release

Figure 1

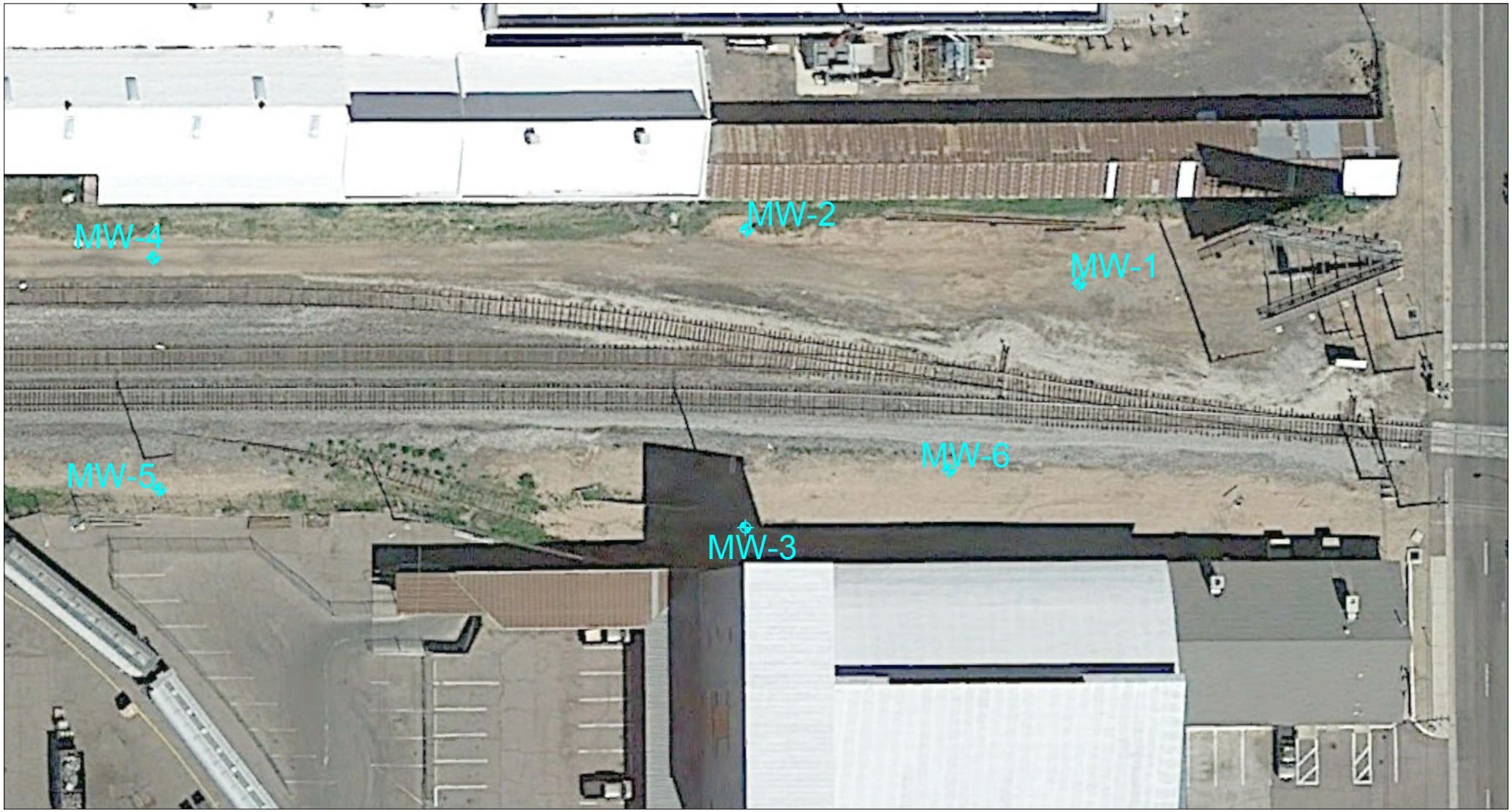


Borings terminated at approximately 35 feet below ground surface due to drilling refusal, 3/07

Approximate Monitoring Well Locations, (prior to survey 6/08)

0 25 50
Scale in Feet

Arizona Fueling Facilities Corp. 4000 E. Sky Harbor Blvd. Phoenix, Arizona	**ENVIRONMENTAL COST MANAGEMENT, INC.** *Managing Cost and Liability* 3525 Hyland Ave., Suite 200 ● Costa Mesa, CA 92626 Tel: (714) 662-2759 ● Fax: (714) 662-2758	Historical Soil Boring Location Map *Closure Report*	Figure 2



LEGEND

Groundwater Monitoring Well

N

0 25 50

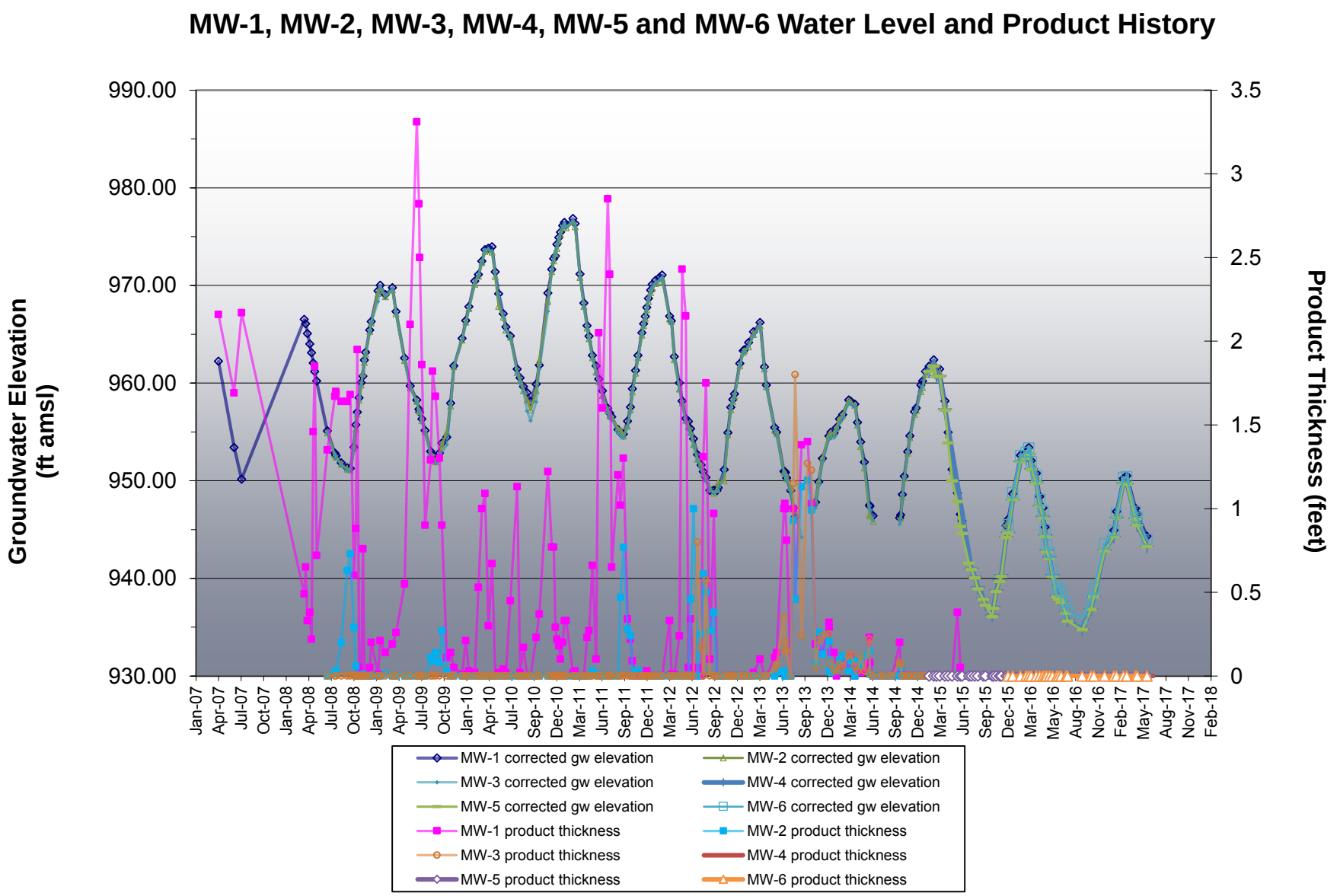
SCALE (FEET)

Arizona Fueling Facilities Corp.
4000 E. Sky Harbor Blvd.
Phoenix, Arizona

ECM Consultants
address 3525 Hyland Ave. #200
Costa Mesa, CA 92626
phone 714.662.2759
web ecmconsults.com

Site Groundwater Monitoring Wells
AFFC Pipeline 23rd Avenue Release
Closure Report

Figure 3



Arizona Fueling Facilities Corp.
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ECM Consultants

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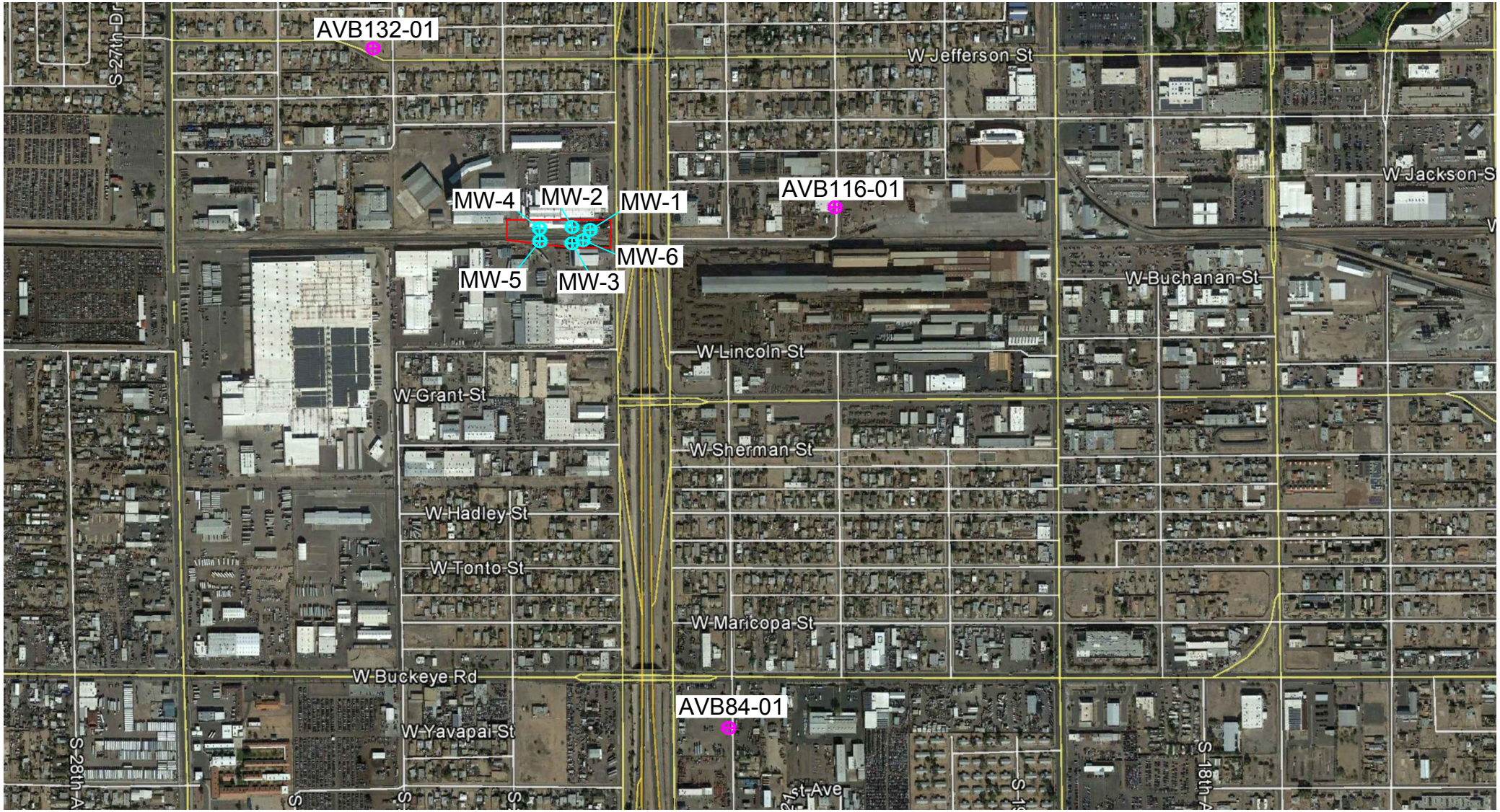
Costa Mesa, CA 92626
phone 714.662.2759
web ecmconsults.com

Water Level and FPP History
AFFC Pipeline 23rd Avenue Release

Closure Report

Figure

4



LEGEND

- Onsite well
- Offsite well
- Approximate site boundary

N

0 450 900

SCALE (FEET)

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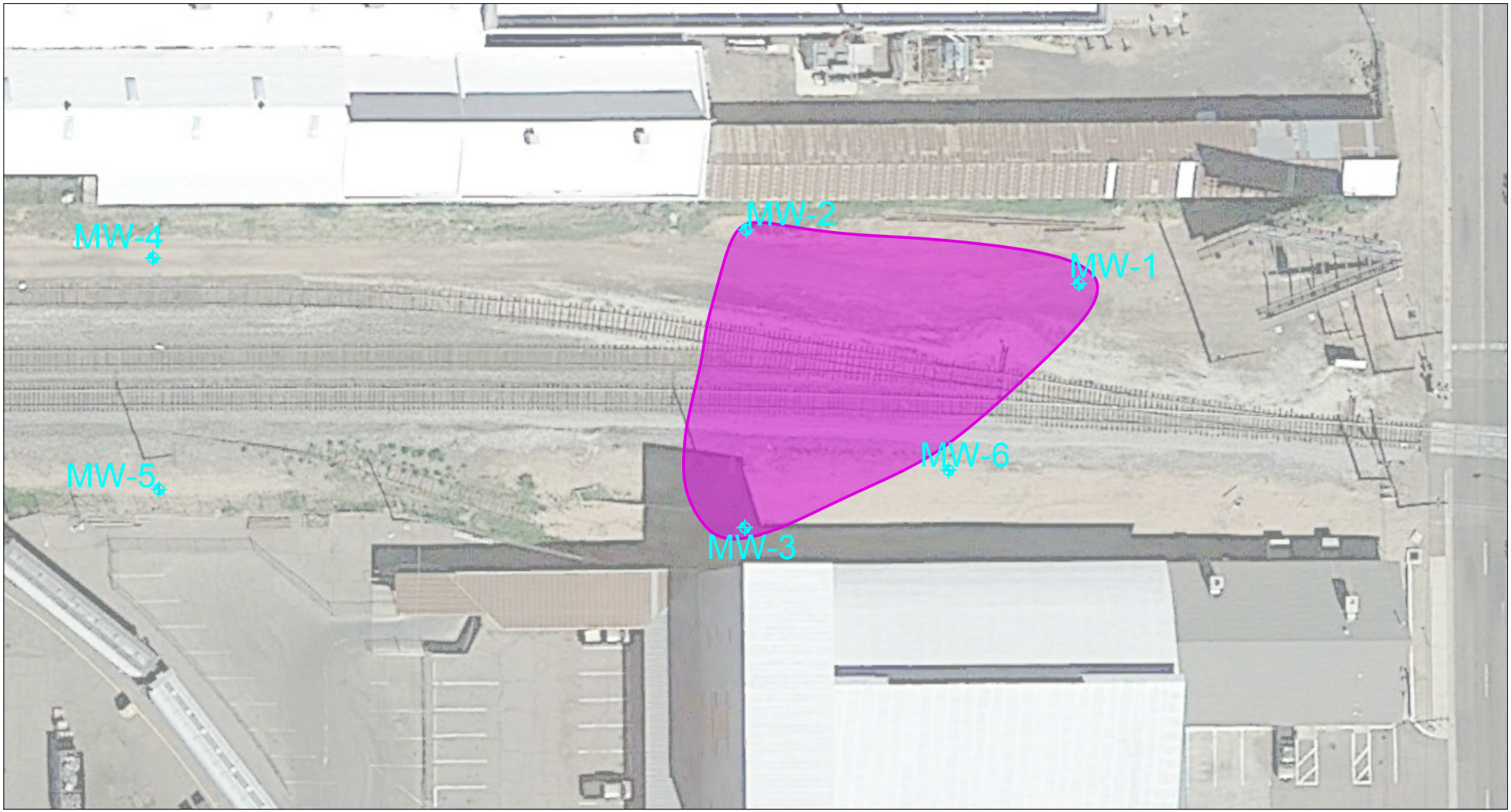
Groundwater Monitoring Wells Map
AFFC Pipeline 23rd Avenue Release
Closure Report

Figure 5

Drafter: R. Greenberg | Chkd by: T. Looff | Date drafted: 9/7/2016 | Proj. Manager: Tiffany Looff | Project: Remote Pipeline | File Path: S:/AFFC/RemotePipeline/Deliverables/Reports/2016



LEGEND

Groundwater Monitoring Well

Approximate extent of historical free-phase product (FPP)

N

0 25 50

SCALE (FEET)

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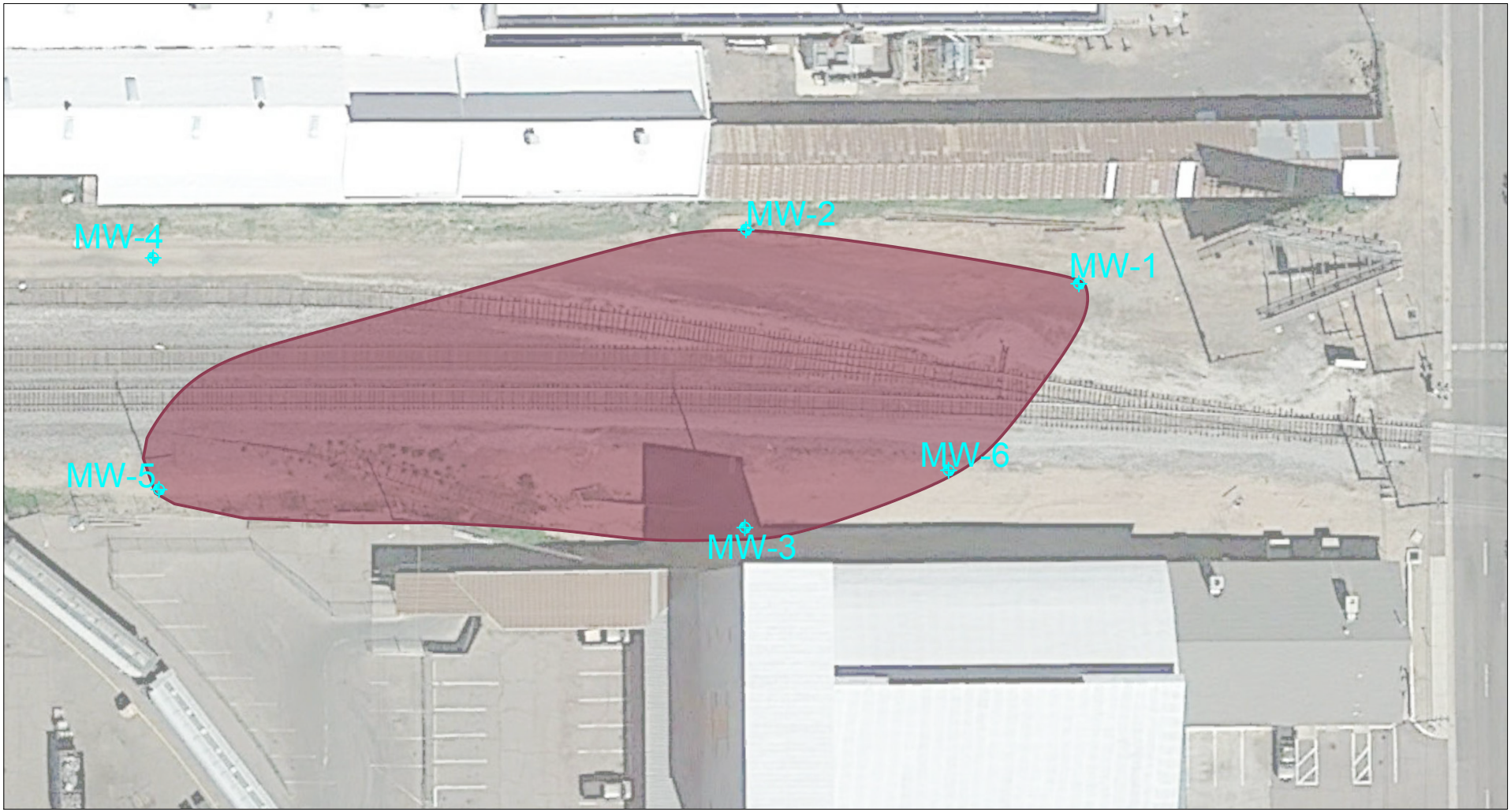
Historical Extent of LNAPL Plume
AFFC Pipeline 23rd Avenue Release
Closure Report

Figure 6

Drafter: R. Greenberg | Chkd by: T. Looff | Date drafted: 9/7/2016 | Proj. Manager: Tiffany Looff | Project: Remote Pipeline | File Path: S:/AFFC/RemotePipeline/Deliverables/Reports/2016



LEGEND

Groundwater Monitoring Well

Approximate maximum extent of dissolved-phase constituents (BTEX)

N

0 25 50

SCALE (FEET)

Note: Dissolved phase concentrations reported at MW-6 and MW-5 did not exceed AWQS.

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Historical Extent of Dissolved Phase COC Concentrations
AFFC Pipeline 23rd Avenue Release
Closure Report

Figure 7

100 ft

Arizona Fueling Facilities Corp.
4000 E. Sky Harbor Blvd.
Phoenix, Arizona

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Groundwater NFA Boundary Map for BTEX
with Maricopa County Parcels
AFFC Pipeline 23rd Avenue Release
Closure Report

Figure
8

Tables

TABLE 1
Groundwater Monitoring Well Construction Summary
AFFC Pipeline 23rd Avenue Release Site
Phoenix, AZ

Monitoring Well	Latitude	Longitude	Well Diameter (inches)	Top of Casing Elevation (amsl)	Well Material	Reported Bottom of Well (ft)	Screened Interval (ft)	Installation Date
MW-1	33.444084º	-112.109194º	4	1069.15	PVC	125	104 - 124	4/17/2007
MW-2	33.444133º	-112.109554º	4	1069.30	PVC	135	100 - 134	6/6/2008
MW-3	33.443862º	-112.109555º	4	1068.33	PVC	135	100 - 135	6/4/2008
MW-4	33.444106º	-112.110199º	4	1069.25	PVC	150	85 - 146.5	1/7/2015
MW-5	33.443897º	-112.110194º	4	1069.35	PVC	150	52 - 147	1/14/2015
MW-6	33.443912º	-112.109340º	4	1069.2	PVC	150	77.5 - 147.5	11/20/2015

Notes:

Survey of groundwater wells MW-1, MW-2, and MW-3 conducted by Strand Associates, Inc. June 23, 2008. Survey of wells MW-4 and MW-5 conducted by Aztec February 25, 2015. Survey of well MW-6 conducted by Aztec on January 13, 2016.

NAD-83 = North American Datum series 1983

NAVD88 = North American Vertical Datum 1988

amsl = above mean sea level

ft = feet

Table 2
Historical Groundwater Analytical Data (BTEX)
AFFC Pipeline 23rd Avenue Release Site
Phoenix, AZ

Well Location	Date of Sample Collection	Screen Interval (ft/bgs)	Analytical results (mg/L)				
			Benzene	Toluene	Ethylbenzene	Total Xylenes	Comments
MW-1	9/25/2008	104-124'	NS	NS	NS	NS	
MW-1	12/11/2008	104-124'	NS	NS	NS	NS	
MW-1	3/12/2009	104-124'	NS	NS	NS	NS	
MW-1	5/28/2009	104-124'	NS	NS	NS	NS	
MW-1	9/25/2009	104-124'	NS	NS	NS	NS	
MW-1	12/15/2009	104-124'	***0.089***	<0.05	0.49	1.8	
MW-1 dup[3]	12/15/2009	104-124'	***0.078***	<0.025	0.34	1.3	
MW-1	3/4/2010	104-124'	NS	NS	NS	NS	
MW-1	6/8/2010	104-124'	NS	NS	NS	NS	
MW-1	8/31/2010	104-124'	NS	NS	NS	NS	
MW-1	12/8/2010	104-124'	NS	NS	NS	NS	
MW-1	3/2/2011	104-124'	NS	NS	NS	NS	
MW-1	5/19/2011	104-124'	NS	NS	NS	NS	
MW-1	9/19/2011	104-124'	NS	NS	NS	NS	
MW-1	11/17/2011	104-124'	NS	NS	NS	NS	
MW-1	3/22/2012	104-124'	NS	NS	NS	NS	
MW-1	6/5/2012	104-124'	NS	NS	NS	NS	
MW-1	9/14/2012	104-124'	NS	NS	NS	NS	
MW-1	11/29/2012	104-124'	***0.020***	<0.025	0.097	0.140	
MW-1	3/18/2013	104-124'	NS	NS	NS	NS	
MW-1	6/25/2013	104-124'	NS	NS	NS	NS	
MW-1	9/23/2013	104-124'	NS	NS	NS	NS	
MW-1	12/26/2013	104-124'	NS	NS	NS	NS	
MW-1	3/31/2014	104-124'	***0.0069***	<0.025	0.074	0.062	
MW-1 dup[3]	3/31/2014	104-124'	***0.006***	<0.005	0.093	0.130	
MW-1	6/12/2014	104-124'	<0.0005	<0.005	<0.0005	0.0040	
MW-1 dup[3]	6/12/2014	104-124'	<0.0005	<0.005	<0.0005	0.0042	
MW-1	8/28/2014	104-124'	NS	NS	NS	NS	
MW-1	11/24/2014	104-124'	***0.006***	<0.005	0.044	0.054	
MW-1	3/26/2015	104-124'	0.0012	<0.005	0.011	0.006	
MW-1	6/30/2015	104-124'	NS	NS	NS	NS	Dry
MW-1	9/30/2015	104-124'	NS	NS	NS	NS	Dry
MW-1	12/21/2015	104-124'	**0.0052**	<0.005	0.00926	0.0373	
MW-1	3/24/2016	104-124'	<0.001	<0.005	0.0232	<0.003	
MW-1	6/14/2016	104-124'	NS	NS	NS	NS	Dry
MW-1	9/23/2016	104-124'	NS	NS	NS	NS	Dry
MW-1	12/21/2016	104-124'	NS	NS	NS	NS	Dry
MW-1	3/20/2017	104-124'	0.0027	0.00518	0.00363	0.0186	
MW-1	5/1/2017	104-124'	0.000628	<0.001	0.00206	0.00255 B1	
MW-2	6/19/2008	100-134'	<0.001	<0.005	<0.001	<0.003	
MW-2	9/25/2008	100-134'	NS	NS	NS	NS	
MW-2	12/11/2008	100-134'	<0.001	<0.005	<0.001	<0.003	
MW-2	3/12/2009	100-134'	<0.001	<0.005	<0.001	<0.003	
MW-2 dup[2]	3/12/2009	100-134'	<0.001	<0.005	<0.001	<0.003	
MW-2	5/28/2009	100-134'	<0.001	<0.005	<0.001	<0.003	
MW-2 dup[2]	5/28/2009	100-134'	<0.001	<0.005	<0.001	<0.003	
MW-2	9/25/2009	100-134'	NS	NS	NS	NS	
MW-2	12/15/2009	100-134'	***0.023***	<0.005	0.083	0.27	

Table 2
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AFFC Pipeline 23rd Avenue Release Site
Phoenix, AZ

Well Location	Date of Sample Collection	Screen Interval (ft/bgs)	Analytical results (mg/L)				
			Benzene	Toluene	Ethylbenzene	Total Xylenes	Comments
MW-2	3/4/2010	100-134'	<0.001	<0.005	0.0044	<0.003	
MW-2	6/8/2010	100-134'	<0.0005	<0.005	0.00081	<0.0015	
MW-2 dup[2]	6/8/2010	100-134'	<0.0005	<0.005	0.00083	<0.0015	
MW-2	8/31/2010	100-134'	<0.0005	<0.005	0.00069	<0.0015	
MW-2 dup[2]	8/31/2010	100-134'	0.00073	<0.005	0.001	0.0015	
MW-2	12/8/2010	100-134'	<0.0005	<0.005	<0.005	<0.0015	
MW-2 dup[2]	12/8/2010	100-134'	<0.0005	<0.005	<0.005	<0.0015	
MW-2	3/2/2011	100-134'	<0.0005	<0.005	<0.005	<0.0015	
MW-2 dup[2]	3/2/2011	100-134'	<0.0005	<0.005	<0.005	<0.0015	
MW-2	5/19/2011	100-134'	NS	NS	NS	NS	
MW-2	9/19/2011	100-134'	NS	NS	NS	NS	
MW-2	11/17/2011	100-134'	NS	NS	NS	NS	
MW-2	3/22/2012	100-134'	***0.02***	<0.005	0.14	0.17	
MW-2 dup[2]	3/22/2012	100-134'	***0.02***	<0.005	0.14	0.17	
MW-2	6/5/2012	100-134'	<0.0005	<0.005	<0.005	<0.0015	
MW-2 dup[2]	6/5/2012	100-134'	<0.0005	<0.005	<0.005	<0.0015	
MW-2	9/14/2012	100-134'	NS	NS	NS	NS	
MW-2	11/29/2012	100-134'	0.0029	0.005	0.042	0.075	
MW-2	3/18/2013	100-134'	0.0041	<0.025	0.014	0.017	
MW-2 dup[2]	3/18/2013	100-134'	0.0042	<0.005	0.023	0.029	
MW-2	6/25/2013	100-134'	0.00069	<0.005	<0.0005	<0.0015	
MW-2 dup[2]	6/25/2013	100-134'	<0.0005	<0.005	<0.005	<0.0015	
MW-2	9/23/2013	100-134'	NS	NS	NS	NS	
MW-2	12/26/2013	100-134'	NS	NS	NS	NS	
MW-2	3/31/2014	100-134'	0.0032	0.0079	0.046	0.11	
MW-2	6/12/2014	100-134'	<0.0005	<0.005	<0.0005	0.0042	
MW-2	8/28/2014	100-134'	NS	NS	NS	NS	
MW-2	11/24/2014	100-134'	<0.0005	<0.005	<0.0005	0.0016	
MW-2	3/26/2015	100-134'	0.0012	<0.005	0.011	0.0055	
MW-2	6/30/2015	100-134'	NS	NS	NS	NS	Dry
MW-2	9/30/2015	100-134'	NS	NS	NS	NS	Dry
MW-2	12/21/2015	100-134'	0.000658	<0.005	0.00133	0.0034	
MW-2	3/24/2016	100-134'	<0.001	<0.005	0.0214	<0.003	
MW-2	6/14/2016	100-134'	NS	NS	NS	NS	Dry
MW-2	9/23/2016	100-134'	NS	NS	NS	NS	Dry
MW-2	12/21/2016	100-134'	NS	NS	NS	NS	Dry
MW-2	3/20/2017	100-134'	<0.0005	<0.001	0.000626	0.00314	
MW-2	5/1/2017	100-134'	<0.0005	<0.001	0.00126	0.00151 B1	
MW-3	6/19/2008	100-135'	***0.01***	0.015	0.0097	0.22	
MW-3	9/25/2008	100-135'	***0.011***	0.017	0.088	0.12	
MW-3	12/11/2008	100-135'	0.0035	0.0024	0.033	0.019	
MW-3 dup[1]	12/11/2008	100-135'	0.0034	0.0024	0.033	0.019	
MW-3	3/12/2009	100-135'	0.0012	<0.005	0.02	0.01	
MW-3	5/28/2009	100-135'	<0.001	<0.005	0.012	0.0076	
MW-3	9/25/2009	100-135'	<0.001	<0.005	0.0011	<0.003	
MW-3 dup[1]	9/25/2009	100-135'	<0.001	<0.005	0.0015	<0.003	
MW-3	12/15/2009	100-135'	0.0013	<0.005	0.016	0.0072	
MW-3	3/4/2010	100-135'	0.0029	<0.005	0.083	0.05	

Table 2
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AFFC Pipeline 23rd Avenue Release Site
Phoenix, AZ

Well Location	Date of Sample Collection	Screen Interval (ft/bgs)	Analytical results (mg/L)				
			Benzene	Toluene	Ethylbenzene	Total Xylenes	Comments
MW-3	6/8/2010	100-135'	<0.0005	<0.005	0.013	0.0059	
MW-3	8/31/2010	100-135'	0.00085	<0.005	0.0037	0.0026	
MW-3	12/8/2010	100-135'	<0.0005	<0.005	0.00082	0.0025	
MW-3	3/2/2011	100-135'	0.0012	<0.005	<0.0005	<0.0015	
MW-3	5/19/2011	100-135'	<0.0005	<0.005	0.00057	<0.0015	
MW-3	9/19/2011	100-135'	0.0011	<0.005	0.0034	0.0021	
MW-3	11/17/2011	100-135'	<0.0005	<0.005	0.01	0.0018	
MW-3	3/22/2012	100-135'	<0.0005	<0.005	<0.0005	0.0015	
MW-3	6/5/2012	100-135'	<0.0005	<0.005	<0.0005	<0.0015	
MW-3	9/14/2012	100-135'	NS	NS	NS	NS	
MW-3	11/29/2012	100-135'	***0.0066***	0.079	***0.710***	0.460	
MW-3	3/18/2013	100-135'	0.0022	<0.005	<0.0005	0.045	
MW-3	6/25/2013	100-135'	NS	NS	NS	NS	
MW-3	9/23/2013	100-135'	NS	NS	NS	NS	
MW-3	12/26/2013	100-135'	NS	NS	NS	NS	
MW-3	3/31/2014	100-135'	NS	NS	NS	NS	
MW-3	6/12/2014	100-135'	<0.0005	<0.005	<0.0005	0.0048	
MW-3	8/28/2014	100-135'	NS	NS	NS	NS	
MW-3	11/24/2014	100-135'	0.0037	<0.005	0.031	0.0074	
MW-3 dup[1]	11/24/2014	100-135'	0.0034	<0.005	0.029	0.0068	
MW-3	3/26/2015	100-135'	0.00067	<0.005	0.0077	<0.0015	
MW-3	6/30/2015	100-135'	NS	NS	NS	NS	Dry
MW-3	9/30/2015	100-135'	NS	NS	NS	NS	Dry
MW-3	12/21/2015	100-135'	0.000885	<0.005	0.00692	0.0092	
MW-3	3/24/2016	100-135'	<0.001	<0.005	0.0444	<0.003	
MW-3	6/14/2016	100-135'	NS	NS	NS	NS	Dry
MW-3	9/23/2016	100-135'	NS	NS	NS	NS	Dry
MW-3	12/21/2016	100-135'	NS	NS	NS	NS	Dry
MW-3	3/20/2017	100-135'	0.00126	<0.001	0.112	0.00233 B1	
MW-3	5/1/2017	100-135'	0.000613	<0.001	0.00271	0.00214 B1	
MW-4	3/26/2015	85-146.6'	<0.0005	<0.005	<0.0005	<0.0015	
MW-4 dup[4]	3/26/2015	85-146.6'	<0.0005	<0.005	<0.0005	<0.0015	
MW-4	6/30/2015	85-146.6'	<0.001	<0.005	<0.001	<0.003	
MW-4 dup[4]	6/30/2015	85-146.6'	<0.001	<0.005	<0.001	<0.003	
MW-4	9/30/2015	85-146.6'	<0.0005	<0.005	<0.0005	<0.0015	
MW-4	12/21/2015	85-146.6'	<0.0005	<0.005	<0.0005	<0.0015	
MW-4	3/24/2016	85-146.6'	<0.001	<0.005	<0.001	<0.003	
MW-4	6/14/2016	85-146.6'	<0.0005	<0.005	<0.0005	<0.0015	
MW-4	9/23/2016	85-146.6'	<0.0005	<0.005	<0.0005	<0.0015	
MW-4	12/21/2016	85-146.6'	<0.0005	<0.001	<0.0005	<0.0015	
MW-4	3/20/2017	85-146.6'	<0.0005	<0.001	<0.0005	<0.0015	
MW-4	5/1/2017	85-146.6'	<0.0005	<0.001	<0.0005	<0.0015	
MW-5	3/26/2015	52-147'	<0.0005	<0.005	<0.0005	<0.0015	
MW-5	6/30/2015	52-147'	0.00037 E4	<0.005	<0.0005	<0.0015	
MW-5	9/30/2015	52-147'	<0.001	<0.005	<0.001	<0.003	
MW-5[5]	9/30/2015	52-147'	<0.001	<0.005	<0.001	<0.003	
MW-5	12/21/2015	52-147'	<0.0005	<0.005	<0.0005	<0.0015	
MW-5	3/24/2016	52-147'	<0.001	<0.005	0.06	<0.003	

Table 2
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AFFC Pipeline 23rd Avenue Release Site
Phoenix, AZ

Well Location	Date of Sample Collection	Screen Interval (ft/bgs)	Analytical results (mg/L)				
			Benzene	Toluene	Ethylbenzene	Total Xylenes	Comments
MW-5	6/14/2016	52-147'	<0.0005	<0.005	<0.0005	<0.0015	
MW-5	9/23/2016	52-147'	<0.0005	<0.005	<0.0005	<0.0015	
MW-5	12/21/2016	52-147'	<0.0005	<0.001	<0.0005	<0.0015	
MW-5	3/20/2017	52-147'	<0.0005	<0.001	<0.0005	<0.0015	
MW-5	5/1/2017	52-147'	<0.0005	<0.001	<0.0005	<0.0015	
MW-6	12/21/2015	77.5-147.5'	<0.0005	<0.005	0.00246	<0.0015	
MW-6[6]	12/21/2015	77.5-147.5'	<0.0005	<0.005	0.0032	<0.0015	
MW-6	3/24/2016	77.5-147.5'	<0.001	<0.005	<0.001	<0.003	
MW-6[6]	3/24/2016	77.5-147.5'	<0.001	<0.005	0.0639	<0.003	
MW-6	6/14/2016	77.5-147.5'	<0.0005	<0.005	0.00322	0.00229 B	
MW-6[6]	6/14/2016	77.5-147.5'	<0.0005	<0.005	0.00698	0.00445	
MW-6	9/23/2016	77.5-147.5'	<0.0005	<0.005	0.00385	0.012	
MW-6[7]	9/23/2016	77.5-147.5'	<0.0005	0.00501 B1	0.0318	0.0878	
MW-6	12/21/2016	77.5-147.5'	<0.0005	<0.001	<0.0005	<0.0015	
MW-6[8]	12/21/2016	77.5-147.5'	<0.0005	<0.001	0.000642	<0.0015	
MW-6	3/20/2017	77.5-147.5'	0.00111	<0.001	0.103	0.00234 B1	
MW-6[8]	3/20/2017	77.5-147.5'	0.000988	<0.001	0.095	0.00189 B1	
MW-6	5/1/2017	77.5-147.5'	0.000689	<0.001	0.00213	0.00283 B1	
MW-6[8]	5/1/2017	77.5-147.5'	0.000738	<0.001	0.00214	0.00281 B1	
AVB84-01	12/21/2016	70-120'	<0.0005 M2	<0.001 M2	<0.0005 M2	<0.0015 M2	
AVB116-01	6/14/2016	70-150'	<0.0005	<0.005	<0.0005	<0.0015	
AVB116-01	9/23/2016	70-150'	<0.0005	<0.005	<0.0005	<0.0015	
AVB116-01	12/21/2016	70-150'	<0.0005	<0.001	<0.0005	<0.0015	
AVB132-01	6/14/2016	195-225'	<0.0005	<0.005	<0.0005	<0.0015	
AVB132-01	9/23/2016	195-225'	<0.0005	<0.005	<0.0005	<0.0015	
AVB132-01	12/21/2016	195-225'	<0.0005	<0.001	<0.0005	<0.0015	
Arizona Domestic Water Source (DWS) Quality Standards			**0.005**	**1.0**	**0.7**	**10**	

* Constituents not listed were below their laboratory method reporting limits.
[1] Duplicate of MW-3 designated as MW-4
[2] Duplicate of MW-2 designated as MW-4
[3] Duplicate of MW-1 designated as MW-4
[4] Duplicate of MW-4 designated as MW-6
[5] Duplicate of MW-5 designated as MW-6
[6] Duplicate of MW-6 designated as MW-7
[7] Duplicate of MW-6 designated as MW-7
[8] Duplicate of MW-6 designated as MW-7
dup - duplicate sample
E4 - Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
B1 - Target analyte detected in method blank at or above the method reporting limit.
M2 - Matrix spike recovery was low, the method control sample recovery was acceptable.
Bold - Exceeds Arizona Aquifer Water Quality Standards
Italics - Exceeds Arizona Aquifer Water Quality Standards
mg/L - milligrams per liter
ND - all constituents were below the laboratory method reporting limits.
NR - not required per the *Site Investigation and Well Installation Work Plan* (ECM, 2008)
NS - not sampled due to the presence of free phase product.
DWS - Domestic Water Source

Appendices

Appendix A
Site Boring and Well Completion Logs

ENVIRONMENTAL COST MANAGEMENT, INC.
Managing Cost and Liability
660 Baker Street, Suite 253 ● Costa Mesa, CA 92626
Tel: (714) 662-2759 ● Fax: (714) 662-2758

FIELD BOREHOLE LOG

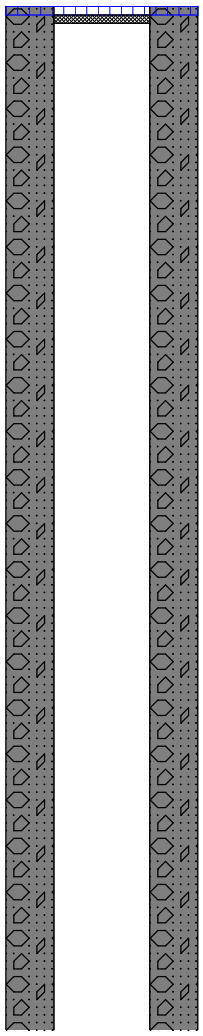
BOREHOLE NO.: **SB-1/MW-1**
TOTAL DEPTH: **125'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**Remote Pipeline**	DRILLING CO.:	**WDC**
SITE LOCATION:	**Phoenix, AZ**	DRILLER:	**George**
JOB NO.:	**AFFC**	RIG TYPE:	**CME 75**
GEOLOGIST:	**T. Looff**	METHOD OF DRILLING:	**Stratex**
PROJECT MANAGER:	**John Vargas**	SAMPLING METHODS:	**Drive Sampler**
DATES DRILLED:	**4-10-2007 to 4-11-2007**	BOREHOLE DIAMETER:	**8-inch**

▼ Water Table Encountered During Drilling ▽ Static Water Level Measured on April 18, 2007

DEPTH bgs	SOIL GRAPHIC	USCS	BLOW COUNT	SOIL DESCRIPTION	SAMPLES	PID
0–15		SW		SW: sand, well graded, fine to coarse, subangular, some gravel, brown, slightly damp, hydrocarbon odor		
15–25		GW	10/16/21	GW: gravel with sand, gravel subrounded to 1/2", sand as above, brown, loose, damp, slight hydrocarbon odor difficult drilling from 25'-30'	SB-1-15, 14:20	788
25–35		GP	50/3"	GP: gravel, trace sand, slight hydrocarbon odor	SB-1-25, 14:55	1648
35–40		GP	50/6"	GP: broken gravel with cobble pieces in cuttings, slight hydrocarbon odor	No Recovery	130
40–45		GP		GP: gravel with broken rock with sand, large piece of quartzite in shoe, hydrocarbon odor		
45		GW		GW: sand, gravel cobble pieces, loose, petroleum odor		259

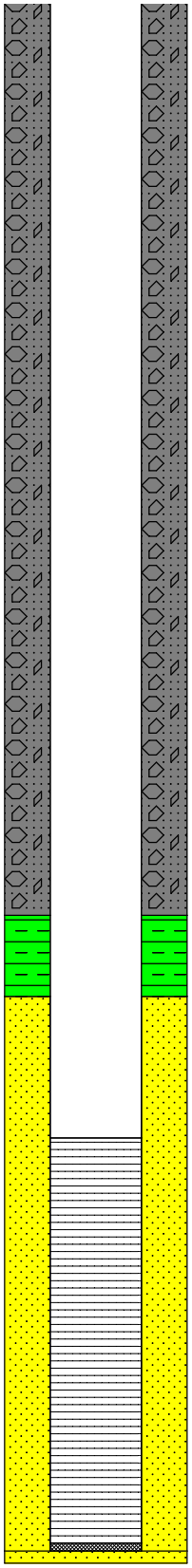
WELL CONSTRUCTION MW-1



DEPTH bgs	SOIL GRAPHIC	USCS	BLOWS	SOIL DESCRIPTION	SAMPLES	PID
50						
		SP		SP: fine sand with fine gravel, brown, hydrocarbon odor	SB-1-50	383
55						
60		CL		CL: silty clay, brown, firm, moderately dense, slightly plastic, strong petroleum odor, apparent sheen	SB-1-60	
65		GW		GW: fine to medium gravel with fine to medium sand, some broken rock, sand reddish brown, subangular, gravel subrounded, damp, hydrocarbon odor	SB-1-65, 11:50	1737
70						
75		GP		GP: medium to coarse gravel, difficult drilling	No Recovery	1922
80		BLANK		BLANK: no recovery, difficult drilling		
85		GP		GP: quartzite gravel, broken, >2" in shoe		
90		GP	50/0"	GP: broken rock pieces in cuttings, very difficult drilling	No Recovery	
95		GW		GW: gravel and rock pieces, pea-sized gravel, with fine to coarse sand, possibly cemented, brown, petroleum odor		
100		GP	50/3"	GP: broken rock and gravel, trace sand in cuttings	No Recovery	930
105		GP		GP: same as above, water at 108.9', sheen visible, strong hydrocarbon odor		
110		SW	50/5"	SW: sand, medium to coarse, some fine gravel	SB-1-110	449
115						
120						
125						

WELL CONSTRUCTION

MW-1



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FIELD BOREHOLE LOG

BOREHOLE NO.: **SB-2**
TOTAL DEPTH: **38'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**Remote Pipeline**	DRILLING CO.:	**WDC**
SITE LOCATION:	**Phoenix, AZ**	DRILLER:	**Geoardo**
JOB NO.:	**AFFC**	RIG TYPE:	**Sonic**
GEOLOGIST:	**T. Looff**	METHOD OF DRILLING:	**Sonic**
PROJECT MANAGER:	**John Vargas**	SAMPLING METHODS:	**Drive Sampler**
DATES DRILLED:	**3-6-2007**	BOREHOLE DIAMETER:	**6-inch**

DEPTH bgs	SOIL GRAPHIC	USCS	SOIL DESCRIPTION	PID VALUE	SAMPLES
0		SM	SM: silty sand, fine to coarse, light brown, loose, slight petroleum odor		
-2					
-4					
-6					
-8					
-10					
-12					
-14					
-16		SM	SM: silty sand, fine to coarse, trace to some 2" gravel, light brown, loose	>2000	SB-2-15, 10:09
-18					
-20					
-22					
-24					
-26		GW	GW: silty, sandy gravel, 4"+ cobble in drill bit, gravel subrounded, sand 70% fine to medium, 30% coarse, light brown, loose, no odor @ 38' driller on large boulder, broke one drill rod	>2000	SB-2-25, 10:45
-28					
-30					
-32					
-34					
-36				1469	SB-2-35, 12:02
-38					

Note: PID Ambient = 14.0

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FIELD BOREHOLE LOG

BOREHOLE NO.: **SB-3**
TOTAL DEPTH: **35.5'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**Remote Pipeline**	DRILLING CO.:	**WDC**
SITE LOCATION:	**Phoenix, AZ**	DRILLER:	**Geoardo**
JOB NO.:	**AFFC**	RIG TYPE:	**Sonic**
GEOLOGIST:	**T. Looff**	METHOD OF DRILLING:	**Sonic**
PROJECT MANAGER:	**John Vargas**	SAMPLING METHODS:	**Drive Sampler**
DATES DRILLED:	**3-6-2007**	BOREHOLE DIAMETER:	**6-inch**

DEPTH bgs	SOIL GRAPHIC	USCS	SOIL DESCRIPTION	PID VALUE	SAMPLES
0		SW	SW: sand, fine to coarse, subangular to subrounded, trace silt, brown, loose, very slight petroleum odor		
-2					
-4					
-6					
-8					
-10					
-12					
-14					
-16		GW	GW: sandy gravel, trace silt, trace to some cobbles, gravel subrounded, primarily quartzite, sand subangular, 40% fine, 60% medium to coarse, brown, loose, damp	0.5	SB-3-15, 16:00
-18					
-20					
-22					
-24					
-26		GW	GW: sandy gravel, sand subangular, 60% fine, 40% coarse, gravel subrounded, cobble 8", brown, loose, damp,	0.7	SB-3-25
-28					
-30					
-32					
-34					
-36				0.8	SB-3-35, 17:16

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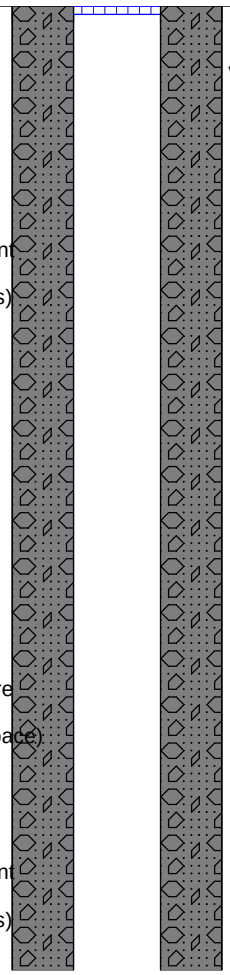
FIELD BOREHOLE LOG

BOREHOLE NO.: **MW-2**
TOTAL DEPTH: **135'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**Remote Pipeline**	DRILLING CO.:	**Yellow Jacket**
SITE LOCATION:	**23rd Ave and UPRR**	DRILLER:	**Sean, Dan, Chad**
JOB NO.:	**AFFC**	RIG TYPE:	**Gefco CH50**
GEOLOGIST:	**T. Looff**	METHOD OF DRILLING:	**Air Rotary**
PROJECT MANAGER:	**John Vargas**	SAMPLING METHODS:	**Simulprobe**
DATES DRILLED:	**5/27/08 - 6/6/08**	BOREHOLE DIAMETER:	**9 5/8-inch**

▼ Water Table Encountered During Drilling

DEPTH bgs	SOIL GRAPHIC	USCS	BLOW COUNT	SOIL DESCRIPTION	SAMPLES	PID	WELL CONSTRUCTION MW-2
0–5		SP		SP: sand, medium to coarse, dry, loose.			Surface Completion, Traffic-rated vault, Locking watertight expansion cap
5–15		SW		SW: sand, 80% fine to 20% coarse, light reddish brown, trace silt, dry, loose.		0.0 (ambient in cuttings)	
15–25		SW		SW: sand, 70% fine to 30% medium, brown, slightly damp, dry, loose, subangular to subrounded.			difficult drilling 20-30'.
25–35		SP		SP: sand, 80% fine to 20% medium, trace coarse sand, brown, loose, subangular to subrounded.		16.3 (high moisture in headspace)	broken rock pieces.
35–40		SW		SW: sand, 50% medium to 50% coarse(subangular), fine gravel(subrounded), brown, wet(not saturated), trace clay and silt.		0.0	perched wet zone, no odor.
40–45		SP		SP: fine grained sand, subangular to subrounded, brown, slightly moist, loose.		0.0 (ambient in cuttings) 0.0	broken rock pieces.



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FIELD BOREHOLE LOG

BOREHOLE NO.: **MW-2**
TOTAL DEPTH: **135'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**Remote Pipeline**	DRILLING CO.:	**Yellow Jacket**
SITE LOCATION:	**23rd Ave and UPRR**	DRILLER:	**Sean, Dan, Chad**
JOB NO.:	**AFFC**	RIG TYPE:	**Gefco CH50**
GEOLOGIST:	**T. Looff**	METHOD OF DRILLING:	**Air Rotary**
PROJECT MANAGER:	**John Vargas**	SAMPLING METHODS:	**Simulprobe**
DATES DRILLED:	**5/27/08 - 6/6/08**	BOREHOLE DIAMETER:	**9 5/8-inch**

▼ Water Table Encountered During Drilling

DEPTH bgs	SOIL GRAPHIC	USCS	BLOW COUNT	SOIL DESCRIPTION	SAMPLES	PID	WELL CONSTRUCTION MW-2
50		GW		GW: coarse grained sand, gravel fine to coarse, trace clay, brown, wet(not saturated).		0.0	
		SW		SW: fine to medium grained sand, brown, loose, slightly moist, trace coarse sand.			rock pieces 53 - 65'.
55		GW		GW: gravel, fine to coarse, subrounded, trace-some clay, brown, moist to wet.			
60		SP	10/12/12	SP: fine sand, trace-some coarse sand, brown, loose, slightly moist.	MW2-60		
65		GW		GW: gravel, subrounded, fine to coarse, some cobbles, trace sand.			
70		CL	70/6"	CL: sandy clay, dark brown, firm, plastic, moist.	MW2-70	21.9 (headspace from shoe sample)	odor at 70'.
75		CL	70/6"	CL: as above with more sand, less clay.	MW2-75		
80		GW		GW: gravel, fine to coarse grained, subrounded, some cobbles, trace sand.			rock pieces in cuttings.
85		GW	25/50/4"		MW2-85		
90		SW	20/50/4"	SW: sand with gravel, cobbles, sand is medium to coarse grained, subangular, loose.	MW2-90		HC odor @ 90'.

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FIELD BOREHOLE LOG

BOREHOLE NO.: **MW-2**
TOTAL DEPTH: **135'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**Remote Pipeline**	DRILLING CO.:	**Yellow Jacket**
SITE LOCATION:	**23rd Ave and UPRR**	DRILLER:	**Sean, Dan, Chad**
JOB NO.:	**AFFC**	RIG TYPE:	**Gefco CH50**
GEOLOGIST:	**T. Looff**	METHOD OF DRILLING:	**Air Rotary**
PROJECT MANAGER:	**John Vargas**	SAMPLING METHODS:	**Simulprobe**
DATES DRILLED:	**5/27/08 - 6/6/08**	BOREHOLE DIAMETER:	**9 5/8-inch**

▼ Water Table Encountered During Drilling

DEPTH bgs	SOIL GRAPHIC	USCS	BLOW COUNT	SOIL DESCRIPTION	SAMPLES	PID	WELL CONSTRUCTION MW-2
95		GW	20/50/5"	GW: gravel, cobbles.	MW2-105		strong odor from cyclone 102-125'.
100		GW		GW: gravel, fine to coarse grained, some covbbles, trace sand, subangular.			
105		GW		GW: gravel, cobbles.			
110 ▼		GW		GW: gravel, some cobbles, trace sand and fines.			
115		GW		GW: as above.			
120		GW		GW: gravel, fewer cobbles than above.			
125		GW					
130							
135				TD = 135' bgs.			

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FIELD BOREHOLE LOG

BOREHOLE NO.: **MW-3**
TOTAL DEPTH: **136'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**Remote Pipeline**	DRILLING CO.:	**Yellow Jacket**
SITE LOCATION:	**23rd Ave and UPRR**	DRILLER:	**Sean, Dan, Chad**
JOB NO.:	**AFFC**	RIG TYPE:	**Gefco CH50**
GEOLOGIST:	**T. Looff**	METHOD OF DRILLING:	**Air Rotary**
PROJECT MANAGER:	**John Vargas**	SAMPLING METHODS:	**Simulprobe**
DATES DRILLED:	**5/30/08 - 6/4/08**	BOREHOLE DIAMETER:	**9 5/8-inch**

▼ Water Table Encountered During Drilling

DEPTH bgs	SOIL GRAPHIC	USCS	BLOW COUNT	SOIL DESCRIPTION	SAMPLES	PID	WELL CONSTRUCTION MW-3
0		SM		SM: silty sand, brown, fine, trace gravel.			Surface Completion, Traffic-rated vault, Locking watertight expansion posthole cap
5							dig to 5'
10							
15							
20		SP		SP: sand, medium grained, trace fine and coarse, reddish brown, moist, loose, subangular to subrounded.		0.0	
25							
30		SP		SP: sand, medium to coarse grained, brown, loose, subangular w/ larger pieces subrounded.		0.0	broken rock pieces.
35							
40		GW		GW: gravel with cobbles, fine to coarse, loose, subrounded.		0.0	difficult drilling.
		SP		SP: coarse sand.			
45		GW		GW: gravel with cobbles, fine to coarse, loose, subrounded.			

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FIELD BOREHOLE LOG

BOREHOLE NO.: **MW-3**
TOTAL DEPTH: **136'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**Remote Pipeline**	DRILLING CO.:	**Yellow Jacket**
SITE LOCATION:	**23rd Ave and UPRR**	DRILLER:	**Sean, Dan, Chad**
JOB NO.:	**AFFC**	RIG TYPE:	**Gefco CH50**
GEOLOGIST:	**T. Looff**	METHOD OF DRILLING:	**Air Rotary**
PROJECT MANAGER:	**John Vargas**	SAMPLING METHODS:	**Simulprobe**
DATES DRILLED:	**5/30/08 - 6/4/08**	BOREHOLE DIAMETER:	**9 5/8-inch**

▼ Water Table Encountered During Drilling

DEPTH bgs	SOIL GRAPHIC	USCS	BLOW COUNT	SOIL DESCRIPTION	SAMPLES	PID	WELL CONSTRUCTION MW-3
50		SW		SW: sand, (80% fine, 10% medium, 10% coarse grained), brown, loose, cobbles, 60% sand, 40% cobbles, cobbles subrounded, sand subangular.		2.5	
55		SW		SW : as above with more sand 65%			
60		SW	50/50/12"		MW3-60		
65		GW		GW : gravel, fine to coarse grained, cobbles, subrounded, loose.			
		SC					
70		CL	20/50/12"	SC : sand with clay and gravel, gravel subrounded, fine, medium sand, subangular to subrounded, 15% clay, dark brown, trace cobbles.	MW3-70	3.1 (grab from cyclone)	trace rock fragments.
75		CL	40/50/50/0" (no recovery)	CL : clay, grey, firm, slightly plastic.	MW3-75	269 (HC odor)	
80		ML	40/100/1"	ML: clayey silt, dark brown, trace subrounded fine grained gravel.	MW2-80	492(soil cuttings) HC odor	
85		ML				0.0(headspace from sampler)	
90		GW	50/50/3"	GW: gravel, fine to coarse grained, subrounded, trace cobbles, trace-some silt and clay, no sand.	MW3-90		

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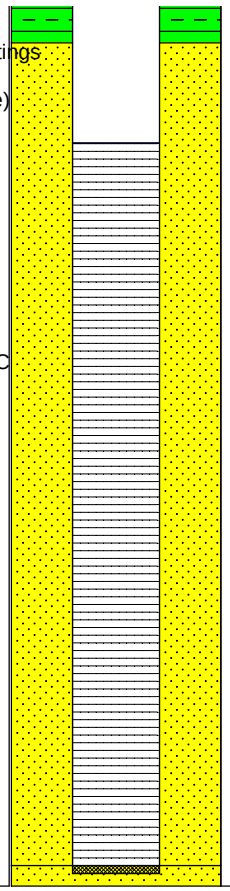
FIELD BOREHOLE LOG

BOREHOLE NO.: **MW-3**
TOTAL DEPTH: **136'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**Remote Pipeline**	DRILLING CO.:	**Yellow Jacket**
SITE LOCATION:	**23rd Ave and UPRR**	DRILLER:	**Sean, Dan, Chad**
JOB NO.:	**AFFC**	RIG TYPE:	**Gefco CH50**
GEOLOGIST:	**T. Looff**	METHOD OF DRILLING:	**Air Rotary**
PROJECT MANAGER:	**John Vargas**	SAMPLING METHODS:	**Simulprobe**
DATES DRILLED:	**5/30/08 - 6/4/08**	BOREHOLE DIAMETER:	**9 5/8-inch**

▼ Water Table Encountered During Drilling

DEPTH bgs	SOIL GRAPHIC	USCS	BLOW COUNT	SOIL DESCRIPTION	SAMPLES	PID	WELL CONSTRUCTION MW-3
95		SC		SC: clayey sand, fine to medium grained, fine grained gravel, subrounded, dark brown, slightly plastic.		2.9(cuttings from cyclone) slight HC odor	rock fragments in cyclone.
100		GW		GW: gravel and cobbles			
105		GW	20/100/4"	GW: sand , gravel, cobbles.	MW3-105		
110 ▼		SC		SC: clayey sand, fine to medium, some coarse, dark brown.		46.1(HC odor)	measured H20 with sounder.
115		GW		GW: sand, medium to coarse grained, gravel, cobbles.			
120		GW					
125		GW		GW : gravel			
130		GW		GW: gravel, cobbles.			
135		GW		GW: gravel, cobbles, trace-some sand.			rock fracments.
				TD = 136' bgs.			



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FIELD BOREHOLE LOG

BOREHOLE NO.: MW-4

TOTAL DEPTH: 149.6 Feet

PROJECT INFORMATION

PROJECT: Swissport Remote Pipeline Site
SITE LOCATION: North of UPRR RR tracks, downgradient
JOB NO.: Swissport
FIELD GEOLOGIST: Chris McCormack
PROJECT MANAGER: Tiffany Looff
DATES DRILLED: 1/5/2015 to 1/7/2015
GROUND SURFACE ELEVATION: NA
TOP OF CASING ELEVATION: NA

DRILLING INFORMATION

DRILLING CO.: Yellow Jacket Drilling
DRILLER: Sean Carrigan
RIG TYPE: Longyear BK-81HD (truck mounted rig)
METHOD OF DRILLING: Air Rotary
SAMPLING METHODS: Cyclone
BOREHOLE DIAMETER: 7-5/8"
NORTHING Y-COORDINATE: NA
EASTING X-COORDINATE: NA

▽ Water Table Encountered During Drilling

DEPTH bgs (vertical)	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLES	COMMENTS	PID	WELL (Construction)
0		SM	Silty Sand, reddish brown, loose, dry, cobbles to 3" and CaCO3 hardpan at 8', some moisture at bottom of probable trench fill at 8'. 1/5/2015, Use air knife to 10.5'. Fiber optic line 2'-2" (bundle of 12x1.5" conduits) to south at depth of 4'. Jet fuel line 4' to north.		Airknifed to 8' to clear for utilities. (0-5') concrete set, flush mount street box		
5							
10		GP	Begin STRATEX air drilling at 10.5', 1-6-2015, 8:20 AM. Gravel, 20% gray (carbonate, sucrosic texture) and 40% reddish brown (rhyolite), rounded to subrounded, loose, dry, 40% gray dust from air drilling. No odor.		(5-73.5') cement seal.		
15							
20							
25							
30					(0-85') PVC blank: 4-inch sch-40.		
35							

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FIELD BOREHOLE LOG

BOREHOLE NO.: MW-4

TOTAL DEPTH: 149.6 Feet

PROJECT INFORMATION

PROJECT: Swissport Remote Pipeline Site
SITE LOCATION: North of UPRR RR tracks, downgradient
JOB NO.: Swissport
FIELD GEOLOGIST: Chris McCormack
PROJECT MANAGER: Tiffany Looff
DATES DRILLED: 1/5/2015 to 1/7/2015
GROUND SURFACE ELEVATION: NA
TOP OF CASING ELEVATION: NA

DRILLING INFORMATION

DRILLING CO.: Yellow Jacket Drilling
DRILLER: Sean Carrigan
RIG TYPE: Longyear BK-81HD (truck mounted rig)
METHOD OF DRILLING: Air Rotary
SAMPLING METHODS: Cyclone
BOREHOLE DIAMETER: 7-5/8"
NORTHING Y-COORDINATE: NA
EASTING X-COORDINATE: NA

▽ Water Table Encountered During Drilling

DEPTH bgs (vertical)	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLES	COMMENTS	PID	WELL (Construction)
40		GP	Drill rate decrease. Gravel, 20%+ black (basalt, dull luster), 20% gray (carbonate?) and 20% reddish brown (rhyolite), rounded to subrounded, loose, dry, 40% air drill dust. No odor.				
45							
50		GP	Drill rate decreases further. Gravel, 40% tan-reddish brown (rhyolite?) and 40% light to medium gray (quartzite), rounded to subrounded, loose, dry, clasts to 3/4", 20% air drill dust, no odor. 55' @ 10:25				
55							
60		GP	Increased drill rate. Gravel, 80% medium to dark gray (basalt and carbonate), rounded to subrounded, loose, dry, clasts to 1/2", 20% air drill dust, no odor. 60' at 11:30			0ppm	
65		GM	Silty Gravel, medium brown, 10% medium to dark gray carbonate gravel clasts, rounded to subrounded with 80% medium brown silt and air drill dust. Very slight jet? odor.			21ppm	
70		SM	Silty Sand with Gravel, 20% medium-dark gray carbonate gravel clasts, rounded to subrounded with 80% silt and very fine sand, medium brown, very slight moisture possible contributing to PID readings. No odor.			12ppm	
75			Gravel, 90% light gray carbonate clasts,		(73.5-79.5') 3/8" hydrated bentonite chip seal.	35ppm	

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FIELD BOREHOLE LOG

BOREHOLE NO.: MW-4

TOTAL DEPTH: 149.6 Feet

PROJECT INFORMATION

PROJECT: Swissport Remote Pipeline Site
SITE LOCATION: North of UPRR RR tracks, downgradient
JOB NO.: Swissport
FIELD GEOLOGIST: Chris McCormack
PROJECT MANAGER: Tiffany Looff
DATES DRILLED: 1/5/2015 to 1/7/2015
GROUND SURFACE ELEVATION: NA
TOP OF CASING ELEVATION: NA

DRILLING INFORMATION

DRILLING CO.: Yellow Jacket Drilling
DRILLER: Sean Carrigan
RIG TYPE: Longyear BK-81HD (truck mounted rig)
METHOD OF DRILLING: Air Rotary
SAMPLING METHODS: Cyclone
BOREHOLE DIAMETER: 7-5/8"
NORTHING Y-COORDINATE: NA
EASTING X-COORDINATE: NA

▽ Water Table Encountered During Drilling

DEPTH bgs (vertical)	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLES	COMMENTS	PID	WELL (Construction)
80, 85, 90		GP	rounded to subrounded, loose, slight to moderate jet? Odor. Zones of very hard, angular, gray carbonate cuttings and very slow, dusty drilling, possible large boulder/s. 10% rounded rhyolite clasts. 83' @ 13:45.		(79.5-146.6') 8x12 Colorado silica sand pack. (85-146.6') groundwater monitoring screen: 4-inch sch-40 0.020 slot size.		
95		GP	Boulder, continue drilling in probable gray carbonate boulder, stuck at 93' while attempting to POOH for possible sample location. Possible slight jet odor. Drill ahead to 100' for sample attempt			30ppm	
100			Gravel, 90% light gray carbonate, rounded to subrounded, 10% medium to dark reddish brown rhyolite.	MW-4-100 (soil and vapor)	Attempt SIMULPROBE sample 1/7/2015. Soil gas sample OK, multiple trips to attempt gravel sample. Use split spoon with catcher to get sample MW4-100 for soil.	0.8ppm	
105, ▽110			Gravel, 90% light gray carbonate, rounded to subrounded, 10% medium to dark reddish brown rhyolite. 105' @ 11:37. 110' @ 11:52, discovered water. Increased moisture and cuttings coated with wet air drill dust. Rounded clasts to 2". No odor.		Wet at 110' bgs. 115' @ 12:49. Water in hole during blowout. 120' @ 13:10.		
115							

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FIELD BOREHOLE LOG

BOREHOLE NO.: MW-4

TOTAL DEPTH: 149.6 Feet

PROJECT INFORMATION

PROJECT: Swissport Remote Pipeline Site
SITE LOCATION: North of UPRR RR tracks, downgradient
JOB NO.: Swissport
FIELD GEOLOGIST: Chris McCormack
PROJECT MANAGER: Tiffany Looff
DATES DRILLED: 1/5/2015 to 1/7/2015
GROUND SURFACE ELEVATION: NA
TOP OF CASING ELEVATION: NA

DRILLING INFORMATION

DRILLING CO.: Yellow Jacket Drilling
DRILLER: Sean Carrigan
RIG TYPE: Longyear BK-81HD (truck mounted rig)
METHOD OF DRILLING: Air Rotary
SAMPLING METHODS: Cyclone
BOREHOLE DIAMETER: 7-5/8"
NORTHING Y-COORDINATE: NA
EASTING X-COORDINATE: NA

▽ Water Table Encountered During Drilling

DEPTH bgs (vertical)	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLES	COMMENTS	PID	WELL (Construction)
115							
120		GP	Gravel, 60% dark to medium gray carbonate and basalt clasts, well rounded, to 1". 30% red brown rhyolite clasts, well rounded, to 1". 10% sand,tan to brown, medium grain. Hole making good water. 140' @ 14:10. No odor.				
125							
130							
135							
140			Sandy Gravel, 40% tan-brown medium grain sand, 60% medium-dark gray carbonate and basalt clasts, well rounded to rounded, loose, no odor.				
145							
150					TD at 150', 14:23 PM, 1-7-2015. Well set at 146.6'.		

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FIELD BOREHOLE LOG

BOREHOLE NO.: MW-5

TOTAL DEPTH: 150 Feet

PROJECT INFORMATION

PROJECT: Swissport Remote Pipeline Site
SITE LOCATION: South of UPRR RR tracks, downgradient
JOB NO.:
FIELD GEOLOGIST: Chris McCormack
PROJECT MANAGER: Tiffany Looff
DATES DRILLED: 1/12/2015 to 1/14/2015
GROUND SURFACE ELEVATION: NA
TOP OF CASING ELEVATION: NA

DRILLING INFORMATION

DRILLING CO.: Yellow Jacket Drilling
DRILLER: Sean Carrigan
RIG TYPE: CME L12T (limited access rig)
METHOD OF DRILLING: Air Rotary
SAMPLING METHODS: Cyclone
BOREHOLE DIAMETER: 7-5/8"
NORTHING Y-COORDINATE: NA
EASTING X-COORDINATE: NA

▽ Water Table Encountered During Drilling

DEPTH bgs (vertical)	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLES	COMMENTS	PID	WELL (Construction)
0		SM	Silty Sand, reddish brown, loose, dry, cobbles to 12", no odor. Use air knife to 10' 1-9-2015. Fiber optic bundle 4' to north.		Airknifed to 10' to clear for utilities. (0-3') concrete set, flush mount street box (3-73.7') cement seal.		
15		GP	Begin STRATEX drilling at 10', 1-12-15, 14:00 PM. Gravel, loose, dry, no odor, 40% dark to medium gray, basalt and carbonate clasts to 1", rounded to subrounded flattened, 40% reddish brown rhyolite, rounded, to 1".		(0-82') PVC blank: 4-inch sch-40.		
25		GP	Very slow drilling, gravel locking up drill string. 35' @ 17:05. Unable to rotate due to high torque, predominately hammer only drilling.				
35		GP	Sandy Gravel, loose, dry, no odor, 40% brown rhyolite, rounded to subrounded, 60% sand, tan, medium grain, well sorted, decreased		1-13-2015 POOH, inspect drill string and ability to break pipe joints. OK, can increase torque on bit.		

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Managing Cost and Liability
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FIELD BOREHOLE LOG

BOREHOLE NO.: MW-5

TOTAL DEPTH: 150 Feet

PROJECT INFORMATION

PROJECT: Swissport Remote Pipeline Site
SITE LOCATION: South of UPRR RR tracks, downgradient
JOB NO.:
FIELD GEOLOGIST: Chris McCormack
PROJECT MANAGER: Tiffany Looff
DATES DRILLED: 1/12/2015 to 1/14/2015
GROUND SURFACE ELEVATION: NA
TOP OF CASING ELEVATION: NA

DRILLING INFORMATION

DRILLING CO.: Yellow Jacket Drilling
DRILLER: Sean Carrigan
RIG TYPE: CME L12T (limited access rig)
METHOD OF DRILLING: Air Rotary
SAMPLING METHODS: Cyclone
BOREHOLE DIAMETER: 7-5/8"
NORTHING Y-COORDINATE: NA
EASTING X-COORDINATE: NA

▽ Water Table Encountered During Drilling

DEPTH bgs (vertical)	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLES	COMMENTS	PID	WELL (Construction)
40			dust.				
		GP	Gravel, 60% medium gray carbonate clasts, rounded to subrounded, 1/2" to 1", 40% medium brown rhyolite, rounded, 1/2" to 1".		Slow drill rate, slug hole with water and/or foam agent in annualr space or at drill pipe joint.		
45		SP	Sand, white, medium grain, loose, dry, no odor. 45' @ 9:35.				
50		GP	Alternating fast and very slow drilling as hole clears. Gravel, loose, dry, no odor. 50% light to medium gray carbonate clasts and dark gray basalt clasts, 3/4" to 1-1/4". 30% medium brown rhyolite clasts, rounded.				
55							
60		SP	Gravelly Sand, loose, dry, no odor. Brown, medium grain, well sorted with 30% medium brown rhyolite clasts, rounded. 60' @ 10:34		local moderate hydrocarbon odor.	20ppm	
65		GP	Gravel, loose, dry, no odor, 50% medium to dark gray carbonate and basalt clasts, rounded, to 1' 50% reddish brown rhyolite clasts, rounded, to 1".				
70							
75					(73.7-78.6') 1/4" hydrated bentonite chip seal.		

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FIELD BOREHOLE LOG

BOREHOLE NO.: MW-5

TOTAL DEPTH: 150 Feet

PROJECT INFORMATION

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TOP OF CASING ELEVATION: NA

DRILLING INFORMATION

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DRILLER: Sean Carrigan
RIG TYPE: CME L12T (limited access rig)
METHOD OF DRILLING: Air Rotary
SAMPLING METHODS: Cyclone
BOREHOLE DIAMETER: 7-5/8"
NORTHING Y-COORDINATE: NA
EASTING X-COORDINATE: NA

▽ Water Table Encountered During Drilling

DEPTH bgs (vertical)	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLES	COMMENTS	PID	WELL (Construction)
80		SP	Fast, easy drilling, Sand, white, medium to fine grain, loose, dry, no odor. Grades to reddish brown at 84' (increase in rhyolite?)		(78.6-147') 8x12 Colorado silica sand pack.		
85							
90		GP	Gravel, loose, dry, slight hydrocarbon odor, 90% gray carbonate clasts, rounded, to 1". 90' @ 12:57. Very hard drilling at 91', added several foam slugs.		(82-147') groundwater monitoring screen: 4-inch sch-40 0.020 slot size.		
95		SP	Sand, white, loose, dry, slight hydrocarbon odor, fine to medium grain, well sorted.			209ppm	
			SAND, tan, loose, dry, medium grain, slight hydrocarbon odor.	MW-5-96 (soil and vapor)	13:20, POOH to sample with SIMULPROBE. MW5-96 for soil gas and soil.	102ppm	
100		GP	1-14-2015, SAND, tan, loose, dry.				
			Gravel, gray, loose, dry, rounded carbonate clasts. 100' @ 7:23 AM.				
105			Gravel, drill cuttings more angular with some rounded edges, possible breaking of larger rounded cobbles during drilling. Dry, no odor. 80% gray carbonate clasts. 20% reddish brown rhyolite clasts. 105' @ 7:42.				
▽110			Gravel, loose, moist, 70% gray carbonate clasts, rounded, 1" to 1-1/2".		110' 7:56 AM encountered water. Hole making good water volume. No odor or sheen.		
115			Sand, tan, medium grain, well sorted, wet, no odor.				

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FIELD BOREHOLE LOG

BOREHOLE NO.: MW-5

TOTAL DEPTH: 150 Feet

PROJECT INFORMATION

PROJECT: Swissport Remote Pipeline Site
SITE LOCATION: South of UPRR RR tracks, downgradient
JOB NO.:
FIELD GEOLOGIST: Chris McCormack
PROJECT MANAGER: Tiffany Looff
DATES DRILLED: 1/12/2015 to 1/14/2015
GROUND SURFACE ELEVATION: NA
TOP OF CASING ELEVATION: NA

DRILLING INFORMATION

DRILLING CO.: Yellow Jacket Drilling
DRILLER: Sean Carrigan
RIG TYPE: CME L12T (limited access rig)
METHOD OF DRILLING: Air Rotary
SAMPLING METHODS: Cyclone
BOREHOLE DIAMETER: 7-5/8"
NORTHING Y-COORDINATE: NA
EASTING X-COORDINATE: NA

▽ Water Table Encountered During Drilling

DEPTH bgs (vertical)	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLES	COMMENTS	PID	WELL (Construction)
115		SP					
120		GP	Sandy Gravel, Gray carbonate and basalt clasts, rounded, 1' to 1-1/2", with Sand, medium grain, well sorted, wet. 120' @ 8:40. No odor, no sheen. Low return volume, loose sandy gravel formation may be mostly pushing to sides.				
125							
130							
135							
140							
145							
150					TD at 150', 10:36 AM, 1-14-2015. Well set at 147'.		

ECM Consultants
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FIELD BOREHOLE LOG

BOREHOLE NO.: MW-6

TOTAL DEPTH: 150 Feet

PROJECT INFORMATION

PROJECT: Swissport Remote Pipeline Site
SITE LOCATION: South of UPRR RR tracks, downgradient
JOB NO.:
FIELD GEOLOGIST: Joseph Plummer
PROJECT MANAGER: Tiffany Looff
DATES DRILLED: 11/16/2015 to 11/20/2015
GROUND SURFACE ELEVATION: NA
TOP OF CASING ELEVATION: NA

DRILLING INFORMATION

DRILLING CO.: Yellow Jacket Drilling
DRILLER: Joe Lagana
RIG TYPE: CME L12T (limited access rig)
METHOD OF DRILLING: Air Rotary
SAMPLING METHODS: California split spoon
BOREHOLE DIAMETER: 7-5/8"
NORTHING Y-COORDINATE: NA
EASTING X-COORDINATE: NA

Water Table Encountered During Drilling

Water Table Encountered During Drilling

DEPTH bgs (vertical)	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLES	COMMENTS	PID (ppm)	WELL (Construction)
0–12		SM	Silty sand fill material, brown, dry, loose.		flush mount 12" well vault. 0-1' - concrete surface seal hand auger to 5' to clear for utilities. begin STRATEX drilling at 5' bgs.		
12–22		GP	Gravel - sand mixture, dry, loose, no odor, 40% basalt and quartzite clasts up to 1", rounded to subrounded, flattened, 40% reddish bown rhyolite, rounded up to 1", 20% fine to medium grained sand.				
22–30		GP	Gravel, 60% medium gray carbonate clasts, rounded to subrounded 1/4"-3/4", 40% reddish brown rhyolite, rounded up to 1".		grades coarser at 22' bgs. very slow drilling starting at 25' bgs, hammer only, increased dust		
30–50		GP	Gravel, 60% purple to gray rhyolite and quartzite rounded 1/2"-1 1/2", 40% carbonate clasts rounded to subrounded, dry, dusty.		stop drilling at 30' bgs on 11/16/15 drillers pull hammer and bit to inspect mechanism. 1-59.5'- Type II portland cement bentonite grout. add foaming agent to aid airlifting cuttings. add foaming agent stop drilling at 50' bgs on 11/17/15		

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FIELD BOREHOLE LOG

BOREHOLE NO.: MW-6

TOTAL DEPTH: 150 Feet

PROJECT INFORMATION

PROJECT: Swissport Remote Pipeline Site
SITE LOCATION: South of UPRR RR tracks, downgradient
JOB NO.:
FIELD GEOLOGIST: Joseph Plummer
PROJECT MANAGER: Tiffany Looff
DATES DRILLED: 11/16/2015 to 11/20/2015
GROUND SURFACE ELEVATION: NA
TOP OF CASING ELEVATION: NA

DRILLING INFORMATION

DRILLING CO.: Yellow Jacket Drilling
DRILLER: Joe Lagana
RIG TYPE: CME L12T (limited access rig)
METHOD OF DRILLING: Air Rotary
SAMPLING METHODS: California split spoon
BOREHOLE DIAMETER: 7-5/8"
NORTHING Y-COORDINATE: NA
EASTING X-COORDINATE: NA

Water Table Encountered During Drilling

Water Table Encountered During Drilling

DEPTH bgs (vertical)	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLES	COMMENTS	PID (ppm)	WELL (Construction)
55							
60		GW	Sandy gravel, tan to purple, medium to coarse quartzite gravel up to 1", sub rounded to rounded, dry, loose, no odor, 60% rhyolite and quartzite 1/2"-1" gravel, 40% carbonate clasts.		59.5-67.4'- TR30 bentonite pellet seal		
65					moderate odor at 66' bgs.	177	
70		SP	Sand, poorly graded, brown, slightly moist, loose, moderate odor, trace silt. Drilling speed increased.		67.4-147.5'- 10x20 Colorado silica sand pack.		
75							
80		GP	Gravel, 40% purple to gray rhyolite and quartzite, rounded to sub-rounded, dry, 20% SW sand.		increased dust		
85		GP	Sandy gravel, 40% ryholite gravel, 40% carbonate gravel, 20% fine grained sand.		moderate odor	80.5	
90		SW	Gravelly sand, brown, slightly moist, loose, sub-rounded gravel up to 1", slight odor.		failed to collect soil sample at 90', all gravel in sample rod.	112.7	
95						120.1	
100			Sandy gravel, 40% rhyolite - quartzite gravel, 40% carbonate clasts, 20% fine to medium grained sand.		77.5-147.5' - Sch40, 0.020 slot PVC groundwater monitoring screen.		

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FIELD BOREHOLE LOG

BOREHOLE NO.: MW-6

TOTAL DEPTH: 150 Feet

PROJECT INFORMATION

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DATES DRILLED: 11/16/2015 to 11/20/2015
GROUND SURFACE ELEVATION: NA
TOP OF CASING ELEVATION: NA

DRILLING INFORMATION

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RIG TYPE: CME L12T (limited access rig)
METHOD OF DRILLING: Air Rotary
SAMPLING METHODS: California split spoon
BOREHOLE DIAMETER: 7-5/8"
NORTHING Y-COORDINATE: NA
EASTING X-COORDINATE: NA

Water Table Encountered During Drilling

Water Table Encountered During Drilling

DEPTH bgs (vertical)	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLES	COMMENTS	PID (ppm)	WELL (Construction)
105		GP					
110		SP	Sand, poorly graded, tan, moist, loose, slight odor, trace gravel, predominantly fine grained sand.	MW-6-110 (soil)	strong odor from 109-110' collect soil sample MW-6-110 at 16:30 on 11/18/15	239.1	
115					strong odor from cuttings.	213.9 146.9	
120		GP	Sandy gravel, 40% rhyolite, 40% carbonate clasts, 20% medium grained sand.				
125		SW	Sand, well graded, with gravel, brown, very moist, loose, slight odor.		slight odor static DTW = 126.5' bgs, measured on 11/18/15 in open borehole.	18.9	
130			Gravely sand, brown, wet, loose, no odor.		becomes wet during drilling at 130' bgs.	0.0	
135						0.0	
140		GP	Sandy gravel, 60% gray carbonate to basaltic clasts, rounded up to 1 1/2", 40% medium grained sand, no odor or sheen.			0.0	
145							
150					set bottom of screen at 147.5', 2.5' of slough in bottom of boring.		

Appendix B

Historical Groundwater Monitoring and Product Removal Data

Table 1
Groundwater Monitoring Data and Product Removal History
Fourth Quarter 2016/First-Second Quarter 2017 GMR
AFFC Pipeline 23rd Avenue Release
Phoenix, Arizona

Well ID	Date	Time	TOC Elevation NAVD88	Screen Interval	Depth to Product (prior to product removal)	Depth to Water (prior to product removal	Corrected Groundwater Elevation	Product Thickness	Total Fluids Removed		Total Product Removed		Depth to Product (after product removal)	Depth to Water (after product removal
	(MM/DD/YY)	(00:00)	ft amsl	ft bgs	ft below TOC	ft below TOC	ft amsl	feet	liters	gallons	liters	gallons	ft below TOC	ft below TOC
MW-1	4/18/2007	8:00	1069.15	104-124'	106.50	108.66	962.22	2.16	-	-	-	-	-	-
MW-1	6/19/2007	7:31	1069.15	104-124'	115.41	117.10	953.40	1.69	-	-	-	-	-	-
MW-1	7/19/2007	6:42	1069.15	104-124'	118.56	120.73	950.16	2.17	-	-	-	-	-	-
MW-1	3/25/2008	8:40	1069.15	104-124'	102.54	103.03	966.51	0.49	-	-	-	-	-	-
MW-1	3/31/2008	9:55	1069.15	104-124'	102.94	103.59	966.08	0.65	4.1	1.1	1.6	0.4	103.00	103.02
MW-1	4/7/2008	9:00	1069.15	104-124'	104.01	104.34	965.07	0.33	6.5	1.7	0.7	0.2	104.04	104.09
MW-1	4/16/2008	8:24	1069.15	104-124'	105.07	105.45	964.00	0.38	5.2	1.4	1.5	0.4	105.13	105.24
MW-1	4/23/2008	6:42	1069.15	104-124'	106.00	106.22	963.11	0.22	3.8	1.0	1.0	0.3	106.03	106.09
MW-1	4/30/2008	8:00	1069.15	104-124'	106.80	108.26	962.06	1.46	9.7	2.6	6.2	1.6	106.89	107.81
MW-1	5/6/2008	7:45	1069.15	104-124'	107.60	109.45	961.18	1.85	12.4	3.3	6.9	1.8	107.91	108.10
MW-1	5/13/2008	7:05	1069.15	104-124'	108.80	109.52	960.21	0.72	7.2	1.9	2.0	0.5	108.92	109.06
MW-1	6/25/2008	6:52	1069.15	104-124'	113.80	115.15	955.08	1.35	11.0	2.9	7.3	1.9	114.01	114.24
MW-1	7/25/2008	-	1069.15	104-124'	116.00	117.67	952.82	1.67	0.9	0.2	13.7	3.6	116.02	117.62
MW-1	7/29/2008	10:29	1069.15	104-124'	116.21	117.91	952.60	1.70	-	-	43.5	11.5	116.25	117.76
MW-1	7/30/2008	8:10	1069.15	104-124'	116.27	117.96	952.54	1.69	-	-	85.2	22.5	116.35	117.51
MW-1	8/20/2008	6:50	1069.15	104-124'	117.01	118.65	951.81	1.64	-	-	45.4	12.0	117.25	117.58
MW-1	9/12/2008	10:15	1069.15	104-124'	117.51	119.15	951.31	1.64	75.7	20.0	60.6	16.0	118.74	118.90
MW-1	9/25/2008	5:27	1069.15	104-124'	117.57	119.25	951.24	1.68	45.4	12.0	43.5	11.5	117.87	118.11
MW-1	10/9/2008	8:20	1069.15	104-124'	115.60	116.20	953.43	0.60	5.7	1.5	2.8	0.8	116.13	116.15
MW-1	10/17/2008	9:30	1069.15	104-124'	113.25	114.13	955.72	0.88	8.5	2.3	5.7	1.5	113.99	114.05
MW-1	10/23/2008	7:20	1069.15	104-124'	111.75	113.70	957.01	1.95	20.8	5.5	15.1	4.0	112.8	112.83
MW-1	10/30/2008	10:25	1069.15	104-124'	110.65	110.70	958.49	0.05	-	-	-	-	110.65	110.70
MW-1	11/7/2008	6:30	1069.15	104-124'	NA	109.12	960.03	0.00	-	-	-	-	-	109.12
MW-1	11/14/2008	6:25	1069.15	104-124'	107.68	108.44	961.32	0.76	9.5	2.5	5.7	1.5	108.27	108.30
MW-1	11/20/2008	8:50	1069.15	104-124'	NA	106.81	962.34	0.00	-	-	-	-	-	106.81
MW-1	11/25/2008	8:30	1069.15	104-124'	NA	106.01	963.14	0.00	-	-	-	-	-	106.01
MW-1	12/11/2008	7:00	1069.15	104-124'	103.72	103.77	965.42	0.05	-	-	-	-	103.72	103.77
MW-1	12/17/2008	10:00	1069.15	104-124'	102.82	103.02	966.29	0.20	0.9	0.3	0.9	0.3	-	102.83
MW-1	1/13/2009	7:20	1069.15	104-124'	99.72	99.73	969.43	0.01	0*	0*	-	-	-	99.73
MW-1	1/22/2009	7:20	1069.15	104-124'	99.11	99.32	970.00	0.21	3.8	1.0	0.9	0.3	99.26	99.27
MW-1	2/12/2009	6:45	1069.15	104-124'	100.06	100.20	969.06	0.14	0*	0*	-	-	99.26	99.27
MW-1	3/12/2009	7:45	1069.15	104-124'	99.36	99.55	969.75	0.19	-	-	-	-	-	-
MW-1	3/26/2009	7:35	1069.15	104-124'	101.78	102.04	967.32	0.26	3.8	1.0	0.9	0.3	-	101.95
MW-1	4/29/2009	7:35	1069.15	104-124'	106.50	107.05	962.54	0.55	9.5	2.5	5.7	1.5	106.57	106.72
MW-1	5/22/2009	7:50	1069.15	104-124'	109.00	111.10	959.73	2.10	7.6	2.0	4.7	1.3	109.05	109.97
MW-1	6/17/2009	8:30	1069.15	104-124'	110.20	113.51	958.29	3.31	3.8	1.0	3.8	1.0	110.2	113.51
MW-1	6/26/2009	6:30	1069.15	104-124'	111.25	114.07	957.34	2.82	7.6	2.0	5.7	1.5	112.29	113.76

Table 1
Groundwater Monitoring Data and Product Removal History
Fourth Quarter 2016/First-Second Quarter 2017 GMR
AFFC Pipeline 23rd Avenue Release
Phoenix, Arizona

Well ID	Date	Time	TOC Elevation NAVD88	Screen Interval	Depth to Product (prior to product removal)	Depth to Water (prior to product removal	Corrected Groundwater Elevation	Product Thickness	Total Fluids Removed		Total Product Removed		Depth to Product (after product removal)	Depth to Water (after product removal
	(MM/DD/YY)	(00:00)	ft amsl	ft bgs	ft below TOC	ft below TOC	ft amsl	feet	liters	gallons	liters	gallons	ft below TOC	ft below TOC
MW-1	6/29/2009	7:25	1069.15	104-124'	111.60	114.10	957.05	2.50	18.0	4.8	14.2	3.8	111.99	112.44
MW-1	7/7/2009	8:15	1069.15	104-124'	112.44	114.30	956.34	1.86	15.1	4.0	14.2	3.8	112.63	113.31
MW-1	7/20/2009	7:40	1069.15	104-124'	113.80	114.70	955.17	0.90	7.6	2.0	6.6	1.8	114.55	114.59
MW-1	8/11/2009	6:30	1069.15	104-124'	115.86	117.15	953.03	1.29	15.1	4.0	9.5	2.5	116.09	116.65
MW-1	8/19/2009	10:45	1069.15	104-124'	116.15	117.97	952.64	1.82	9.5	2.5	9.5	2.5	116.9	116.99
MW-1	8/31/2009	10:45	1069.15	104-124'	116.70	118.37	952.12	1.67	6.6	1.8	6.6	1.8	116.7	118.37
MW-1	9/15/2009	10:00	1069.15	104-124'	116.05	117.35	952.84	1.30	3.8	1.0	3.8	1.0	116.7	116.97
MW-1	9/25/2009	7:00	1069.15	104-124'	115.10	116.00	953.87	0.90	3.8	1.0	3.8	1.0	115.6	115.87
MW-1	10/15/2009	7:30	1069.15	104-124'	114.65	114.76	954.48	0.11	3.8	1.0	3.8	1.0	-	114.77
MW-1	10/30/2009	9:00	1069.15	104-124'	111.15	111.29	957.97	0.14	3.8	1.0	3.8	1.0	111.26	111.27
MW-1	11/12/2009	7:00	1069.15	104-124'	107.35	107.40	961.79	0.05	3.8	1.0	3.8	1.0	107.38	107.39
MW-1	12/15/2009	7:50	1069.15	104-124'	104.54	104.55	964.61	0.01	984.1	260.0	94.6	25.0	-	104.59
MW-1	12/29/2009	7:00	1069.15	104-124'	102.69	102.90	966.42	0.21	946.3	250.0	94.6	25.0	-	102.87
MW-1	1/11/2010	7:10	1069.15	104-124'	101.31	101.34	967.83	0.03	1892.5	500.0	37.9	10.0	-	101.35
MW-1	2/3/2010	7:30	1069.15	104-124'	98.69	98.71	970.46	0.02	1514.0	400.0	37.9	10.0	-	98.73
MW-1	2/18/2010	6:50	1069.15	104-124'	97.90	98.43	971.14	0.53	1892.5	500.0	94.6	25.0	-	97.90
MW-1	3/4/2010	8:00	1069.15	104-124'	96.43	97.43	972.52	1.00	5.7	1.5	5.7	1.5	-	96.95
MW-1	3/16/2010	7:00	1069.15	104-124'	95.25	96.34	973.68	1.09	1892.5	500.0	37.9	10.0	-	95.56
MW-1	3/30/2010	7:00	1069.15	104-124'	95.25	95.55	973.84	0.30	1892.5	500.0	37.9	10.0	-	95.34
MW-1	4/13/2010	7:30	1069.15	104-124'	95.03	95.70	973.99	0.67	1514.0	400.0	18.9	5.0	-	95.41
MW-1	4/26/2010	8:00	1069.15	104-124'	NA	97.73	971.42	0.00	-	-	-	-	-	97.73
MW-1	5/10/2010	7:15	1069.15	104-124'	99.98	100.00	969.17	0.02	1514.0	400.0	7.6	2.0	-	100.01
MW-1	5/28/2010	7:30	1069.15	104-124'	102.02	102.06	967.12	0.04	1514.0	400.0	7.6	2.0	-	102.09
MW-1	6/8/2010	9:00	1069.15	104-124'	103.38	103.40	965.77	0.02	1514.0	400.0	5.7	1.5	-	103.47
MW-1	6/25/2010	8:00	1069.15	104-124'	104.20	104.65	964.86	0.45	378.5	100.0	6.6	1.8	-	104.21
MW-1	7/23/2010	7:00	1069.15	104-124'	107.47	108.60	961.45	1.13	946.3	250.0	27.4	7.3	-	108.01
MW-1	8/3/2010	8:00	1069.15	104-124'	108.58	108.60	960.57	0.02	757.0	200.0	2.8	0.8	-	108.56
MW-1	8/17/2010	6:35	1069.15	104-124'	109.45	109.62	959.67	0.17	851.6	225.0	5.7	1.5	-	109.60
MW-1	8/31/2010	11:30	1069.15	104-124'	NA	110.11	959.04	0.00	757.0	200.0	5.7	1.5	-	110.17
MW-1	9/14/2010	7:00	1069.15	104-124'	NA	111.02	958.13	0.00	378.5	100.0	3.8	1.0	-	111.11
MW-1	10/6/2010	7:00	1069.15	104-124'	109.20	109.43	959.90	0.23	851.6	225.0	9.5	2.5	-	109.24
MW-1	10/19/2010	8:10	1069.15	104-124'	107.23	107.60	961.85	0.37	567.8	150.0	5.7	1.5	-	107.58
MW-1	11/22/2010	10:15	1069.15	104-124'	99.67	100.89	969.24	1.22	757.0	200.0	15.1	4.0	-	100.01
MW-1	12/8/2010	11:00	1069.15	104-124'	97.33	98.10	971.67	0.77	1514.0	400.0	13.1	3.5	-	98.21
MW-1	12/15/2010	9:00	1069.15	104-124'	96.24	97.01	972.76	0.77	851.6	225.0	5.7	1.5	-	96.91
MW-1	12/22/2010	8:00	1069.15	104-124'	96.05	96.34	973.04	0.29	378.5	100.0	3.8	1.0	-	96.27
MW-1	12/28/2010	10:05	1069.15	104-124'	94.87	95.09	974.24	0.22	378.5	100.0	4.7	1.3	-	95.73

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Well ID	Date	Time	TOC Elevation NAVD88	Screen Interval	Depth to Product (prior to product removal)	Depth to Water (prior to product removal	Corrected Groundwater Elevation	Product Thickness	Total Fluids Removed		Total Product Removed		Depth to Product (after product removal)	Depth to Water (after product removal
	(MM/DD/YY)	(00:00)	ft amsl	ft bgs	ft below TOC	ft below TOC	ft amsl	feet	liters	gallons	liters	gallons	ft below TOC	ft below TOC
MW-1	1/5/2011	10:30	1069.15	104-124'	94.19	94.37	974.92	0.18	378.5	100.0	5.7	1.5	-	94.35
MW-1	1/12/2011	9:00	1069.15	104-124'	93.65	93.75	975.48	0.10	473.1	125.0	1.9	0.5	-	93.73
MW-1	1/20/2011	9:35	1069.15	104-124'	92.95	93.15	976.16	0.20	378.5	100.0	7.6	2.0	-	93.17
MW-1	1/27/2011	10:00	1069.15	104-124'	92.60	92.93	976.48	0.33	567.8	150.0	3.8	1.0	-	92.86
MW-1	2/3/2011	10:00	1069.15	104-124'	92.87	93.20	976.21	0.33	11.4	3.0	1.9	0.5	-	93.13
MW-1	3/2/2011	10:30	1069.15	104-124'	92.28	92.30	976.87	0.02	662.4	175.0	6.6	1.8	-	92.37
MW-1	3/11/2011	9:00	1069.15	104-124'	92.79	92.82	976.35	0.03	378.5	100.0	3.8	1.0	-	92.84
MW-1	3/30/2011	10:00	1069.15	104-124'	NA	97.96	971.19	0.00	473.1	125.0	3.8	1.0	-	97.91
MW-1	4/15/2011	9:00	1069.15	104-124'	NA	100.92	968.23	0.00	1514.0	400.0	19.9	5.3	-	101.12
MW-1	4/28/2011	11:15	1069.15	104-124'	103.21	103.44	965.89	0.23	1608.6	425.0	22.7	6.0	-	103.30
MW-1	5/5/2011	10:00	1069.15	104-124'	104.28	104.55	964.82	0.27	1703.3	450.0	20.8	5.5	104.71	104.73
MW-1	5/19/2011	10:15	1069.15	104-124'	106.16	106.82	962.86	0.66	946.3	250.0	43.5	11.5	-	106.85
MW-1	6/3/2011	9:45	1069.15	104-124'	107.35	107.45	961.78	0.10	1324.8	350.0	26.5	7.0	-	107.57
MW-1	6/13/2011	9:00	1069.15	104-124'	108.30	110.35	960.44	2.05	1892.5	500.0	36.0	9.5	-	109.87
MW-1	6/28/2011	8:00	1069.15	104-124'	109.60	111.20	959.23	1.60	1892.5	500.0	30.3	8.0	-	110.48
MW-1	7/19/2011	8:00	1069.15	104-124'	111.15	114.00	957.43	2.85	1892.5	500.0	39.7	10.5	-	112.28
MW-1	7/27/2011	6:45	1069.15	104-124'	111.73	114.13	956.94	2.40	1608.6	425.0	34.1	9.0	112.83	112.85
MW-1	8/4/2011	7:00	1069.15	104-124'	112.45	113.10	956.57	0.65	946.3	250.0	15.1	4.0	-	112.95
MW-1	8/29/2011	8:00	1069.15	104-124'	113.65	114.85	955.26	1.20	1514.0	400.0	36.0	9.5	114.12	114.13
MW-1	9/8/2011	6:15	1069.15	104-124'	114.03	115.05	954.92	1.02	1514.0	400.0	37.9	10.0	-	114.92
MW-1	9/19/2011	6:15	1069.15	104-124'	114.10	115.40	954.79	1.30	1514.0	400.0	41.6	11.0	114.6	114.63
MW-1	10/6/2011	9:00	1069.15	104-124'	112.96	113.30	956.12	0.34	757.0	200.0	18.9	5.0	113.18	113.19
MW-1	10/18/2011	10:00	1069.15	104-124'	111.54	111.76	957.57	0.22	946.3	250.0	30.3	8.0	-	111.70
MW-1	10/25/2011	8:10	1069.15	104-124'	109.70	109.79	959.43	0.09	1514.0	400.0	30.3	8.0	-	109.75
MW-1	11/7/2011	11:35	1069.15	104-124'	NA	107.85	961.30	0.00	757.0	200.0	11.4	3.0	-	107.82
MW-1	11/17/2011	10:45	1069.15	104-124'	106.30	106.31	962.85	0.01	946.3	250.0	11.4	3.0	-	106.38
MW-1	12/2/2011	9:10	1069.15	104-124'	NA	103.98	965.17	0.00	757.0	200.0	11.4	3.0	-	104.02
MW-1	12/9/2011	9:00	1069.15	104-124'	NA	103.05	966.10	0.00	1324.8	350.0	7.6	2.0	-	103.10
MW-1	12/16/2011	10:15	1069.15	104-124'	NA	102.31	966.84	0.00	757.0	200.0	7.6	2.0	-	102.33
MW-1	12/22/2011	9:00	1069.15	104-124'	101.37	101.40	967.77	0.03	1514.0	400.0	8.5	2.3	-	101.30
MW-1	12/29/2011	10:30	1069.15	104-124'	NA	100.46	968.69	0.00	946.3	250.0	7.6	2.0	-	100.40
MW-1	1/6/2012	9:00	1069.15	104-124'	NA	99.60	969.55	0.00	1514.0	400.0	5.7	1.5	-	99.56
MW-1	1/12/2012	9:00	1069.15	104-124'	NA	99.04	970.11	0.00	1514.0	400.0	11.4	3.0	-	99.10
MW-1	1/26/2012	7:45	1069.15	104-124'	NA	98.60	970.55	0.00	851.6	225.0	7.6	2.0	-	98.56
MW-1	2/10/2012	9:15	1069.15	104-124'	NA	98.32	970.83	0.00	851.6	225.0	7.6	2.0	-	98.30
MW-1	2/21/2012	9:45	1069.15	104-124'	NA	98.07	971.08	0.00	1135.5	300.0	7.6	2.0	-	98.07
MW-1	3/22/2012	8:30	1069.15	104-124'	102.22	102.55	966.86	0.33	1135.5	300.0	15.1	4.0	-	102.40

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Well ID	Date	Time	TOC Elevation NAVD88	Screen Interval	Depth to Product (prior to product removal)	Depth to Water (prior to product removal	Corrected Groundwater Elevation	Product Thickness	Total Fluids Removed		Total Product Removed		Depth to Product (after product removal)	Depth to Water (after product removal
	(MM/DD/YY)	(00:00)	ft amsl	ft bgs	ft below TOC	ft below TOC	ft amsl	feet	liters	gallons	liters	gallons	ft below TOC	ft below TOC
MW-1	3/29/2012	8:15	1069.15	104-124'	102.76	102.77	966.39	0.01	757.0	200.0	7.6	2.0	-	102.66
MW-1	4/10/2012	8:30	1069.15	104-124'	106.41	106.42	962.74	0.01	946.3	250.0	7.6	2.0	-	106.30
MW-1	4/30/2012	8:00	1069.15	104-124'	109.07	109.31	960.03	0.24	1230.1	325.0	11.4	3.0	-	109.22
MW-1	5/11/2012	6:55	1069.15	104-124'	110.47	112.90	958.19	2.43	1135.5	300.0	22.7	6.0	-	110.89
MW-1	5/25/2012	7:00	1069.15	104-124'	112.32	114.47	956.40	2.15	1135.5	300.0	20.8	5.5	-	112.65
MW-1	6/5/2012	10:10	1069.15	104-124'	113.05	113.10	956.09	0.05	473.1	125.0	6.6	1.8	-	113.07
MW-1	6/14/2012	8:15	1069.15	104-124'	113.74	114.08	955.34	0.34	473.1	125.0	18.9	5.0	-	113.96
MW-1	6/25/2012	7:25	1069.15	104-124'	NA	114.83	954.32	0.00	473.1	125.0	15.1	4.0	-	115.14
MW-1	7/11/2012	7:15	1069.15	104-124'	116.45	116.50	952.69	0.05	946.3	250.0	11.4	3.0	-	116.42
MW-1	7/26/2012	7:15	1069.15	104-124'	NA	117.51	951.64	0.00	473.1	125.0	11.4(1)	3(1)	-	117.56
MW-1	8/3/2012	6:15	1069.15	104-124'	117.93	119.24	950.96	1.31	662.4	175.0	26.5	7.0	-	118.37
MW-1	8/14/2012	7:00	1069.15	104-124'	118.45	120.20	950.35	1.75	851.6	225.0	28.4	7.5	-	119.40
MW-1	8/30/2012	9:00	1069.15	104-124'	120.10	120.20	949.03	0.10	946.3	250.0	18.9	5.0	-	119.95
MW-1	9/14/2012	6:30	1069.15	104-124'	119.90	120.87	949.06	0.97	757.0	200.0	15.1	4.0	-	120.70
MW-1	9/27/2012	6:30	1069.15	104-124'	NA	120.15	949.00	0.00	473.1	125.0	7.6	2.0	-	120.10
MW-1	10/2/2012	8:00	1069.15	104-124'	NA	119.85	949.30	0.00	473.1	125.0	11.4	3.0	-	119.79
MW-1	10/26/2012	8:30	1069.15	104-124'	NA	118.00	951.15	0.00	3.8	1.0	3.8‡	1‡	-	118.00
MW-1	11/9/2012	9:30	1069.15	104-124'	NA	114.20	954.95	0.00	3.8	1.0	3.8‡	1‡	-	114.20
MW-1	11/21/2012	8:30	1069.15	104-124'	NA	111.61	957.54	0.00	567.8	150.0	7.6	2.0	-	111.66
MW-1	11/29/2012	8:00	1069.15	104-124'	NA	110.81	958.34	0.00	13.2	3.5	1.9	0.5	-	110.81
MW-1	12/6/2012	10:00	1069.15	104-124'	NA	110.23	958.92	0.00	473.1	125.0	7.6	2.0	-	110.28
MW-1	12/27/2012	7:00	1069.15	104-124'	NA	107.11	962.04	0.00	1.9	0.5	1.9‡	0.5‡	-	107.11
MW-1	1/10/2013	8:45	1069.15	104-124'	NA	105.82	963.33	0.00	567.8	150.0	7.6	2.0	-	105.87
MW-1	1/15/2013	9:00	1069.15	104-124'	NA	105.70	963.45	0.00	757.0	200.0	11.4	3.0	-	105.68
MW-1	1/31/2013	10:15	1069.15	104-124'	NA	104.96	964.19	0.00	567.8	150.0	9.5	2.5	-	105.00
MW-1	2/20/2013	6:00	1069.15	104-124'	103.87	103.89	965.28	0.02	851.6	225.0	13.2	3.5	-	103.85
MW-1	3/18/2013	11:00	1069.15	104-124'	102.90	103.00	966.23	0.10	0.9	0.3	0.9‡	0.25‡	-	103.00
MW-1	4/4/2013	8:45	1069.15	104-124'	NA	107.46	961.69	0.00	757.0	200.0	7.6	2.0	-	107.71
MW-1	4/12/2013	8:00	1069.15	104-124'	NA	109.35	959.80	0.00	567.8	150.0	7.6	2.0	-	109.42
MW-1	5/15/2013	10:15	1069.15	104-124'	113.66	113.77	955.47	0.11	757.0	200.0	11.4	3.0	-	113.80
MW-1	5/23/2013	9:30	1069.15	104-124'	114.12	114.26	955.00	0.14	757.0	200.0	13.2	3.5	114.25	114.27
MW-1	6/21/2013	9:15	1069.15	104-124'	117.96	118.96	950.99	1.00	757.0	200.0	13.2	3.5	118.76	118.80
MW-1	6/25/2013	9:30	1069.15	104-124'	118.00	119.03	950.94	1.03	3.8	1.0	1.9‡	0.5‡	118	119.03
MW-1	6/27/2013	8:00	1069.15	104-124'	118.10	119.10	950.85	1.00	1324.8	350.0	11.4	3.0	118.87	119.15
MW-1	7/2/2013	8:30	1069.15	104-124'	118.67	119.48	950.32	0.81	1135.5	300.0	15.1	4.0	119.2	119.38
MW-1	7/18/2013	8:30	1069.15	104-124'	NA	120.15	949.00	0.00	946.3	250.0	15.1	4.0	-	120.17
MW-1	7/29/2013	6:00	1069.15	104-124'	121.70	122.70	947.25	1.00	946.3	250.0	22.7	6.0	122.5	122.67

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	(MM/DD/YY)	(00:00)	ft amsl	ft bgs	ft below TOC	ft below TOC	ft amsl	feet	liters	gallons	liters	gallons	ft below TOC	ft below TOC
MW-1	8/5/2013	9:45	1069.15	104-124'	122.77	123.23	946.29	0.46	378.5	100.0	15.1	4.0	123	123.06
MW-1	8/30/2013	8:30	1069.15	104-124'	123.67	ND(5)	-	1.38	11.4	3.0	11.4	3.0	124.5	-
MW-1	9/23/2013	8:30	1069.15	104-124'	123.65	ND(5)	-	1.40	11.4	3.0	11.4	3.0	124.6	-
MW-1	10/9/2013	7:50	1069.15	104-124'	124.02	ND(5)	-	1.03	11.4	3.0	11.4	3.0	124.6	-
MW-1	10/25/2013	7:30	1069.15	104-124'	121.31	121.50	947.80	0.19	473.1	125.0	3.8	1.0	121.45	121.46
MW-1	11/7/2013	11:00	1069.15	104-124'	119.2	119.42	949.91	0.22	567.8	150.0	9.5	2.5	ND	119.40
MW-1	11/22/2013	11:35	1069.15	104-124'	116.81	116.95	952.31	0.14	378.5	100.0	9.5	2.5	116.89	116.90
MW-1	12/18/2013	12:30	1069.15	104-124'	114.48	114.80	954.61	0.32	3.8	1.0	3.8	1.0	114.48	114.80
MW-1	12/19/2013	7:00	1069.15	104-124'	114.5	114.79	954.59	0.29	1514.0	400.0	11.4	3.0	ND	114.87
MW-1	12/26/2013	9:30	1069.15	104-124'	114.12	114.26	955.00	0.14	3.8	1.0	3.8	1.0	114.12	114.26
MW-1	1/7/2014	9:00	1069.15	104-124'	114.2	114.34	954.92	0.14	567.8	150.0	7.6	2.0	ND	114.36
MW-1	1/17/2014	9:00	1069.15	104-124'	NA	113.67	955.48	0.00	567.8	150.0	5.7	1.5	ND	113.70
MW-1	1/29/2014	8:15	1069.15	104-124'	112.8	112.86	956.34	0.06	757.0	200.0	11.4	3.0	ND	112.90
MW-1	2/10/2014	9:00	1069.15	104-124'	112.35	112.43	956.78	0.08	567.8	150.0	7.6	2.0	112.4	112.42
MW-1	3/7/2014	8:00	1069.15	104-124'	110.85	110.92	958.29	0.07	567.8	150.0	11.4	3.0	ND	110.94
MW-1	3/14/2014	7:45	1069.15	104-124'	110.96	111.07	958.17	0.11	757.0	200.0	7.6	2.0	ND	111.01
MW-1	3/31/2014	9:50	1069.15	104-124'	NA	111.28	957.87	0.00	15.1	4.0	3.8	1.0	ND	111.28
MW-1	4/11/2014	7:30	1069.15	104-124'	113.13	113.20	956.01	0.07	567.8	150.0	7.6	2.0	ND	113.26
MW-1	4/23/2014	8:30	1069.15	104-124'	115.15	115.17	954.00	0.02	378.5	100.0	7.6	2.0	ND	115.19
MW-1	5/8/2014	9:00	1069.15	104-124'	117.21	117.25	951.93	0.04	1.9	0.5	1.9	0.5	117.21	117.25
MW-1	5/28/2014	9:15	1069.15	104-124'	121.6	121.83	947.50	0.23	283.9	75.0	11.4	3.0	121.67	121.70
MW-1	5/30/2014	8:00	1069.15	104-124'	121.71	121.79	947.42	0.08	189.3	50.0	7.6	2.0	ND	121.80
MW-1	6/12/2014	7:25	1069.15	104-124'	NA	122.70	946.45	0.00	11.4	3.0	0.0	0.0	ND	122.71
MW-1	7/11/2014	6:30	1069.15	104-124'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	-	Dry
MW-1	7/23/2014	6:00	1069.15	104-124'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	-	Dry
MW-1	8/13/2014	NA	1069.15	104-124'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	-	Dry
MW-1	8/28/2014	NA	1069.15	104-124'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	-	Dry
MW-1	9/26/2014	7:30	1069.15	104-124'	122.9	123.10	946.21	0.20	189.3	50.0	5.7	1.5	ND	122.92
MW-1	9/30/2014	7:00	1069.15	104-124'	122.63	122.67	946.51	0.04	189.3	50.0	3.8	1.0	ND	122.64
MW-1	10/7/2014	8:15	1069.15	104-124'	NA	120.55	948.60	0.00	189.3	50.0	0.0	0.0	ND	120.58
MW-1	10/14/2014	NA	1069.15	104-124'	NA	118.66	950.49	0.00	378.5	100	3.8	1.0	sheen	118.67
MW-1	10/28/2014	7:00	1069.15	104-124'	NA	116.14	953.01	0.00	283.9	75	3.8	1.0	ND	116.16
MW-1	11/6/2014	7:30	1069.15	104-124'	NA	114.53	954.62	0.00	189.3	50	3.8	1.0	ND	114.55
MW-1	11/24/2014	6:29	1069.15	104-124'	NA	112.07	957.08	0.00	11.4	3.0	0.0	0.0	ND	112.09
MW-1	12/1/2014	8:00	1069.15	104-124'	NA	111.69	957.46	0.00	189.3	50	1.9	0.5	ND	111.70
MW-1	12/19/2014	8:30	1069.15	104-124'	NA	109.34	959.81	0.00	189.3	50	5.7	1.5	ND	109.35
MW-1	12/26/2014	9:30	1069.15	104-124'	NA	108.92	960.23	0.00	189.3	50	1.9	0.5	ND	108.92

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	(MM/DD/YY)	(00:00)	ft amsl	ft bgs	ft below TOC	ft below TOC	ft amsl	feet	liters	gallons	liters	gallons	ft below TOC	ft below TOC
MW-1	1/7/2015	8:05	1069.15	104-124'	NA	107.94	961.21	0.00	189.3	50	0.9	0.3	ND	107.95
MW-1	1/21/2015	8:45	1069.15	104-124'	NA	107.38	961.77	0.00	189.3	50	0.4	0.1	ND	107.40
MW-1	2/9/2015	8:35	1069.15	104-124'	NA	106.75	962.40	0.00	189.3	50	0.9	0.3	ND	106.79
MW-1	2/20/2015	8:00	1069.15	104-124'	NA	107.62	961.53	0.00	189.3	50	0.4	0.1	ND	107.63
MW-1	3/4/2015	8:20	1069.15	104-124'	NA	107.70	961.45	0.00	189.3	50	0.9	0.3	ND	107.72
MW-1	3/26/2015	8:20	1069.15	104-124'	NA	110.95	958.20	0.00	11.4	3.0	0.0	0.0	ND	110.99
MW-1	4/7/2015	8:15	1069.15	104-124'	NA	114.17	954.98	0.00	283.9	75	0.0	0.0	N/D	114.19
MW-1	4/23/2015	8:30	1069.15	104-124'	NA	117.98	951.17	0.00	378.5	100	0.0	0.0	N/D	118.02
MW-1	5/14/2015	8:45	1069.15	104-124'	120.08	120.46	948.99	0.38	378.5	100	0.0	0.0	N/D	120.51
MW-1	5/26/2015	8:15	1069.15	104-124'	122.55	122.60	946.59	0.05	378.5	100	0.0	0.0	N/D	122.63
MW-1	6/2/2015	7:15	1069.15	104-124'	NA	123.25	945.90	0.00	227.1	60	0.0	0.0	N/D	123.90
MW-1	6/29/2015	8:45	1069.15	104-124'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-1	7/9/2015	6:25	1069.15	104-124'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-1	7/22/2015	5:45	1069.15	104-124'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-1	8/4/2015	7:00	1069.15	104-124'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-1	8/25/2015	6:50	1069.15	104-124'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-1	9/3/2015	6:30	1069.15	104-124'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-1	9/30/2015	5:15	1069.15	104-124'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-1	10/5/2015	5:15	1069.15	104-124'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-1	10/16/2015	5:15	1069.15	104-124'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-1	10/29/2015	5:15	1069.15	104-124'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-1	11/5/2015	5:15	1069.15	104-124'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-1	11/25/2015	7:30	1069.15	104-124'	NA	123.70	945.45	0.00	0.0	0.0	0.0	0.0	N/D	123.70
MW-1	12/2/2015	7:00	1069.15	104-124'	NA	123.09	946.06	0.00	0.0	0.0	0.0	0.0	N/D	123.09
MW-1	12/21/2015	9:25	1069.15	104-124'	NA	120.46	948.69	0.00	11.4	3.0	0.0	0.0	N/D	120.48
MW-1	1/21/2016	8:30	1069.15	104-124'	NA	116.55	952.60	0.00	283.9	75	0.0	Sheen	N/D	116.56
MW-1	2/12/2016	7:30	1069.15	104-124'	NA	116.24	952.91	0.00	283.9	75	0.0	Sheen	N/D	116.28
MW-1	2/23/2016	8:45	1069.15	104-124'	NA	115.75	953.40	0.00	283.9	75	0.0	Sheen	N/D	115.77
MW-1	3/4/2016	8:30	1069.15	104-124'	NA	117.09	952.06	0.00	283.9	75	0.0	Sheen	N/D	117.11
MW-1	3/24/2016	8:30	1069.15	104-124'	NA	118.41	950.74	0.00	9.5	2.5	0.0	0.0	N/D	118.45
MW-1	4/7/2016	8:20	1069.15	104-124'	NA	120.76	948.39	0.00	283.9	75.0	0.0	0.0	N/D	120.79
MW-1	4/19/2016	9:30	1069.15	104-124'	NA	121.95	947.20	0.00	283.9	75.0	0.0	0.0	N/D	122.00
MW-1	4/28/2016	10:00	1069.15	104-124'	NA	123.91	945.24	0.00	283.9	75.0	0.0	0.0	N/D	123.99
MW-1	5/4/2016	5:00	1069.15	104-124'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-1	5/16/2016	6:30	1069.15	104-124'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-1	5/27/2016	5:45	1069.15	104-124'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-1	6/14/2016	8:00	1069.15	104-124'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry

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	(MM/DD/YY)	(00:00)	ft amsl	ft bgs	ft below TOC	ft below TOC	ft amsl	feet	liters	gallons	liters	gallons	ft below TOC	ft below TOC
MW-1	6/22/2016	5:00	1069.15	104-124'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-1	7/1/2016	4:30	1069.15	104-124'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-1	7/21/2016	5:15	1069.15	104-124'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-1	7/27/2016	6:30	1069.15	104-124'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-1	9/23/2016	10:00	1069.15	104-124'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-1	10/28/2016	NA	1069.15	104-124'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-1	11/9/2016	NA	1069.15	104-124'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-1	12/21/2016	9:15	1069.15	104-124'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-1	1/27/2017	7:15	1069.15	104-124'	NA	124.24	944.91	0.00	0.0	0.0	0.0	0.0	N/D	124.24
MW-1	2/7/2017	9:15	1069.15	104-124'	NA	122.31	946.84	0.00	0.0	0.0	0.0	0.0	N/D	122.31
MW-1	3/6/2017	5:15	1069.15	104-124'	NA	118.93	950.22	0.00	0.0	0.0	0.0	0.0	N/D	118.93
MW-1	3/20/2017	9:15	1069.15	104-124'	NA	118.66	950.49	0.00	8.5	2.25	0.0	0.0	N/D	118.67
MW-1	4/24/2017	6:30	1069.15	104-124'	NA	121.98	947.17	0.00	0.0	0.0	0.0	0.0	N/D	121.98
MW-1	5/1/2017	8:25	1069.15	104-124'	NA	122.60	946.55	0.00	10.4	2.75	0.0	0.0	N/D	122.60
MW-1	6/9/2017	7:15	1069.15	104-124'	NA	124.83	944.32	0.00	0.0	0.0	0.0	0.0	N/D	124.83
MW-2	6/25/2008	10:18	1069.30	100-134'	NA	114.40	954.90	0.00	-	-	-	-	-	
MW-2	7/25/2008	NA	1069.30	100-134'	116.67	116.69	952.63	0.02	-	-	-	-	-	-
MW-2	7/30/2008	17:08	1069.30	100-134'	116.89	116.92	952.40	0.03	-	-	-	-	-	-
MW-2	8/20/2008	NA	1069.30	100-134'	117.58	117.78	951.68	0.20	-	-	-	-	-	-
MW-2	9/12/2008	10:10	1069.30	100-134'	118.00	118.63	951.17	0.63	11.4	3.0	2.8	0.8	118.07	118.11
MW-2	9/25/2008	5:20	1069.30	100-134'	118.07	118.80	951.08	0.73	18.9	5.0	18.0	4.8	118.17	118.23
MW-2	10/9/2008	8:10	1069.30	100-134'	115.74	116.03	953.50	0.29	3.8	1.0	0.9	0.3	116.00	116.01
MW-2	10/17/2008	9:20	1069.30	100-134'	114.02	114.08	955.27	0.06	-	-	-	-	114.02	114.08
MW-2	10/23/2008	7:10	1069.30	100-134'	NA	112.49	956.81	0.00	-	-	-	-	-	112.49
MW-2	10/30/2008	10:15	1069.30	100-134'	NA	111.06	958.24	0.00	-	-	-	-	-	111.06
MW-2	11/7/2008	6:20	1069.30	100-134'	NA	109.52	959.78	0.00	-	-	-	-	-	109.52
MW-2	11/14/2008	6:15	1069.30	100-134'	108.22	108.23	961.08	0.01	-	-	-	-	108.22	108.23
MW-2	11/20/2008	8:42	1069.30	100-134'	NA	107.20	962.10	0.00	-	-	-	-	-	107.20
MW-2	11/25/2008	8:20	1069.30	100-134'	NA	106.36	962.94	0.00	-	-	-	-	-	106.36
MW-2	12/11/2008	7:25	1069.30	100-134'	NA	104.03	965.27	0.00	13.2**	3.5**	-	-	-	104.03
MW-2	12/17/2008	10:20	1069.30	100-134'	NA	103.16	966.14	0.00	-	-	-	-	-	103.16
MW-2	1/13/2009	7:10	1069.30	100-134'	NA	100.13	969.17	0.00	-	-	-	-	-	100.13
MW-2	1/22/2009	7:10	1069.30	100-134'	NA	99.55	969.75	0.00	-	-	-	-	-	99.55
MW-2	2/12/2009	6:35	1069.30	100-134'	100.44	100.45	968.86	0.01	0*	0*	-	-	-	100.44
MW-2	3/12/2009	8:00	1069.30	100-134'	NA	99.76	969.54	0.00	13.2**	3.5**	-	-	-	-
MW-2	3/26/2009	7:25	1069.30	100-134'	NA	102.20	967.10	0.00	-	-	-	-	-	102.20
MW-2	4/29/2009	7:25	1069.30	100-134'	NA	107.00	962.30	0.00	-	-	-	-	-	107.00

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	(MM/DD/YY)	(00:00)	ft amsl	ft bgs	ft below TOC	ft below TOC	ft amsl	feet	liters	gallons	liters	gallons	ft below TOC	ft below TOC
MW-2	5/22/2009	7:40	1069.30	100-134'	NA	109.80	959.50	0.00	-	-	-	-	-	109.80
MW-2	6/17/2009	8:25	1069.30	100-134'	NA	111.20	958.10	0.00	-	-	-	-	-	109.80
MW-2	6/26/2009	6:10	1069.30	100-134'	NA	112.15	957.15	0.00	-	-	-	-	-	112.15
MW-2	6/29/2009	7:10	1069.30	100-134'	NA	112.22	957.08	0.00	-	-	-	-	-	112.22
MW-2	7/7/2009	8:05	1069.30	100-134'	NA	113.16	956.14	0.00	-	-	-	-	-	113.16
MW-2	7/20/2009	7:30	1069.30	100-134'	NA	114.34	954.96	0.00	-	-	-	-	-	114.34
MW-2	8/11/2009	6:25	1069.30	100-134'	116.44	116.55	952.84	0.11	-	-	trace*	trace*	116.52	116.53
MW-2	8/19/2009	10:30	1069.30	100-134'	116.83	116.92	952.45	0.09	-	-	trace*	trace*	-	116.85
MW-2	8/31/2009	10:30	1069.30	100-134'	117.36	117.50	951.91	0.14	-	-	trace*	trace*	117.47	117.50
MW-2	9/15/2009	9:45	1069.30	100-134'	116.60	116.68	952.68	0.08	-	-	0.4	0.1	-	116.65
MW-2	9/25/2009	7:45	1069.30	100-134'	115.60	115.87	953.65	0.27	-	-	-	-	115.6	115.87
MW-2	10/15/2009	7:10	1069.30	100-134'	114.30	114.33	954.99	0.03	3.8	1.0	0.9	0.3	-	114.34
MW-2	10/30/2009	8:40	1069.30	100-134'	NA	111.67	957.63	0.00	-	-	-	-	-	111.67
MW-2	11/12/2009	7:25	1069.30	100-134'	NA	107.62	961.68	0.00	-	-	-	-	-	107.62
MW-2	12/15/2009	9:00	1069.30	100-134'	NA	104.90	964.40	0.00	984.1	260.0	94.6	25.0	-	104.90
MW-2	12/29/2009	7:45	1069.30	100-134'	NA	103.05	966.25	0.00	946.3	250.0	94.6	25.0	-	103.10
MW-2	1/11/2010	7:00	1069.30	100-134'	NA	101.69	967.61	0.00	-	-	-	-	-	101.69
MW-2	2/3/2010	7:20	1069.30	100-134'	NA	99.20	970.10	0.00	-	-	-	-	-	99.20
MW-2	2/18/2010	6:40	1069.30	100-134'	NA	98.37	970.93	0.00	-	-	-	-	-	98.37
MW-2	3/4/2010	8:25	1069.30	100-134'	NA	96.97	972.33	0.00	-	-	-	-	-	96.97
MW-2	3/16/2010	6:40	1069.30	100-134'	NA	95.81	973.49	0.00	-	-	-	-	-	95.81
MW-2	3/30/2010	6:40	1069.30	100-134'	NA	95.66	973.64	0.00	-	-	-	-	-	95.66
MW-2	4/13/2010	7:00	1069.30	100-134'	NA	95.90	973.40	0.00	-	-	-	-	-	95.90
MW-2	4/26/2010	7:30	1069.30	100-134'	NA	98.40	970.90	0.00	-	-	-	-	-	98.40
MW-2	5/10/2010	6:15	1069.30	100-134'	NA	101.47	967.83	0.00	-	-	-	-	-	101.47
MW-2	5/28/2010	7:00	1069.30	100-134'	NA	102.55	966.75	0.00	-	-	-	-	-	102.55
MW-2	6/8/2010	8:00	1069.30	100-134'	NA	103.91	965.39	0.00	-	-	-	-	-	103.91
MW-2	6/25/2010	7:25	1069.30	100-134'	NA	104.61	964.69	0.00	-	-	-	-	-	104.61
MW-2	7/23/2010	6:40	1069.30	100-134'	NA	108.23	961.07	0.00	-	-	-	-	-	108.23
MW-2	8/3/2010	7:40	1069.30	100-134'	NA	109.10	960.20	0.00	-	-	-	-	-	109.10
MW-2	8/17/2010	6:25	1069.30	100-134'	NA	110.08	959.22	0.00	-	-	-	-	-	110.08
MW-2	8/31/2010	10:05	1069.30	100-134'	NA	111.05	958.25	0.00	11.4**	3**	-	-	-	111.05
MW-2	9/14/2010	6:45	1069.30	100-134'	NA	112.06	957.24	0.00	-	-	-	-	-	112.06
MW-2	10/6/2010	6:25	1069.30	100-134'	NA	110.10	959.20	0.00	-	-	-	-	-	110.10
MW-2	10/19/2010	7:30	1069.30	100-134'	NA	107.00	962.30	0.00	-	-	-	-	-	107.00
MW-2	11/22/2010	9:45	1069.30	100-134'	NA	100.94	968.36	0.00	-	-	-	-	-	100.94
MW-2	12/8/2010	10:35	1069.30	100-134'	NA	97.90	971.40	0.00	11.4**	3**	-	-	-	97.91

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	(MM/DD/YY)	(00:00)	ft amsl	ft bgs	ft below TOC	ft below TOC	ft amsl	feet	liters	gallons	liters	gallons	ft below TOC	ft below TOC
MW-2	12/15/2010	7:00	1069.30	100-134'	NA	96.80	972.50	0.00	-	-	-	-	-	96.80
MW-2	12/22/2010	7:10	1069.30	100-134'	NA	96.05	973.25	0.00	-	-	-	-	-	96.05
MW-2	12/28/2010	8:40	1069.30	100-134'	NA	95.52	973.78	0.00	-	-	-	-	-	95.52
MW-2	1/5/2011	9:20	1069.30	100-134'	NA	94.74	974.56	0.00	-	-	-	-	-	94.74
MW-2	1/12/2011	7:15	1069.30	100-134'	NA	94.10	975.20	0.00	-	-	-	-	-	94.10
MW-2	1/20/2011	8:25	1069.30	100-134'	NA	93.37	975.93	0.00	-	-	-	-	-	93.37
MW-2	1/27/2011	8:10	1069.30	100-134'	NA	93.03	976.27	0.00	-	-	-	-	-	93.03
MW-2	2/3/2011	8:40	1069.30	100-134'	NA	93.41	975.89	0.00	-	-	-	-	-	93.41
MW-2	3/2/2011	9:10	1069.30	100-134'	NA	92.78	976.52	0.00	9.5**	2.5**	-	-	-	92.78
MW-2	3/11/2011	7:10	1069.30	100-134'	NA	93.29	976.01	0.00	-	-	-	-	-	93.29
MW-2	3/30/2011	8:15	1069.30	100-134'	NA	98.50	970.80	0.00	-	-	-	-	-	98.50
MW-2	4/15/2011	7:15	1069.30	100-134'	NA	101.46	967.84	0.00	-	-	-	-	-	101.46
MW-2	4/28/2011	9:30	1069.30	100-134'	NA	103.69	965.61	0.00	-	-	-	-	-	103.69
MW-2	5/5/2011	7:15	1069.30	100-134'	NA	104.78	964.52	0.00	-	-	-	-	-	104.78
MW-2	5/19/2011	9:30	1069.30	100-134'	106.71	106.74	962.58	0.03	946.3	250.0	3.8	1.0	-	106.75
MW-2	6/3/2011	8:00	1069.30	100-134'	108.20	108.21	961.10	0.01	378.5	100.0	1.9	0.5	-	108.25
MW-2	6/13/2011	8:00	1069.30	100-134'	NA	109.14	960.16	0.00	-	-	-	-	-	109.14
MW-2	6/28/2011	6:40	1069.30	100-134'	NA	110.58	958.72	0.00	-	-	-	-	-	110.58
MW-2	7/19/2011	5:45	1069.30	100-134'	NA	112.15	957.15	0.00	-	-	-	-	-	112.15
MW-2	7/27/2011	5:15	1069.30	100-134'	NA	112.66	956.64	0.00	-	-	-	-	-	112.66
MW-2	8/4/2011	5:30	1069.30	100-134'	NA	112.79	956.51	0.00	-	-	-	-	-	112.79
MW-2	8/29/2011	5:25	1069.30	100-134'	NA	114.03	955.27	0.00	-	-	-	-	-	114.03
MW-2	9/8/2011	5:45	1069.30	100-134'	114.03	114.50	955.18	0.47	189.3	50.0	7.6	2.0	114.43	114.44
MW-2	9/19/2011	7:15	1069.30	100-134'	114.57	115.34	954.58	0.77	378.5	100.0	15.1	4.0	114.98	115.00
MW-2	10/6/2011	7:15	1069.30	100-134'	113.67	113.95	955.57	0.28	757.0	200.0	7.6	2.0	-	113.90
MW-2	10/18/2011	8:30	1069.30	100-134'	111.99	112.23	957.26	0.24	567.8	150.0	15.1	4.0	112.06	112.08
MW-2	10/25/2011	6:45	1069.30	100-134'	NA	110.22	959.08	0.00	378.5	100.0	11.4	3.0	-	110.15
MW-2	11/7/2011	10:00	1069.30	100-134'	108.30	108.33	960.99	0.03	757.0	200.0	7.6	2.0	-	108.25
MW-2	11/17/2011	9:25	1069.30	100-134'	106.69	106.72	962.60	0.03	757.0	200.0	9.5	2.5	-	106.81
MW-2	12/2/2011	7:15	1069.30	100-134'	NA	104.40	964.90	0.00	757.0	200.0	1.9	0.5	-	104.45
MW-2	12/9/2011	7:20	1069.30	100-134'	NA	103.42	965.88	0.00	0.0	0.0	0.0	0.0	-	103.42
MW-2	12/16/2011	9:00	1069.30	100-134'	NA	102.69	966.61	0.00	757.0	200.0	1.9	0.5	-	102.65
MW-2	12/22/2011	7:20	1069.30	100-134'	NA	101.80	967.50	0.00	0.0	0.0	0.0	0.0	-	101.80
MW-2	12/29/2011	9:15	1069.30	100-134'	NA	100.95	968.35	0.00	757.0	200.0	1.9	0.5	-	100.95
MW-2	1/6/2012	7:25	1069.30	100-134'	NA	100.05	969.25	0.00	0.0	0.0	0.0	0.0	-	100.05
MW-2	1/12/2012	8:25	1069.30	100-134'	NA	99.67	969.63	0.00	0.0	0.0	0.0	0.0	-	99.67
MW-2	1/26/2012	6:30	1069.30	100-134'	NA	99.12	970.18	0.00	851.6	225.0	3.8	1.0	-	99.20

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Well ID	Date	Time	TOC Elevation NAVD88	Screen Interval	Depth to Product (prior to product removal)	Depth to Water (prior to product removal	Corrected Groundwater Elevation	Product Thickness	Total Fluids Removed		Total Product Removed		Depth to Product (after product removal)	Depth to Water (after product removal
	(MM/DD/YY)	(00:00)	ft amsl	ft bgs	ft below TOC	ft below TOC	ft amsl	feet	liters	gallons	liters	gallons	ft below TOC	ft below TOC
MW-2	2/10/2012	8:10	1069.30	100-134'	NA	98.86	970.44	0.00	851.6	225.0	0.0	0.0	-	98.83
MW-2	2/21/2012	8:55	1069.30	100-134'	NA	98.60	970.70	0.00	0.0	0.0	0.0	0.0	-	98.60
MW-2	3/22/2012	7:50	1069.30	100-134'	NA	102.75	966.55	0.00	11.4**	3**	sheen	sheen	-	102.76
MW-2	3/29/2012	6:20	1069.30	100-134'	NA	103.01	966.29	0.00	757.0	200.0	3.8	1.0	-	102.97
MW-2	4/10/2012	6:40	1069.30	100-134'	NA	106.92	962.38	0.00	0.0	0.0	0.0	0.0	-	106.92
MW-2	4/30/2012	7:40	1069.30	100-134'	NA	109.91	959.39	0.00	0.0	0.0	0.0	0.0	-	109.91
MW-2	5/11/2012	6:40	1069.30	100-134'	NA	111.32	957.98	0.00	0.0	0.0	0.0	0.0	-	111.32
MW-2	5/25/2012	6:50	1069.30	100-134'	NA	113.13	956.17	0.00	0.0	0.0	0.0	0.0	-	113.13
MW-2	6/5/2012	8:30	1069.30	100-134'	NA	113.78	955.52	0.00	11.4**	3**	0.0	0.0	-	113.79
MW-2	6/14/2012	6:35	1069.30	100-134'	114.30	114.76	954.91	0.46	473.1	125.0	11.4	3.0	-	114.50
MW-2	6/25/2012	6:35	1069.30	100-134'	115.41	116.41	953.69	1.00	473.1	125.0	13.2	3.5	-	116.31
MW-2	7/11/2012	7:45	1069.30	100-134'	NA	117.10	952.20	0.00	946.3	250.0	15.1(2)	4(2)	-	117.16
MW-2	7/26/2012	7:45	1069.30	100-134'	117.67	117.92	951.58	0.25	473.1	125.0	7.6	2.0	-	117.89
MW-2	8/3/2012	7:45	1069.30	100-134'	118.44	119.05	950.74	0.61	757.0	200.0	11.4	3.0	-	118.68
MW-2	8/14/2012	7:10	1069.30	100-134'	119.02	119.52	950.18	0.50	283.9	75.0	7.6	2.0	-	119.47
MW-2	8/30/2012	8:15	1069.30	100-134'	120.04	120.31	949.21	0.27	378.5	100.0	5.7	1.5	-	120.34
MW-2	9/14/2012	7:45	1069.30	100-134'	120.52	120.90	948.70	0.38	567.8	150.0	7.6	2.0	-	120.65
MW-2	9/27/2012	7:20	1069.30	100-134'	NA	120.23	949.07	0.00	473.1	125.0	7.6	2.0	-	120.21
MW-2	10/2/2012	9:00	1069.30	100-134'	NA	119.52	949.78	0.00	378.5	100.0	7.6	2.0	-	120.19
MW-2	10/26/2012	8:45	1069.30	100-134'	NA	119.32	949.98	0.00	5.7	1.5	5.7‡	1.5‡	-	119.32
MW-2	11/9/2012	9:50	1069.30	100-134'	NA	114.60	954.70	0.00	5.7	1.5	5.7‡	1.5‡	-	114.60
MW-2	11/21/2012	7:30	1069.30	100-134'	NA	112.07	957.23	0.00	473.1	125.0	5.7	1.5	-	112.10
MW-2	11/29/2012	9:00	1069.30	100-134'	NA	111.20	958.10	0.00	13.2**	3.5**	0.0	0.0	-	111.20
MW-2	12/6/2012	8:30	1069.30	100-134'	NA	110.65	958.65	0.00	473.1	125.0	3.8	1.0	-	110.63
MW-2	12/27/2012	8:00	1069.30	100-134'	NA	107.52	961.78	0.00	1.9	0.5	0.9‡	0.25‡	-	107.52
MW-2	1/10/2013	7:30	1069.30	100-134'	NA	106.17	963.13	0.00	473.1	125.0	1.9	0.5	-	106.26
MW-2	1/15/2013	8:00	1069.30	100-134'	NA	106.01	963.29	0.00	378.5	100.0	3.8	1.0	-	105.98
MW-2	1/31/2013	9:00	1069.30	100-134'	NA	105.61	963.69	0.00	757.0	200.0	5.7	1.5	-	105.63
MW-2	2/20/2013	7:30	1069.30	100-134'	NA	104.33	964.97	0.00	851.6	225.0	7.6	2.0	-	104.33
MW-2	3/18/2013	10:25	1069.30	100-134'	NA	103.42	965.88	0.00	9.5**	2.5**	0.0	0.0	-	103.42
MW-2	4/4/2013	7:30	1069.30	100-134'	NA	107.87	961.43	0.00	757.0	200.0	3.8	1.0	-	107.94
MW-2	4/12/2013	7:00	1069.30	100-134'	NA	109.69	959.61	0.00	567.8	150.0	1.9	0.5	-	109.91
MW-2	5/15/2013	8:30	1069.30	100-134'	NA	114.10	955.20	0.00	0.0	0.0	0.0	0.0	-	114.10
MW-2	5/23/2013	7:30	1069.30	100-134'	114.43	114.45	954.87	0.02	567.8	150.0	5.7	1.5	-	114.49
MW-2	6/21/2013	7:45	1069.30	100-134'	118.42	118.45	950.87	0.03	378.5	100.0	3.8	1.0	-	118.47
MW-2	6/25/2013	8:00	1069.30	100-134'	NA	118.54	950.76	0.00	14.2	3.8	0.9‡	0.25‡	-	118.55
MW-2	6/27/2013	7:30	1069.30	100-134'	NA	118.54	950.76	0.00	0.0	0.0	0.0	0.0	-	118.55

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Well ID	Date	Time	TOC Elevation NAVD88	Screen Interval	Depth to Product (prior to product removal)	Depth to Water (prior to product removal	Corrected Groundwater Elevation	Product Thickness	Total Fluids Removed		Total Product Removed		Depth to Product (after product removal)	Depth to Water (after product removal
	(MM/DD/YY)	(00:00)	ft amsl	ft bgs	ft below TOC	ft below TOC	ft amsl	feet	liters	gallons	liters	gallons	ft below TOC	ft below TOC
MW-2	7/2/2013	7:00	1069.30	100-134'	NA	119.10	950.20	0.00	0.0	0.0	0.0	0.0	-	119.10
MW-2	7/18/2013	9:45	1069.30	100-134'	NA	120.00	949.30	0.00	0.0	0.0	0.9	0.3	-	120.00
MW-2	7/29/2013	7:30	1069.30	100-134'	121.65	122.58	947.46	0.93	946.3	250.0	11.4	3.0	-	122.30
MW-2	8/5/2013	8:00	1069.30	100-134'	122.55	123.01	946.66	0.46	567.8	150.0	11.4	3.0	122.67	122.90
MW-2	8/30/2013	7:30	1069.30	100-134'	123.97	ND(5)	-	1.13	11.4	3.0	11.4	3.0	124.66	-
MW-2	9/23/2013	9:45	1069.30	100-134'	123.93	ND(5)	-	1.17	11.4	3.0	11.4	3.0	124.7	-
MW-2	10/9/2013	9:30	1069.30	100-134'	124.11	ND(5)	-	0.99	11.4	3.0	11.4	3.0	124.75	-
MW-2	10/25/2013	8:45	1069.30	100-134'	121.40	121.47	947.89	0.07	473.1	125.0	5.7	1.5	ND	121.52
MW-2	11/7/2013	9:45	1069.30	100-134'	119.34	119.60	949.91	0.26	567.8	150.0	7.6	2.0	119.54	119.59
MW-2	11/22/2013	9:00	1069.30	100-134'	117.01	117.14	952.26	0.13	473.1	125.0	11.4	3.0	ND	117.12
MW-2	12/18/2013	10:45	1069.30	100-134'	114.56	114.77	954.70	0.21	1703.3	450.0	15.1	4.0	ND	114.60
MW-2	12/19/2013	9:15	1069.30	100-134'	114.80	114.83	954.49	0.03	378.5	100.0	1.9	0.5	ND	114.80
MW-2	12/26/2013	8:45	1069.30	100-134'	114.43	114.45	954.87	0.02	3.8	1.0	1.9	0.5	114.43	114.45
MW-2	1/7/2014	7:30	1069.30	100-134'	114.46	114.51	954.83	0.05	567.8	150.0	7.6	2.0	ND	114.56
MW-2	1/17/2014	7:30	1069.30	100-134'	113.87	113.90	955.42	0.03	567.8	150.0	7.6	2.0	ND	113.96
MW-2	1/29/2014	9:45	1069.30	100-134'	113.02	113.11	956.26	0.09	378.5	100.0	3.8	1.0	ND	113.10
MW-2	2/10/2014	8:00	1069.30	100-134'	112.57	112.69	956.71	0.12	567.8	150.0	7.6	2.0	ND	112.68
MW-2	3/7/2014	9:15	1069.30	100-134'	111.12	111.15	958.17	0.03	567.8	150.0	11.4	3.0	111.16	111.18
MW-2	3/14/2014	9:00	1069.30	100-134'	111.23	111.32	958.05	0.09	473.1	125.0	7.6	2.0	ND	111.36
MW-2	3/31/2014	8:30	1069.30	100-134'	NA	111.58	957.72	0.00	14.2	3.8	2.8	0.75	ND	111.58
MW-2	4/11/2014	8:50	1069.30	100-134'	113.59	113.68	955.69	0.09	567.8	150.0	7.6	2.0	ND	113.26
MW-2	4/23/2014	7:15	1069.30	100-134'	115.80	115.86	953.49	0.06	378.5	100.0	7.6	2.0	ND	115.89
MW-2	5/8/2014	9:15	1069.30	100-134'	117.97	118.09	951.31	0.12	3.8	1.0	1.9	0.5	117.97	118.09
MW-2	5/28/2014	7:45	1069.30	100-134'	122.75	122.90	946.52	0.15	283.9	75.0	3.8	1.0	ND	122.90
MW-2	5/30/2014	6:30	1069.30	100-134'	122.91	122.92	946.39	0.01	189.3	50.0	5.7	1.5	ND	122.93
MW-2	6/12/2014	8:30	1069.30	100-134'	NA	123.50	945.80	0.00	11.4	3.0	0.0	0.0	ND	122.40
MW-2	7/11/2014	7:00	1069.30	100-134'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	-	Dry
MW-2	7/23/2014	6:15	1069.30	100-134'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	-	Dry
MW-2	8/13/2014	NA	1069.30	100-134'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	-	Dry
MW-2	8/28/2014	NA	1069.30	100-134'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	-	Dry
MW-2	9/26/2014	8:30	1069.30	100-134'	Dry	Dry	-	0.00	0.0	0.0	0.0	0.0	-	Dry
MW-2	9/30/2014	8:30	1069.30	100-134'	123.12	123.17	946.17	0.05	83.3	22	1.9	0.5	ND	123.13
MW-2	10/7/2014	9:35	1069.30	100-134'	NA	120.98	948.32	0.00	189.3	50	0.0	0.0	ND	120.98
MW-2	10/14/2014	NA	1069.30	100-134'	NA	119.06	950.24	0.00	378.5	100	7.6	2.0	ND	119.11
MW-2	10/28/2014	8:30	1069.30	100-134'	NA	116.50	952.80	0.00	283.9	75	5.7	1.5	ND	116.53
MW-2	11/6/2014	8:30	1069.30	100-134'	NA	114.91	954.39	0.00	189.3	50	1.9	0.5	ND	114.95
MW-2	11/24/2014	7:29	1069.30	100-134'	NA	112.51	956.79	0.00	11.4	3.0	0.0	0.0	ND	112.54

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	(MM/DD/YY)	(00:00)	ft amsl	ft bgs	ft below TOC	ft below TOC	ft amsl	feet	liters	gallons	liters	gallons	ft below TOC	ft below TOC
MW-2	12/1/2014	9:30	1069.30	100-134'	NA	112.09	957.21	0.00	189.3	50	1.9	0.5	ND	112.10
MW-2	12/19/2014	10:00	1069.30	100-134'	NA	110.19	959.11	0.00	189.3	50	1.9	0.5	ND	110.22
MW-2	12/26/2014	10:45	1069.30	100-134'	NA	109.77	959.53	0.00	189.3	50	1.9	0.5	ND	109.80
MW-2	1/7/2015	9:35	1069.30	100-134'	NA	108.42	960.88	0.00	189.3	50	0.4	0.1	ND	108.49
MW-2	1/21/2015	10:00	1069.30	100-134'	NA	107.81	961.49	0.00	189.3	50	0.4	0.1	ND	107.81
MW-2	2/9/2015	9:45	1069.30	100-134'	NA	107.22	962.08	0.00	189.3	50	0.9	0.3	ND	107.25
MW-2	2/20/2015	9:15	1069.30	100-134'	NA	108.11	961.19	0.00	189.3	50	0.9	0.3	ND	108.15
MW-2	3/4/2015	10:10	1069.30	100-134'	NA	108.17	961.13	0.00	189.3	50	0.9	0.3	ND	108.22
MW-2	3/26/2015	10:10	1069.30	100-134'	NA	111.33	957.97	0.00	11.4	3.0	0.0	0.0	N/D	111.36
MW-2	4/7/2015	10:15	1069.30	100-134'	NA	114.58	954.72	0.00	283.9	75	0.0	0.0	N/D	114.63
MW-2	4/23/2015	10:30	1069.30	100-134'	NA	118.34	950.96	0.00	378.5	100	0.0	0.0	N/D	118.35
MW-2	5/14/2015	10:30	1069.30	100-134'	NA	120.49	948.81	0.00	378.5	100	0.0	0.0	N/D	120.53
MW-2	5/26/2015	10:00	1069.30	100-134'	NA	122.94	946.36	0.00	378.5	100	0.0	0.0	N/D	122.99
MW-2	6/2/2015	9:15	1069.30	100-134'	NA	123.51	945.79	0.00	283.9	75	0.0	0.0	N/D	124.22
MW-2	6/29/2015	8:55	1069.30	100-134'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-2	7/9/2015	6:45	1069.30	100-134'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-2	7/22/2015	6:05	1069.30	100-134'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-2	8/4/2015	7:20	1069.30	100-134'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-2	8/25/2015	7:15	1069.30	100-134'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-2	9/3/2015	6:45	1069.30	100-134'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-2	9/30/2015	5:30	1069.30	100-134'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-2	10/5/2015	5:30	1069.30	100-134'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-2	10/16/2015	5:30	1069.30	100-134'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-2	10/29/2015	5:30	1069.30	100-134'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-2	11/5/2015	5:30	1069.30	100-134'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-2	11/25/2015	7:15	1069.30	100-134'	NA	124.07	945.23	0.00	0.0	0.0	0.0	0.0	N/D	124.07
MW-2	12/2/2015	6:45	1069.30	100-134'	NA	123.44	945.86	0.00	0.0	0.0	0.0	0.0	N/D	123.44
MW-2	12/21/2015	10:05	1069.30	100-134'	NA	120.75	948.55	0.00	11.4	3.0	0.0	0.0	N/D	120.77
MW-2	1/21/2016	9:45	1069.30	100-134'	NA	116.87	952.43	0.00	283.9	75.0	0.0	Sheen	N/D	116.92
MW-2	2/12/2016	8:45	1069.30	100-134'	NA	116.57	952.73	0.00	283.9	75.0	0.0	Sheen	N/D	116.59
MW-2	2/23/2016	10:15	1069.30	100-134'	NA	116.07	953.23	0.00	283.9	75.0	0.0	Sheen	N/D	116.10
MW-2	3/4/2016	10:00	1069.30	100-134'	NA	117.38	951.92	0.00	283.9	75.0	0.0	Sheen	N/D	117.41
MW-2	3/24/2016	9:30	1069.30	100-134'	NA	118.78	950.52	0.00	11.4	3.0	0.0	0.0	N/D	118.80
MW-2	4/7/2016	9:30	1069.30	100-134'	NA	121.22	948.08	0.00	283.9	75.0	0.0	0.0	N/D	121.27
MW-2	4/19/2016	10:45	1069.30	100-134'	NA	122.42	946.88	0.00	283.9	75.0	0.0	0.0	N/D	122.44
MW-2	4/28/2016	11:30	1069.30	100-134'	NA	124.29	945.01	0.00	283.9	75.0	0.0	0.0	N/D	124.35
MW-2	5/4/2016	5:15	1069.30	100-134'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry

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Well ID	Date	Time	TOC Elevation NAVD88	Screen Interval	Depth to Product (prior to product removal)	Depth to Water (prior to product removal	Corrected Groundwater Elevation	Product Thickness	Total Fluids Removed		Total Product Removed		Depth to Product (after product removal)	Depth to Water (after product removal
	(MM/DD/YY)	(00:00)	ft amsl	ft bgs	ft below TOC	ft below TOC	ft amsl	feet	liters	gallons	liters	gallons	ft below TOC	ft below TOC
MW-2	5/16/2016	6:45	1069.30	100-134'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-2	5/27/2016	6:00	1069.30	100-134'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-2	6/14/2016	8:30	1069.30	100-134'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-2	6/22/2016	5:15	1069.30	100-134'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-2	7/1/2016	4:45	1069.30	100-134'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-2	7/21/2016	5:30	1069.30	100-134'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-2	7/27/2016	6:45	1069.30	100-134'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-2	9/23/2016	10:15	1069.30	100-134'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-2	10/28/2016	NA	1069.30	100-134'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-2	11/9/2016	NA	1069.30	100-134'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-2	12/21/2016	9:00	1069.30	100-134'	NA	Dry	-	0.00	11.4	3.0	0.0	0.0	N/D	Dry
MW-2	1/27/2017	7:30	1069.30	100-134'	NA	124.57	944.73	0.00	0.0	0.0	0.0	0.0	N/D	124.57
MW-2	2/7/2017	9:30	1069.30	100-134'	NA	122.64	946.66	0.00	0.0	0.0	0.0	0.0	N/D	122.64
MW-2	3/6/2017	5:30	1069.30	100-134'	NA	119.20	950.10	0.00	0.0	0.0	0.0	0.0	N/D	119.20
MW-2	3/20/2017	8:40	1069.30	100-134'	NA	119.00	950.30	0.00	8.5	2.25	0.0	0.0	N/D	119.01
MW-2	4/24/2017	6:45	1069.30	100-134'	NA	122.45	946.85	0.00	0.0	0.00	0.0	0.0	N/D	122.45
MW-2	5/1/2017	7:40	1069.30	100-134'	NA	123.14	946.16	0.00	10.4	2.75	0.0	0.0	N/D	123.14
MW-2	6/9/2017	7:30	1069.30	100-134'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-3	6/25/2008	10:22	1068.33	100-135'	NA	113.51	954.82	0.00	-	-	-	-	-	-
MW-3	7/25/2008		1068.33	100-135'	NA	115.75	952.58	0.00	-	-	-	-	-	-
MW-3	7/30/2008	17:13	1068.33	100-135'	NA	116.03	952.30	0.00	-	-	-	-	-	-
MW-3	8/20/2008		1068.33	100-135'	NA	116.73	951.60	0.00	-	-	-	-	-	-
MW-3	9/12/2008	10:06	1068.33	100-135'	NA	117.28	951.05	0.00	-	-	-	-	-	-
MW-3	9/25/2008	5:15	1068.33	100-135'	NA	117.33	951.00	0.00	15.1**	4.0**	-	-	-	117.33
MW-3	10/9/2008	8:00	1068.33	100-135'	NA	115.11	953.22	0.00	-	-	-	-	-	115.11
MW-3	10/17/2008	9:10	1068.33	100-135'	NA	111.50	956.83	0.00	-	-	-	-	-	111.50
MW-3	10/23/2008	6:55	1068.33	100-135'	NA	111.50	956.83	0.00	-	-	-	-	-	111.50
MW-3	10/30/2008	10:05	1068.33	100-135'	NA	110.03	958.30	0.00	-	-	-	-	-	110.03
MW-3	11/7/2008	6:10	1068.33	100-135'	NA	108.49	959.84	0.00	-	-	-	-	-	108.49
MW-3	11/14/2008	6:05	1068.33	100-135'	NA	107.15	961.18	0.00	-	-	-	-	-	107.15
MW-3	11/20/2008	8:37	1068.33	100-135'	NA	106.13	962.20	0.00	-	-	-	-	-	106.13
MW-3	11/25/2008	8:10	1068.33	100-135'	NA	105.30	963.03	0.00	-	-	-	-	-	105.30
MW-3	12/11/2008	8:00	1068.33	100-135'	NA	103.00	965.33	0.00	13.2**	3.5**	-	-	-	103.00
MW-3	12/17/2008	10:30	1068.33	100-135'	NA	102.09	966.24	0.00	-	-	-	-	-	102.09
MW-3	1/13/2009	7:00	1068.33	100-135'	NA	99.98	968.35	0.00	-	-	-	-	-	99.98
MW-3	1/22/2009	7:00	1068.33	100-135'	NA	98.47	969.86	0.00	-	-	-	-	-	98.47
MW-3	2/12/2009	6:25	1068.33	100-135'	NA	99.42	968.91	0.00	-	-	-	-	-	99.42

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	(MM/DD/YY)	(00:00)	ft amsl	ft bgs	ft below TOC	ft below TOC	ft amsl	feet	liters	gallons	liters	gallons	ft below TOC	ft below TOC
MW-3	3/12/2009	8:40	1068.33	100-135'	NA	98.72	969.61	0.00	13.2**	3.5**	-	-	-	98.72
MW-3	3/26/2009	7:15	1068.33	100-135'	NA	101.21	967.12	0.00	-	-	-	-	-	101.21
MW-3	4/29/2009	7:13	1068.33	100-135'	NA	106.02	962.31	0.00	-	-	-	-	-	106.02
MW-3	5/22/2009	7:30	1068.33	100-135'	NA	108.87	959.46	0.00	-	-	-	-	-	108.87
MW-3	6/17/2009	8:15	1068.33	100-135'	NA	110.31	958.02	0.00	-	-	-	-	-	110.31
MW-3	6/26/2009	6:00	1068.33	100-135'	NA	111.29	957.04	0.00	-	-	-	-	-	111.29
MW-3	6/29/2009	7:00	1068.33	100-135'	NA	111.31	957.02	0.00	-	-	-	-	-	111.31
MW-3	7/7/2009	7:55	1068.33	100-135'	NA	112.30	956.03	0.00	-	-	-	-	-	112.30
MW-3	7/20/2009	7:20	1068.33	100-135'	NA	113.50	954.83	0.00	-	-	-	-	-	113.50
MW-3	8/11/2009	6:15	1068.33	100-135'	NA	115.60	952.73	0.00	-	-	-	-	-	115.60
MW-3	8/19/2009	10:20	1068.33	100-135'	NA	116.00	952.33	0.00	-	-	-	-	-	116.00
MW-3	8/31/2009	10:20	1068.33	100-135'	NA	116.53	951.80	0.00	-	-	-	-	-	116.53
MW-3	9/15/2009	9:30	1068.33	100-135'	NA	115.85	952.48	0.00	-	-	-	-	-	115.85
MW-3	10/15/2009	6:50	1068.33	100-135'	NA	114.63	953.70	0.00	-	-	-	-	-	114.63
MW-3	10/30/2009	8:30	1068.33	100-135'	NA	110.54	957.79	0.00	-	-	-	-	-	110.54
MW-3	11/12/2009	7:45	1068.33	100-135'	NA	106.56	961.77	0.00	-	-	-	-	-	106.56
MW-3	12/15/2009	9:40	1068.33	100-135'	NA	103.86	964.47	0.00	13.2**	3.5**	-	-	-	103.86
MW-3	12/29/2009	8:00	1068.33	100-135'	NA	102.37	965.96	0.00	-	-	-	-	-	102.37
MW-3	1/11/2010	6:50	1068.33	100-135'	NA	100.62	967.71	0.00	-	-	-	-	-	100.62
MW-3	2/3/2010	7:10	1068.33	100-135'	NA	98.12	970.21	0.00	-	-	-	-	-	98.12
MW-3	2/18/2010	6:30	1068.33	100-135'	NA	97.26	971.07	0.00	-	-	-	-	-	97.26
MW-3	3/4/2010	8:01	1068.33	100-135'	NA	95.87	972.46	0.00	-	-	-	-	-	95.87
MW-3	3/16/2010	6:30	1068.33	100-135'	NA	94.69	973.64	0.00	-	-	-	-	-	94.69
MW-3	3/30/2010	6:30	1068.33	100-135'	NA	94.62	973.71	0.00	-	-	-	-	-	94.62
MW-3	4/13/2010	6:55	1068.33	100-135'	NA	94.92	973.41	0.00	-	-	-	-	-	94.92
MW-3	4/26/2010	7:15	1068.33	100-135'	NA	97.05	971.28	0.00	-	-	-	-	-	97.05
MW-3	5/10/2010	6:00	1068.33	100-135'	NA	99.50	968.83	0.00	-	-	-	-	-	99.50
MW-3	5/28/2010	6:55	1068.33	100-135'	NA	101.55	966.78	0.00	-	-	-	-	-	101.55
MW-3	6/8/2010	7:30	1068.33	100-135'	NA	102.95	965.38	0.00	-	-	-	-	-	102.95
MW-3	6/25/2010	7:15	1068.33	100-135'	NA	103.65	964.68	0.00	-	-	-	-	-	103.65
MW-3	7/23/2010	6:30	1068.33	100-135'	NA	107.34	960.99	0.00	-	-	-	-	-	107.34
MW-3	8/3/2010	7:30	1068.33	100-135'	NA	108.30	960.03	0.00	-	-	-	-	-	108.30
MW-3	8/17/2010	6:15	1068.33	100-135'	NA	109.21	959.12	0.00	-	-	-	-	-	109.21
MW-3	8/31/2010	9:05	1068.33	100-135'	NA	111.22	957.11	0.00	11.4**	3**	-	-	-	111.22
MW-3	9/14/2010	6:35	1068.33	100-135'	NA	112.20	956.13	0.00	-	-	-	-	-	112.20
MW-3	10/6/2010	6:15	1068.33	100-135'	NA	110.27	958.06	0.00	-	-	-	-	-	110.27
MW-3	10/19/2010	7:20	1068.33	100-135'	NA	106.90	961.43	0.00	-	-	-	-	-	106.90
MW-3	11/22/2010	9:35	1068.33	100-135'	NA	101.00	967.33	0.00	-	-	-	-	-	101.00
MW-3	12/8/2010	9:50	1068.33	100-135'	NA	96.80	971.53	0.00	11.4**	3**	-	-	-	96.80

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	(MM/DD/YY)	(00:00)	ft amsl	ft bgs	ft below TOC	ft below TOC	ft amsl	feet	liters	gallons	liters	gallons	ft below TOC	ft below TOC
MW-3	12/15/2010	6:50	1068.33	100-135'	NA	95.68	972.65	0.00	-	-	-	-	-	95.68
MW-3	12/22/2010	6:50	1068.33	100-135'	NA	94.95	973.38	0.00	-	-	-	-	-	94.95
MW-3	12/28/2010	8:30	1068.33	100-135'	NA	94.42	973.91	0.00	-	-	-	-	-	94.42
MW-3	1/5/2011	9:00	1068.33	100-135'	NA	93.64	974.69	0.00	-	-	-	-	-	93.64
MW-3	1/12/2011	7:00	1068.33	100-135'	NA	92.98	975.35	0.00	-	-	-	-	-	92.98
MW-3	1/20/2011	8:15	1068.33	100-135'	NA	92.27	976.06	0.00	-	-	-	-	-	92.27
MW-3	1/27/2011	8:00	1068.33	100-135'	NA	91.90	976.43	0.00	-	-	-	-	-	91.90
MW-3	2/3/2011	8:30	1068.33	100-135'	NA	92.35	975.98	0.00	-	-	-	-	-	92.35
MW-3	3/2/2011	8:30	1068.33	100-135'	NA	91.72	976.61	0.00	9.5**	2.5**	-	-	-	91.72
MW-3	3/11/2011	7:00	1068.33	100-135'	NA	92.30	976.03	0.00	-	-	-	-	-	92.30
MW-3	3/30/2011	8:05	1068.33	100-135'	NA	97.56	970.77	0.00	-	-	-	-	-	97.56
MW-3	4/15/2011	7:00	1068.33	100-135'	NA	100.65	967.68	0.00	-	-	-	-	-	100.65
MW-3	4/28/2011	9:20	1068.33	100-135'	NA	102.82	965.51	0.00	-	-	-	-	-	102.82
MW-3	5/5/2011	7:00	1068.33	100-135'	NA	103.92	964.41	0.00	-	-	-	-	-	103.92
MW-3	5/19/2011	8:15	1068.33	100-135'	NA	105.90	962.43	0.00	11.4**	3**	-	-	-	105.91
MW-3	6/3/2011	7:45	1068.33	100-135'	NA	107.40	960.93	0.00	-	-	-	-	-	107.40
MW-3	6/13/2011	7:45	1068.33	100-135'	NA	108.30	960.03	0.00	-	-	-	-	-	108.30
MW-3	6/28/2011	6:25	1068.33	100-135'	NA	109.75	958.58	0.00	-	-	-	-	-	109.75
MW-3	7/19/2011	5:35	1068.33	100-135'	NA	111.40	956.93	0.00	-	-	-	-	-	111.40
MW-3	7/27/2011	5:00	1068.33	100-135'	NA	111.85	956.48	0.00	-	-	-	-	-	111.85
MW-3	8/4/2011	5:20	1068.33	100-135'	NA	111.98	956.35	0.00	-	-	-	-	-	111.98
MW-3	8/29/2011	5:15	1068.33	100-135'	NA	113.48	954.85	0.00	-	-	-	-	-	113.48
MW-3	9/8/2011	5:00	1068.33	100-135'	NA	113.70	954.63	0.00	-	-	-	-	-	113.70
MW-3	9/19/2011	8:00	1068.33	100-135'	NA	113.95	954.38	0.00	11.4**	3**	-	-	-	113.95
MW-3	10/6/2011	6:30	1068.33	100-135'	NA	112.89	955.44	0.00	-	-	-	-	-	112.89
MW-3	10/18/2011	7:15	1068.33	100-135'	NA	111.37	956.96	0.00	-	-	-	-	-	111.37
MW-3	10/25/2011	6:30	1068.33	100-135'	NA	109.25	959.08	0.00	-	-	-	-	-	109.25
MW-3	11/7/2011	9:40	1068.33	100-135'	NA	107.30	961.03	0.00	-	-	-	-	-	107.30
MW-3	11/17/2011	8:25	1068.33	100-135'	NA	105.75	962.58	0.00	13.2**	3.5**	-	-	-	105.76
MW-3	12/2/2011	6:25	1068.33	100-135'	NA	103.37	964.96	0.00	-	-	-	-	-	103.37
MW-3	12/9/2011	7:00	1068.33	100-135'	NA	102.42	965.91	0.00	-	-	-	-	-	102.42
MW-3	12/16/2011	8:00	1068.33	100-135'	NA	101.67	966.66	0.00	-	-	-	-	-	101.67
MW-3	12/22/2011	7:05	1068.33	100-135'	NA	100.74	967.59	0.00	-	-	-	-	-	100.74
MW-3	12/29/2011	8:55	1068.33	100-135'	NA	99.87	968.46	0.00	-	-	-	-	-	99.87
MW-3	12/29/2011	7:10	1068.33	100-135'	NA	98.96	969.37	0.00	-	-	-	-	-	98.96
MW-3	1/12/2012	8:00	1068.33	100-135'	NA	98.52	969.81	0.00	-	-	-	-	-	98.52
MW-3	1/26/2012	6:00	1068.33	100-135'	NA	98.12	970.21	0.00	-	-	-	-	-	98.12
MW-3	2/10/2012	7:15	1068.33	100-135'	NA	97.82	970.51	0.00	-	-	-	-	-	97.82
MW-3	2/21/2012	8:40	1068.33	100-135'	NA	97.55	970.78	0.00	-	-	-	-	-	97.55

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Well ID	Date	Time	TOC Elevation NAVD88	Screen Interval	Depth to Product (prior to product removal)	Depth to Water (prior to product removal	Corrected Groundwater Elevation	Product Thickness	Total Fluids Removed		Total Product Removed		Depth to Product (after product removal)	Depth to Water (after product removal
	(MM/DD/YY)	(00:00)	ft amsl	ft bgs	ft below TOC	ft below TOC	ft amsl	feet	liters	gallons	liters	gallons	ft below TOC	ft below TOC
MW-3	3/22/2012	7:00	1068.33	100-135'	NA	101.85	966.48	0.00	11.4**	3**	-	-	-	101.86
MW-3	3/29/2012	6:00	1068.33	100-135'	NA	102.05	966.28	0.00	-	-	-	-	-	102.05
MW-3	4/10/2012	6:30	1068.33	100-135'	NA	106.09	962.24	0.00	-	-	-	-	-	106.09
MW-3	4/30/2012	7:30	1068.33	100-135'	NA	109.10	959.23	0.00	-	-	-	-	-	109.10
MW-3	5/11/2012	6:30	1068.33	100-135'	NA	110.57	957.76	0.00	-	-	-	-	-	110.57
MW-3	5/25/2012	6:40	1068.33	100-135'	NA	112.37	955.96	0.00	-	-	-	-	-	112.37
MW-3	6/5/2012	7:20	1068.33	100-135'	NA	113.06	955.27	0.00	11.4**	3**	-	-	-	113.06
MW-3	6/14/2012	6:25	1068.33	100-135'	NA	113.63	954.70	0.00	-	-	-	-	-	113.63
MW-3	6/25/2012	6:25	1068.33	100-135'	NA	114.83	953.50	0.00	-	-	-	-	-	114.83
MW-3	7/11/2012	9:15	1068.33	100-135'	116.20	117.00	951.97	0.80	1892.5	500.0	18.9(3)	5(3)	116.63	116.66
MW-3	7/26/2012	9:15	1068.33	100-135'	117.10	117.27	951.20	0.17	567.8	150.0	7.6	2.0	117.11	117.23
MW-3	8/3/2012	9:15	1068.33	100-135'	NA	117.80	950.53	0.00	567.8	150.0	9.5	2.5	-	117.84
MW-3	8/14/2012	6:25	1068.33	100-135'	118.28	118.85	949.94	0.57	757.0	200.0	13.2	3.5	-	119.47
MW-3	8/30/2012	7:10	1068.33	100-135'	NA	119.18	949.15	0.00	378.5	100.0	7.6	2.0	-	119.22
MW-3	9/14/2012	9:15	1068.33	100-135'	NA(4)	119.70	948.63	0.00	378.5	100.0	3.8	1.0	-	119.67
MW-3	9/27/2012	8:10	1068.33	100-135'	NA	119.40	948.93	0.00	473.1	125.0	3.8	1.0	-	119.35
MW-3	10/2/2012	10:00	1068.33	100-135'	NA	119.34	948.99	0.00	567.8	150.0	9.5	2.5	119.24	119.30
MW-3	10/26/2012	9:00	1068.33	100-135'	NA	117.31	951.02	0.00	5.7	1.5	5.7‡	1.5‡	-	117.31
MW-3	11/9/2012	10:15	1068.33	100-135'	NA	113.65	954.68	0.00	5.7	1.5	5.7‡	1.5‡	-	113.65
MW-3	11/21/2012	6:30	1068.33	100-135'	NA	111.00	957.33	0.00	473.1	125.0	3.8	1.0	-	111.02
MW-3	11/29/2012	9:45	1068.33	100-135'	NA	110.20	958.13	0.00	15.1**	4**	0.9‡	0.25‡	-	110.21
MW-3	12/6/2012	7:00	1068.33	100-135'	NA	109.78	958.55	0.00	473.1	125.0	1.9	0.5	-	109.82
MW-3	12/27/2012	9:00	1068.33	100-135'	NA	106.48	961.85	0.00	1.9	0.5	0.9‡	0.25‡	-	106.48
MW-3	1/10/2013	6:30	1068.33	100-135'	NA	105.21	963.12	0.00	473.1	125.0	1.9	0.5	-	105.23
MW-3	1/15/2013	7:00	1068.33	100-135'	NA	105.15	963.18	0.00	378.5	100.0	1.9	0.5	-	105.10
MW-3	1/31/2013	7:45	1068.33	100-135'	NA	104.54	963.79	0.00	378.5	100.0	3.8	1.0	-	104.55
MW-3	2/20/2013	8:15	1068.33	100-135'	NA	103.50	964.83	0.00	3.8	1.0	0.0	0.0	-	103.50
MW-3	3/18/2013	9:15	1068.33	100-135'	NA	102.45	965.88	0.00	9.5**	2.5**	0***	0***	-	102.45
MW-3	4/4/2013	6:30	1068.33	100-135'	NA	106.98	961.35	0.00	378.5	100.0	3.8	1.0	-	107.94
MW-3	4/12/2013	6:00	1068.33	100-135'	NA	108.78	959.55	0.00	567.8	150.0	3.8	1.0	-	108.90
MW-3	5/15/2013	7:15	1068.33	100-135'	113.13	113.17	955.19	0.04	946.3	250.0	11.4	3.0	-	113.22
MW-3	5/23/2013	6:30	1068.33	100-135'	113.79	113.86	954.53	0.07	567.8	150.0	11.4	3.0	113.83	113.84
MW-3	6/21/2013	6:30	1068.33	100-135'	117.61	117.96	950.65	0.35	662.4	175.0	9.5	2.5	117.99	118.00
MW-3	6/25/2013	7:00	1068.33	100-135'	117.71	117.91	950.58	0.20	1.9	0.5	1.9‡	0.5‡	117.71	117.91
MW-3	6/27/2013	6:15	1068.33	100-135'	117.85	118.00	950.45	0.15	567.8	150.0	5.7	1.5	-	118.03
MW-3	7/2/2013	6:00	1068.33	100-135'	118.25	118.40	950.05	0.15	378.5	100.0	5.7	1.5	-	118.39
MW-3	7/18/2013	7:15	1068.33	100-135'	NA	119.60	948.73	0.00	757.0	200.0	7.6	2.0	-	119.63

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Well ID	Date	Time	TOC Elevation NAVD88	Screen Interval	Depth to Product (prior to product removal)	Depth to Water (prior to product removal	Corrected Groundwater Elevation	Product Thickness	Total Fluids Removed		Total Product Removed		Depth to Product (after product removal)	Depth to Water (after product removal
	(MM/DD/YY)	(00:00)	ft amsl	ft bgs	ft below TOC	ft below TOC	ft amsl	feet	liters	gallons	liters	gallons	ft below TOC	ft below TOC
MW-3	7/29/2013	9:15	1068.33	100-135'	120.85	122.00	947.25	1.15	0.0	0.0	0.9	0.3	120.85	122.00
MW-3	8/5/2013	6:30	1068.33	100-135'	120.87	122.67	947.10	1.80	946.3	250.0	18.9	5.0	122.6	122.69
MW-3	8/30/2013	6:30	1068.33	100-135'	124.10	124.34	944.18	0.24	11.4	3.0	11.4	3.0	-	124.35
MW-3	9/23/2013	7:15	1068.33	100-135'	123.85	ND(5)	-	1.27	11.4	3.0	11.4	3.0	124.66	-
MW-3	10/9/2013	6:15	1068.33	100-135'	123.89	ND(5)	-	1.23	11.4	3.0	11.4	3.0	124.66	-
MW-3	10/25/2013	6:00	1068.33	100-135'	121.10	121.15	947.22	0.05	473.1	125.0	3.8	1.0	ND	121.12
MW-3	11/7/2013	8:00	1068.33	100-135'	118.79	119.00	949.50	0.21	567.8	150.0	11.4	3.0	ND	118.92
MW-3	11/22/2013	7:15	1068.33	100-135'	116.39	116.63	951.89	0.24	567.8	150.0	11.4	3.0	ND	116.55
MW-3	12/18/2013	6:30	1068.33	100-135'	113.95	114.20	954.33	0.25	1892.5	500.0	15.1	4.0	ND	114.09
MW-3	12/19/2013	-	1068.33	100-135'	NM	NM	-	-	NM	NM	NM	NM	NM	NM
MW-3	12/26/2013	8:00	1068.33	100-135'	113.79	113.86	954.53	0.07	3.8	1.0	1.9	0.5	113.79	113.86
MW-3	1/7/2014	6:00	1068.33	100-135'	113.90	113.93	954.42	0.03	567.8	150.0	7.6	2.0	ND	113.95
MW-3	1/17/2014	6:30	1068.33	100-135'	113.22	113.25	955.10	0.03	567.8	150.0	5.7	1.5	113.26	113.27
MW-3	1/29/2014	7:00	1068.33	100-135'	112.45	112.52	955.87	0.07	757.0	200.0	7.6	2.0	ND	112.54
MW-3	2/10/2014	7:00	1068.33	100-135'	111.89	111.95	956.43	0.06	567.8	150.0	7.6	2.0	ND	111.96
MW-3	3/7/2014	7:00	1068.33	100-135'	110.38	110.50	957.93	0.12	567.8	150.0	9.5	2.5	ND	110.51
MW-3	3/14/2014	6:30	1068.33	100-135'	110.50	110.63	957.80	0.13	473.1	125.0	7.6	2.0	ND	110.62
MW-3	3/31/2014	6:30	1068.33	100-135'	110.64	110.70	957.68	0.06	946.3	250.0	7.6	2.0	ND	110.77
MW-3	4/11/2014	6:15	1068.33	100-135'	112.76	112.79	955.56	0.03	567.8	150.0	5.7	1.5	ND	113.26
MW-3	4/23/2014	6:00	1068.33	100-135'	114.58	114.70	953.73	0.12	757.0	200.0	7.6	2.0	ND	114.70
MW-3	5/8/2014	7:15	1068.33	100-135'	116.82	116.85	951.50	0.03	283.9	75.0	3.8	1.0	116.81	116.84
MW-3	5/28/2014	6:30	1068.33	100-135'	120.90	121.12	947.39	0.22	283.9	75.0	7.6	2.0	ND	121.23
MW-3	5/30/2014	5:30	1068.33	100-135'	121.26	121.27	947.07	0.01	189.3	50.0	5.7	1.5	ND	121.30
MW-3	6/12/2014	6:45	1068.33	100-135'	NA	122.40	945.93	0.00	11.4	3.0	0.0	0.0	ND	122.40
MW-3	7/11/2014	7:30	1068.33	100-135'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	-	Dry
MW-3	7/23/2014	6:30	1068.33	100-135'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	-	Dry
MW-3	8/13/2014	NA	1068.33	100-135'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	-	Dry
MW-3	8/28/2014	NA	1068.33	100-135'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	-	Dry
MW-3	9/26/2014	6:30	1068.33	100-135'	122.78	122.86	945.53	0.08	189.3	50	3.8	1.0	122.8	122.81
MW-3	9/30/2014	5:45	1068.33	100-135'	122.48	122.55	945.84	0.07	189.3	50	3.8	1.0	ND	122.50
MW-3	10/7/2014	7:00	1068.33	100-135'	NA	119.90	948.43	0.00	189.3	50	0.0	0.0	ND	119.91
MW-3	10/14/2014	NA	1068.33	100-135'	NA	118.05	950.28	0.00	378.5	100	7.6	2.0	ND	118.10
MW-3	10/28/2014	5:45	1068.33	100-135'	NA	115.38	952.95	0.00	283.9	75	5.7	1.5	ND	115.39
MW-3	11/6/2014	6:30	1068.33	100-135'	NA	113.83	954.50	0.00	189.3	50	1.9	0.5	ND	113.84
MW-3	11/24/2014	8:29	1068.33	100-135'	NA	111.40	956.93	0.00	11.4	3.0	0.0	0.0	ND	111.40
MW-3	12/1/2014	6:45	1068.33	100-135'	NA	111.00	957.33	0.00	189.3	50	1.9	0.5	ND	111.00
MW-3	12/19/2014	7:00	1068.33	100-135'	NA	109.10	959.23	0.00	189.3	50	1.9	0.5	ND	109.14

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	(MM/DD/YY)	(00:00)	ft amsl	ft bgs	ft below TOC	ft below TOC	ft amsl	feet	liters	gallons	liters	gallons	ft below TOC	ft below TOC
MW-3	12/26/2014	8:15	1068.33	100-135'	NA	108.65	959.68	0.00	189.3	50	1.9	0.5	ND	108.68
MW-3	1/7/2015	6:50	1068.33	100-135'	NA	107.21	961.12	0.00	189.3	50	0.4	0.1	ND	107.25
MW-3	1/21/2015	7:00	1068.33	100-135'	NA	106.59	961.74	0.00	189.3	50	0.4	0.1	ND	106.62
MW-3	2/9/2015	7:10	1068.33	100-135'	NA	106.06	962.27	0.00	189.3	50	0.9	0.25	ND	106.10
MW-3	2/20/2015	6:30	1068.33	100-135'	NA	107.87	960.46	0.00	189.3	50	0.9	0.25	ND	107.91
MW-3	3/4/2015	7:00	1068.33	100-135'	NA	108.09	960.24	0.00	189.3	50	0.9	0.25	ND	108.10
MW-3	3/26/2015	7:00	1068.33	100-135'	NA	110.41	957.92	0.00	11.4	3.0	0.0	0.0	N/D	110.43
MW-3	4/7/2015	6:15	1068.33	100-135'	NA	113.74	954.59	0.00	283.9	75	0.0	0.0	N/D	113.77
MW-3	4/23/2015	6:00	1068.33	100-135'	NA	117.44	950.89	0.00	378.5	100	0.0	0.0	N/D	117.50
MW-3	5/14/2015	6:30	1068.33	100-135'	NA	119.52	948.81	0.00	378.5	100	0.0	0.0	N/D	119.55
MW-3	5/26/2015	6:30	1068.33	100-135'	NA	122.15	946.18	0.00	378.5	100	0.0	0.0	N/D	122.16
MW-3	6/2/2015	5:15	1068.33	100-135'	NA	122.85	945.48	0.00	283.9	75	0.0	0.0	N/D	122.97
MW-3	6/29/2015	8:30	1068.33	100-135'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-3	7/9/2015	6:00	1068.33	100-135'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-3	7/22/2015	5:30	1068.33	100-135'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-3	8/4/2015	6:45	1068.33	100-135'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-3	8/25/2015	6:30	1068.33	100-135'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-3	9/3/2015	7:00	1068.33	100-135'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-3	9/30/2015	5:45	1068.33	100-135'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-3	10/5/2015	5:45	1068.33	100-135'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-3	10/16/2015	5:45	1068.33	100-135'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-3	10/29/2015	5:45	1068.33	100-135'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-3	11/5/2015	5:45	1068.33	100-135'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-3	11/25/2015	7:00	1068.33	100-135'	NA	123.60	944.73	0.00	0.0	0.0	0.0	0.0	N/D	123.60
MW-3	12/2/2015	6:30	1068.33	100-135'	NA	122.99	945.34	0.00	0.0	0.0	0.0	0.0	N/D	122.99
MW-3	12/21/2015	7:50	1068.33	100-135'	NA	119.67	948.66	0.00	11.4	3.0	0.0	0.0	N/D	119.70
MW-3	1/21/2016	7:15	1068.33	100-135'	NA	115.78	952.55	0.00	283.9	75.0	0.0	Sheen	N/D	115.80
MW-3	2/12/2016	6:00	1068.33	100-135'	NA	115.44	952.89	0.00	283.9	75.0	0.0	Sheen	N/D	115.50
MW-3	2/23/2016	6:30	1068.33	100-135'	NA	115.02	953.31	0.00	283.9	75.0	0.0	Sheen	N/D	115.06
MW-3	3/4/2016	7:00	1068.33	100-135'	NA	116.43	951.90	0.00	283.9	75.0	0.0	Sheen	N/D	116.45
MW-3	3/24/2016	7:00	1068.33	100-135'	NA	117.81	950.52	0.00	11.4	3.0	0.0	0.0	N/D	117.83
MW-3	4/7/2016	6:20	1068.33	100-135'	NA	120.21	948.12	0.00	283.9	75.0	0.0	0.0	N/D	120.22
MW-3	4/19/2016	6:30	1068.33	100-135'	NA	121.40	946.93	0.00	283.9	75.0	0.0	0.0	N/D	121.45
MW-3	4/28/2016	6:30	1068.33	100-135'	NA	123.29	945.04	0.00	283.9	75.0	0.0	0.0	N/D	123.38
MW-3	5/4/2016	6:00	1068.33	100-135'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-3	5/16/2016	7:30	1068.33	100-135'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-3	5/27/2016	6:45	1068.33	100-135'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry

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	(MM/DD/YY)	(00:00)	ft amsl	ft bgs	ft below TOC	ft below TOC	ft amsl	feet	liters	gallons	liters	gallons	ft below TOC	ft below TOC
MW-3	6/14/2016	10:00	1068.33	100-135'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-3	6/22/2016	6:00	1068.33	100-135'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-3	7/1/2016	5:30	1068.33	100-135'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-3	7/21/2016	6:00	1068.33	100-135'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-3	7/27/2016	7:30	1068.33	100-135'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-3	9/23/2016	10:30	1068.33	100-135'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-3	10/28/2016	NA	1068.33	100-135'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-3	11/9/2016	NA	1068.33	100-135'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-3	12/21/2016	9:30	1068.33	100-135'	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
MW-3	1/27/2017	8:15	1068.33	100-135'	NA	123.44	944.89	0.00	0.0	0.0	0.0	0.0	N/D	123.44
MW-3	2/7/2017	10:15	1068.33	100-135'	NA	121.53	946.80	0.00	0.0	0.0	0.0	0.0	N/D	121.53
MW-3	3/6/2017	6:15	1068.33	100-135'	NA	118.13	950.20	0.00	0.0	0.0	0.0	0.0	N/D	118.13
MW-3	3/20/2017	10:30	1068.33	100-135'	NA	117.99	950.34	0.00	8.5	2.25	0.0	0.0	N/D	118.00
MW-3	4/24/2017	7:35	1068.33	100-135'	NA	121.43	946.90	0.00	0.0	0.00	0.0	0.0	N/D	121.43
MW-3	5/1/2017	10:00	1068.33	100-135'	NA	122.15	946.18	0.00	10.4	2.75	0.0	0.0	N/D	122.16
MW-3	6/9/2017	8:30	1068.33	100-135'	NA	124.40	943.93	0.00	0.0	0.00	0.0	0.0	N/D	124.40
MW-4	1/21/2015	11:15	1069.25	85-146.6'	NA	108.05	961.20	0.00	0.0	0.0	0.0	0.0	ND	108.05
MW-4	2/9/2015	11:00	1069.25	85-146.6'	NA	107.48	961.77	0.00	0.0	0.0	0.0	0.0	ND	107.48
MW-4	2/20/2015	10:00	1069.25	85-146.6'	NA	108.48	960.77	0.00	0.0	0.0	0.0	0.0	ND	108.48
MW-4	3/4/2015	10:30	1069.25	85-146.6'	NA	108.51	960.74	0.00	0.0	0.0	0.0	0.0	ND	108.51
MW-4	3/26/2015	10:30	1069.25	85-146.6'	NA	111.92	957.33	0.00	11.4	3.0	0.0	0.0	N/D	111.93
MW-4	7/9/2015	7:00	1069.25	85-146.6'	NA	128.23	941.02	0.00	0.0	0.0	0.0	0.0	N/D	128.23
MW-4	7/22/2015	6:30	1069.25	85-146.6'	NA	129.05	940.20	0.00	0.0	0.0	0.0	0.0	N/D	129.05
MW-4	8/4/2015	7:50	1069.25	85-146.6'	NA	130.16	939.09	0.00	0.0	0.0	0.0	0.0	N/D	130.16
MW-4	8/25/2015	7:45	1069.25	85-146.6'	NA	131.24	938.01	0.00	0.0	0.0	0.0	0.0	N/D	131.24
MW-4	9/3/2015	7:30	1069.25	85-146.6'	NA	131.86	937.39	0.00	0.0	0.0	0.0	0.0	N/D	131.86
MW-4	9/30/2015	7:30	1069.25	85-146.6'	NA	133.00	936.25	0.00	11.4	3.0	0.0	0.0	N/D	133.02
MW-4	10/5/2015	7:30	1069.25	85-146.6'	NA	132.15	937.10	0.00	0.0	0.0	0.0	0.0	N/D	132.15
MW-4	10/16/2015	7:30	1069.25	85-146.6'	NA	130.45	938.80	0.00	0.0	0.0	0.0	0.0	N/D	130.45
MW-4	10/29/2015	7:30	1069.25	85-146.6'	NA	129.42	939.83	0.00	0.0	0.0	0.0	0.0	N/D	129.42
MW-4	11/5/2015	7:30	1069.25	85-146.6'	NA	128.91	940.34	0.00	0.0	0.0	0.0	0.0	N/D	128.91
MW-4	11/25/2015	6:45	1069.25	85-146.6'	NA	125.01	944.24	0.00	0.0	0.0	0.0	0.0	N/D	125.01
MW-4	12/2/2015	6:00	1069.25	85-146.6'	NA	124.54	944.71	0.00	0.0	0.0	0.0	0.0	N/D	124.54
MW-4	12/21/2015	6:20	1069.25	85-146.6'	NA	121.19	948.06	0.00	11.4	3.0	0.0	0.0	N/D	121.20
MW-4	1/21/2016	11:00	1069.25	85-146.6'	NA	117.28	951.97	0.00	0.0	0.0	0.0	0.0	N/D	117.28
MW-4	2/12/2016	10:30	1069.25	85-146.6'	NA	116.96	952.29	0.00	0.0	0.0	0.0	0.0	N/D	116.96
MW-4	2/23/2016	6:00	1069.25	85-146.6'	NA	116.59	952.66	0.00	0.0	0.0	0.0	0.0	N/D	116.59

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Phoenix, Arizona

Well ID	Date	Time	TOC Elevation NAVD88	Screen Interval	Depth to Product (prior to product removal)	Depth to Water (prior to product removal	Corrected Groundwater Elevation	Product Thickness	Total Fluids Removed		Total Product Removed		Depth to Product (after product removal)	Depth to Water (after product removal
	(MM/DD/YY)	(00:00)	ft amsl	ft bgs	ft below TOC	ft below TOC	ft amsl	feet	liters	gallons	liters	gallons	ft below TOC	ft below TOC
MW-4	3/4/2016	11:15	1069.25	85-146.6'	NA	118.02	951.23	0.00	0.0	0.0	0.0	0.0	N/D	118.02
MW-4	3/24/2016	10:30	1069.25	85-146.6'	NA	119.42	949.83	0.00	11.4	3.0	0.0	0.0	N/D	119.43
MW-4	4/7/2016	10:30	1069.25	85-146.6'	NA	121.81	947.44	0.00	0.0	0.0	0.0	0.0	N/D	121.81
MW-4	4/19/2016	5:30	1069.25	85-146.6'	NA	122.91	946.34	0.00	0.0	0.0	0.0	0.0	N/D	122.91
MW-4	4/28/2016	6:00	1069.25	85-146.6'	NA	124.81	944.44	0.00	0.0	0.0	0.0	0.0	N/D	124.81
MW-4	5/4/2016	5:30	1069.25	85-146.6'	NA	126.35	942.90	0.00	0.0	0.0	0.0	0.0	N/D	126.35
MW-4	5/16/2016	7:00	1069.25	85-146.6'	NA	127.05	942.20	0.00	0.0	0.0	0.0	0.0	N/D	127.05
MW-4	5/27/2016	6:15	1069.25	85-146.6'	NA	128.89	940.36	0.00	0.0	0.0	0.0	0.0	N/D	128.89
MW-4	6/14/2016	9:00	1069.25	85-146.6'	NA	131.04	938.21	0.00	11.4	3.0	0.0	0.0	N/D	131.05
MW-4	6/22/2016	5:30	1069.25	85-146.6'	NA	131.30	937.95	0.00	0.0	0.0	0.0	0.0	N/D	131.30
MW-4	7/1/2016	5:00	1069.25	85-146.6'	NA	131.61	937.64	0.00	0.0	0.0	0.0	0.0	N/D	131.61
MW-4	7/21/2016	5:45	1069.25	85-146.6'	NA	132.67	936.58	0.00	0.0	0.0	0.0	0.0	N/D	132.67
MW-4	7/27/2016	7:00	1069.25	85-146.6'	NA	133.54	935.71	0.00	0.0	0.0	0.0	0.0	N/D	133.54
MW-4	9/23/2016	8:20	1069.25	85-146.6'	NA	134.43	934.82	0.00	11.4	3.0	0.0	0.0	N/D	134.45
MW-4	10/28/2016	NA	1069.25	85-146.6'	NA	132.38	936.87	0.00	0.0	0	0.0	0.0	N/D	132.38
MW-4	11/9/2016	NA	1069.25	85-146.6'	NA	131.12	938.13	0.00	0.0	0	0.0	0.0	N/D	131.12
MW-4	12/21/2016	8:10	1069.25	85-146.6'	NA	126.36	942.89	0.00	9.5	2.5	0.0	0.0	N/D	126.36
MW-4	1/27/2017	7:45	1069.25	85-146.6'	NA	124.96	944.29	0.00	0.0	0.0	0.0	0.0	N/D	124.96
MW-4	2/7/2017	9:45	1069.25	85-146.6'	NA	123.01	946.24	0.00	0.0	0.0	0.0	0.0	N/D	123.01
MW-4	3/6/2017	5:45	1069.25	85-146.6'	NA	119.50	949.75	0.00	0.0	0.0	0.0	0.0	N/D	119.50
MW-4	3/20/2017	7:30	1069.25	85-146.6'	NA	119.57	949.68	0.00	8.5	2.25	0.0	0.0	N/D	119.58
MW-4	4/24/2017	7:00	1069.25	85-146.6'	NA	123.11	946.14	0.00	0.0	0.00	0.0	0.0	N/D	123.11
MW-4	5/1/2017	6:55	1069.25	85-146.6'	NA	123.78	945.47	0.00	10.4	2.75	0.0	0.0	N/D	123.79
MW-4	6/9/2017	7:45	1069.25	85-146.6'	NA	125.96	943.29	0.00	0.0	0.00	0.0	0.0	N/D	125.96
MW-5	1/21/2015	11:25	1069.35	52-147'	NA	108.19	961.16	0.00	0.0	0.0	0.0	0.0	ND	108.19
MW-5	2/9/2015	11:10	1069.35	52-147'	NA	107.61	961.74	0.00	0.0	0.0	0.0	0.0	ND	107.61
MW-5	2/20/2015	10:15	1069.35	52-147'	NA	108.70	960.65	0.00	0.0	0.0	0.0	0.0	ND	108.70
MW-5	3/4/2015	10:45	1069.35	52-147'	NA	108.68	960.67	0.00	0.0	0.0	0.0	0.0	ND	108.68
MW-5	3/26/2015	10:45	1069.35	52-147'	NA	112.15	957.20	0.00	11.4	3.0	0.0	0.0	N/D	112.15
MW-5	4/7/2015	12:00	1069.35	52-147'	NA	115.49	953.86	0.00	0.0	0.0	0.0	0.0	N/D	115.49
MW-5	4/23/2015	12:15	1069.35	52-147'	NA	119.38	949.97	0.00	0.0	0.0	0.0	0.0	N/D	119.38
MW-5	5/14/2015	12:30	1069.35	52-147'	NA	121.50	947.85	0.00	0.0	0.0	0.0	0.0	N/D	121.50
MW-5	5/26/2015	12:00	1069.35	52-147'	NA	124.03	945.32	0.00	0.0	0.0	0.0	0.0	N/D	124.03
MW-5	6/2/2015	11:15	1069.35	52-147'	NA	124.75	944.60	0.00	0.0	0.0	0.0	0.0	N/D	124.03
MW-5	6/29/2015	8:00	1069.35	52-147'	NA	127.81	941.54	0.00	11.4	3.0	0.0	0.0	N/D	127.82
MW-5	7/9/2015	7:20	1069.35	52-147'	NA	128.46	940.89	0.00	0.0	0.0	0.0	0.0	N/D	128.46
MW-5	7/22/2015	6:45	1069.35	52-147'	NA	129.30	940.05	0.00	0.0	0.0	0.0	0.0	N/D	129.30

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AFFC Pipeline 23rd Avenue Release
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Well ID	Date	Time	TOC Elevation NAVD88	Screen Interval	Depth to Product (prior to product removal)	Depth to Water (prior to product removal	Corrected Groundwater Elevation	Product Thickness	Total Fluids Removed		Total Product Removed		Depth to Product (after product removal)	Depth to Water (after product removal
	(MM/DD/YY)	(00:00)	ft amsl	ft bgs	ft below TOC	ft below TOC	ft amsl	feet	liters	gallons	liters	gallons	ft below TOC	ft below TOC
MW-5	8/4/2015	8:15	1069.35	52-147'	NA	130.43	938.92	0.00	0.0	0.0	0.0	0.0	N/D	130.43
MW-5	8/25/2015	8:15	1069.35	52-147'	NA	131.50	937.85	0.00	0.0	0.0	0.0	0.0	N/D	131.50
MW-5	9/3/2015	7:45	1069.35	52-147'	NA	132.10	937.25	0.00	11.4	3.0	0.0	0.0	N/D	132.10
MW-5	9/30/2015	6:15	1069.35	52-147'	NA	133.29	936.06	0.00	0.0	0.0	0.0	0.0	N/D	133.30
MW-5	10/5/2015	6:15	1069.35	52-147'	NA	132.42	936.93	0.00	0.0	0.0	0.0	0.0	N/D	132.42
MW-5	10/16/2015	6:15	1069.35	52-147'	NA	130.70	938.65	0.00	0.0	0.0	0.0	0.0	N/D	130.70
MW-5	10/29/2015	6:15	1069.35	52-147'	NA	129.67	939.68	0.00	0.0	0.0	0.0	0.0	N/D	129.67
MW-5	11/5/2015	6:15	1069.35	52-147'	NA	129.15	940.20	0.00	0.0	0.0	0.0	0.0	N/D	129.15
MW-5	11/25/2015	6:30	1069.35	52-147'	NA	125.18	944.17	0.00	0.0	0.0	0.0	0.0	N/D	125.18
MW-5	12/2/2015	6:15	1069.35	52-147'	NA	124.70	944.65	0.00	0.0	0.0	0.0	0.0	N/D	124.70
MW-5	12/21/2015	7:05	1069.35	52-147'	NA	121.30	948.05	0.00	11.4	3.0	0.0	0.0	N/D	121.30
MW-5	1/21/2016	11:15	1069.35	52-147'	NA	117.40	951.95	0.00	0.0	0.0	0.0	0.0	N/D	117.40
MW-5	2/12/2016	10:15	1069.35	52-147'	NA	117.07	952.28	0.00	0.0	0.0	0.0	0.0	N/D	117.07
MW-5	2/26/2016	6:10	1069.35	52-147'	NA	116.70	952.65	0.00	0.0	0.0	0.0	0.0	N/D	116.70
MW-5	3/4/2016	11:30	1069.35	52-147'	NA	118.24	951.11	0.00	0.0	0.0	0.0	0.0	N/D	118.24
MW-5	3/24/2016	6:30	1069.35	52-147'	NA	119.61	949.74	0.00	11.4	3.0	0.0	0.0	N/D	119.62
MW-5	4/7/2016	10:45	1069.35	52-147'	NA	121.98	947.37	0.00	0.0	0.0	0.0	0.0	N/D	121.98
MW-5	4/19/2016	5:45	1069.35	52-147'	NA	123.16	946.19	0.00	0.0	0.0	0.0	0.0	N/D	123.16
MW-5	4/28/2016	6:15	1069.35	52-147'	NA	125.08	944.27	0.00	0.0	0.0	0.0	0.0	N/D	125.08
MW-5	5/4/2016	5:45	1069.35	52-147'	NA	126.67	942.68	0.00	0.0	0.0	0.0	0.0	N/D	126.67
MW-5	5/16/2016	7:15	1069.35	52-147'	NA	127.33	942.02	0.00	0.0	0.0	0.0	0.0	N/D	127.35
MW-5	5/27/2016	6:30	1069.35	52-147'	NA	129.15	940.20	0.00	0.0	0.0	0.0	0.0	N/D	129.15
MW-5	6/14/2016	8:15	1069.35	52-147'	NA	131.28	938.07	0.00	11.4	3.0	0.0	0.0	N/D	131.30
MW-5	6/22/2016	5:45	1069.35	52-147'	NA	131.51	937.84	0.00	0.0	0.0	0.0	0.0	N/D	131.51
MW-5	7/1/2016	5:15	1069.35	52-147'	NA	131.83	937.52	0.00	0.0	0.0	0.0	0.0	N/D	131.83
MW-5	7/21/2016	6:15	1069.35	52-147'	NA	132.93	936.42	0.00	0.0	0.0	0.0	0.0	N/D	132.93
MW-5	7/27/2016	7:15	1069.35	52-147'	NA	133.75	935.60	0.00	0.0	0.0	0.0	0.0	N/D	133.75
MW-5	9/23/2016	9:00	1069.35	52-147'	NA	134.61	934.74	0.00	11.4	3.0	0.0	0.0	N/D	134.63
MW-5	10/28/2016	NA	1069.35	52-147'	NA	132.54	936.81	0.00	0.0	0.0	0.0	0.0	N/D	132.54
MW-5	11/9/2016	NA	1069.35	52-147'	NA	131.24	938.11	0.00	0.0	0.0	0.0	0.0	N/D	131.24
MW-5	12/21/2016	8:50	1069.35	52-147'	NA	126.53	942.82	0.00	9.5	2.5	0.0	0.0	N/D	126.55
MW-5	1/27/2017	8:30	1069.35	52-147'	NA	125.07	944.28	0.00	0.0	0.0	0.0	0.0	N/D	125.07
MW-5	2/7/2017	10:30	1069.35	52-147'	NA	123.20	946.15	0.00	0.0	0.0	0.0	0.0	N/D	123.20
MW-5	3/6/2017	6:30	1069.35	52-147'	NA	119.65	949.70	0.00	0.0	0.0	0.0	0.0	N/D	119.65
MW-5	3/20/2017	8:05	1069.35	52-147'	NA	119.71	949.64	0.00	8.5	2.25	0.0	0.0	N/D	119.72
MW-5	4/24/2017	7:55	1069.35	52-147'	NA	123.28	946.07	0.00	0.0	0.00	0.0	0.0	N/D	123.28
MW-5	5/1/2017	8:05	1069.35	52-147'	NA	123.93	945.42	0.00	10.4	2.75	0.0	0.0	N/D	123.94

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Well ID	Date	Time	TOC Elevation NAVD88	Screen Interval	Depth to Product (prior to product removal)	Depth to Water (prior to product removal	Corrected Groundwater Elevation	Product Thickness	Total Fluids Removed		Total Product Removed		Depth to Product (after product removal)	Depth to Water (after product removal
	(MM/DD/YY)	(00:00)	ft amsl	ft bgs	ft below TOC	ft below TOC	ft amsl	feet	liters	gallons	liters	gallons	ft below TOC	ft below TOC
MW-5	6/9/2017	8:45	1069.35	52-147'	NA	126.12	943.23	0.00	0.0	0.00	0.0	0.0	N/D	126.12
MW-6	12/2/2015	7:15	1069.20	77.5-147.5'	NA	123.71	945.49	0.00	0.0	0.0	0.0	0.0	N/D	123.71
MW-6	12/21/2015	8:35	1069.20	77.5-147.5'	NA	120.42	948.78	0.00	0.0	0.0	0.0	0.0	N/D	120.43
MW-6	1/21/2016	11:30	1069.20	77.5-147.5'	NA	116.62	952.58	0.00	0.0	0.0	0.0	0.0	N/D	116.62
MW-6	2/12/2016	10:00	1069.20	77.5-147.5'	NA	116.30	952.90	0.00	0.0	0.0	0.0	0.0	N/D	116.30
MW-6	2/23/2016	6:15	1069.20	77.5-147.5'	NA	115.85	953.35	0.00	0.0	0.0	0.0	0.0	N/D	115.85
MW-6	3/4/2016	11:00	1069.20	77.5-147.5'	NA	117.26	951.94	0.00	0.0	0.0	0.0	0.0	N/D	117.26
MW-6	3/24/2016	7:30	1069.20	77.5-147.5'	NA	118.70	950.50	0.00	9.5	2.5	0.0	0.0	N/D	118.72
MW-6	4/7/2016	7:20	1069.20	77.5-147.5'	NA	121.11	948.09	0.00	283.9	75.0	0.0	0.0	N/D	121.13
MW-6	4/19/2016	7:45	1069.20	77.5-147.5'	NA	122.31	946.89	0.00	283.9	75.0	0.0	0.0	N/D	122.35
MW-6	4/28/2016	8:15	1069.20	77.5-147.5'	NA	124.20	945.00	0.00	283.9	75.0	0.0	0.0	N/D	124.20
MW-6	5/4/2016	6:30	1069.20	77.5-147.5'	NA	125.77	943.43	0.00	567.8	150.0	0.0	0.0	N/D	125.85
MW-6	5/16/2016	7:45	1069.20	77.5-147.5'	NA	126.58	942.62	0.00	567.8	150.0	0.0	0.0	N/D	126.62
MW-6	5/27/2016	7:00	1069.20	77.5-147.5'	NA	128.37	940.83	0.00	0.0	0.0	0.0	0.0	N/D	128.37
MW-6	6/14/2016	9:30	1069.20	77.5-147.5'	NA	130.02	939.18	0.00	11.4	3.0	0.0	0.0	N/D	130.04
MW-6	6/22/2016	6:30	1069.20	77.5-147.5'	NA	130.27	938.93	0.00	567.8	150.0	0.0	0.0	N/D	130.35
MW-6	7/1/2016	7:00	1069.20	77.5-147.5'	NA	130.57	938.63	0.00	567.8	150.0	0.0	0.0	N/D	130.60
MW-6	7/21/2016	8:15	1069.20	77.5-147.5'	NA	131.65	937.55	0.00	283.9	75.0	0.0	0.0	N/D	131.69
MW-6	7/27/2016	7:45	1069.20	77.5-147.5'	NA	132.54	936.66	0.00	0.0	0.0	0.0	0.0	N/D	132.54
MW-6	9/23/2016	9:50	1069.20	77.5-147.5'	NA	133.35	935.85	0.00	11.4	3.0	0.0	0.0	N/D	133.39
MW-6	10/28/2016	NA	1069.20	77.5-147.5'	NA	131.37	937.83	0.00	0.0	0.0	0.0	0.0	N/D	131.37
MW-6	11/9/2016	NA	1069.20	77.5-147.5'	NA	130.19	939.01	0.00	0.0	0.0	0.0	0.0	N/D	130.19
MW-6	12/21/2016	10:10	1069.20	77.5-147.5'	NA	125.65	943.55	0.00	9.5	2.5	0.0	0.0	N/D	125.67
MW-6	1/27/2017	8:00	1069.20	77.5-147.5'	NA	124.31	944.89	0.00	0.0	0.0	0.0	0.0	N/D	124.31
MW-6	2/7/2017	10:00	1069.20	77.5-147.5'	NA	122.55	946.65	0.00	0.0	0.0	0.0	0.0	N/D	122.55
MW-6	3/6/2017	6:00	1069.20	77.5-147.5'	NA	118.87	950.33	0.00	0.0	0.0	0.0	0.0	N/D	118.87
MW-6	3/20/2017	9:50	1069.20	77.5-147.5'	NA	118.80	950.40	0.00	8.5	2.25	0.0	0.0	N/D	118.80
MW-6	4/24/2017	7:20	1069.20	77.5-147.5'	NA	122.33	946.87	0.00	0.0	0.00	0.0	0.0	N/D	122.33
MW-6	5/1/2017	9:10	1069.20	77.5-147.5'	NA	122.96	946.24	0.00	10.4	2.75	0.0	0.0	N/D	122.98
MW-6	6/9/2017	8:15	1069.20	77.5-147.5'	NA	125.21	943.99	0.00	0.0	0.00	0.0	0.0	N/D	125.21
AVB84-01	6/14/2016	5:45	1056.22	NA	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
AVB84-01	9/22/2016	5:40	1056.22	NA	NA	Dry	-	0.00	0.0	0.0	0.0	0.0	N/D	Dry
AVB84-01	12/21/2016	6:05	1056.22	NA	NA	115.66	940.56	0.00	9.5	2.5	0.0	0.0	N/D	115.76
AVB116-01	6/14/2016	6:44	1066.68	70-150'	NA	150.50	916.18	0.00	11.4	3.0	0.0	0.0	N/D	124.25
AVB116-01	9/22/2016	6:29	1066.68	70-150'	NA	127.62	939.06	0.00	11.4	3.0	0.0	0.0	N/D	127.68
AVB116-01	12/21/2016	6:45	1066.68	70-150'	NA	121.41	945.27	0.00	9.5	2.5	0.0	0.0	N/D	121.47
AVB132-01	6/14/2016	7:44	1067.30	195-225'	NA	135.56	931.74	0.00	11.4	3.0	0.0	0.0	N/D	135.56
AVB132-01	9/22/2016	7:14	1067.30	195-225'	NA	140.03	927.27	0.00	11.4	3.0	0.0	0.0	N/D	140.03
AVB132-01	12/21/2016	7:25	1067.30	195-225'	NA	128.16	939.14	0.00	9.5	2.5	0.0	0.0	N/D	128.21

Table 1
Groundwater Monitoring Data and Product Removal History
Fourth Quarter 2016/First-Second Quarter 2017 GMR
AFFC Pipeline 23rd Avenue Release
Phoenix, Arizona

Notes:

MW-3 = Current quarter data are highlighted
* Absorbent Socks used to remove product from well
** Groundwater removed during purge and sampling event
*** Product globs observed on purge water.
‡ Passive product skimmers used to remove product from well
ft = feet
NA = not applicable, no product detected
ND = Not detected
TOC = top of casing
AMSL = above mean sea level
MM/DD/YYYY = month/day/year

(1) 1 gallon of product removed from Skimmer 2 gallons from overpurge
(2) 3 Gallons of Product Removed from Overpurge and 1 Gallon from Product Skimmer
(3) 4.5 Gallons of Product Removed from Overpurge and 0.5 Gallon Removed while Skimmer was in MW-3
(4) On 9/14/2012, ECM attempted to sample well MW-3; however, during well purge, product was observed on top of the purge water. The well was not sampled.
(5) Groundwater had dropped below the bottom of the well casing. TD of the well was assumed to be the base of FPP.

Appendix C
One-Mile Radius ADEQ Well Search

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY
Water Quality Database
Multiple Wells Report

April 14, 2009
14:41:08

For LAT_LONG : 332537 1120530 and 332727 1120738

Number of test results: 131

DEQ Number	DWR Number	Site/Well Name	County Name	Cadastral	Latitude	Longitude	Well Owner	Drill Depth	Well Depth	Water Use
000348	55-505358	HOLS-1 HOLSUM BAKERY	MARICOPA	(A-1-2)12CAA	332636	1120633.7		150	150	DOMESTIC
000497		RID 11E-3.75	MARICOPA	(A-1-2)14AAD	332603	1120705.4				UNKNOWN
001774	55-520257	UTE CITY BCS-2 AVB15-01	MARICOPA	(A-1-2)1DCC	332705.3	1120625.93		110	110	MONITORING
006074		ROOSEVELT IRRIGATION DIST	MARICOPA	(A-1-2)12DBB	332635.3	1120626.9				UNKNOWN
006101		EATON	MARICOPA	(A-1-2)1DDA	332714.4	1120603.6				UNKNOWN
45011	55-801026	A-01-03 07BAB2	MARICOPA	(A-1-3)7BAB	332659.0	1120542.31		311		UNUSED
45565		TOM EATON	MARICOPA	(A-1-2)1DDA	332714.4	1120603.6	EATON, TOM		110	UNKNOWN
45568	55-532701	AMERICAN LINER MW-2	MARICOPA	(A-1-3)18BBB	332611.71	1120559.0		123	123	MONITORING
45569		(CHEVRON?)	MARICOPA	(A-1-2)1DAD	332720.9	1120604			146	UNKNOWN
45601	55-530184	FLEMING COMPANY INC.	MARICOPA	(A-1-2)12CBB	332638.34	1120630.82			115	MONITORING
45628		TOM EATON (CHEVRON?)	MARICOPA	(A-1-2)1DDA	332714.4	1120603.6	EATON, TOM			UNKNOWN
45629		TOM EATON (CHEVRON?)	MARICOPA	(A-1-2)1DDA	332714.4	1120603.6	EATON, TOM			UNKNOWN
46567	55-516921	19TH AVE LF DM-4	MARICOPA	(A-1-3)19DDB	332540.07	1120537.47		210	210	MONITORING
47696	55-519601	AMERICAN LINEN-NEW WELL	MARICOPA	(A-1-3)18BBB	332611.4	1120601.81		83	83	MONITORING
55031	55-527725	AVB21-01 ULTRAKOTE MW-3	MARICOPA	(A-1-2)12BCB	332640.97	1120700.00		130	130	MONITORING
56457	55-530181	FLEMING FOODS AVB02-01	MARICOPA	(A-1-2)12CBB	332626.07	1120657.63		110	110	MONITORING
58617	55-562053	ADEQ MW-2 AVB69-02	MARICOPA	(A-1-3)18BBC	332559.0	1120556.6		125	125	MONITORING
58623	55-562052	ADEQ MW-1 AVB69-01	MARICOPA	(A-1-3)18BBC	332558.94	1120556.7		303	303	MONITORING
58624	55-569882	AVB72-01 ADEQ MW-3	MARICOPA	(A-1-2)11AAB	332659.6	1120716.91		95	137	MONITORING
58649	55-569883	AVB70-01 ADEQ MW-1	MARICOPA	(A-1-3)7CBB	332632.26	1120556.95		162	162	MONITORING
59689	55-542656	CF-01 CONSOLIDATED FREIGH	MARICOPA	(A-1-2)12CCA	332619.11	1120652.64		60	80	MONITORING
59734	55-584497	AVB84-01	MARICOPA	(A-1-2)13ABA	332609.04	1120623.17		120	120	MONITORING
59735	55-584505	AVB85-01	MARICOPA	(A-1-3)7CAA	332635.4	1120537		120	120	MONITORING
59739	55-584498	AVB88-01	MARICOPA	(A-1-2)13BDD	332550.90	1120646.36		120	120	MONITORING
60134	55-520258	UTE CITY BCS-1	MARICOPA	(A-1-2)1DCC	332704.66	1120626.03		120	120	MONITORING
60135	55-520259	UTE CITY BCS-3	MARICOPA	(A-1-2)1DCC	332705.07	1120626.60		120	120	MONITORING
60136	55-580411	AVB110-01 MW-1	MARICOPA	(A-1-2)12CBB	332624.26	1120701.64		130	130	MONITORING
60193	55-565462	AVB102-04	MARICOPA	(A-1-2)13ACD	332551.5	1120617.2		120		MONITORING
60194	55-580268	AVB103-02	MARICOPA	(A-1-3)18BBB	332610.03	1120541.53	HILDERBRAND, HAROLD	55	100	TEST
60195	55-547510	AVB104-02	MARICOPA	(A-1-2)12CCA	332623.23	1120649.86	CONSOLIDATED FREIGHT	47	83	MONITORING
60206	55-589641	AVB97-01	MARICOPA	(A-1-2)13BAB	332609.25	1120644.57		70	120	MONITORING
60816	55-526739	CALJET PZ-1	MARICOPA	(A-1-3)18CCB	332547	1120556.18		77	77	MONITORING

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For LAT_LONG : 332537 1120530 and 332727 1120738

Number of test results: 131

DEQ Number	DWR Number	Site/Well Name	County Name	Cadastral	Latitude	Longitude	Well Owner	Drill Depth	Well Depth	Water Use
60839	55-529063	MW-Z2	MARICOPA	(A-1-3)18CCB	332546.45	1120555.82		117	117	MONITORING
60840	55-529062	MW-Z1	MARICOPA	(A-1-3)18CCB	332546.44	1120555.94		121	121	MONITORING
60841	55-526738	MW-Y	MARICOPA	(A-1-3)18CCB	332547.28	1120556.74		77	77	MONITORING
61038	55-567772	MW-6	MARICOPA	(A-1-3)7BBB	332702.92	1120559.6		110	110	MONITORING
61042	55-559929	MW-6	MARICOPA	(A-1-3)7CAB	332636.95	1120542.68		90	90	MONITORING
61060	55-567771	MW-5	MARICOPA	(A-1-3)7BBB	332703.95	1120559.6		120	120	MONITORING
61063	55-559930	MW-5	MARICOPA	(A-1-3)7CAB	332636.62	1120541.13		90	90	MONITORING
61090	55-567770	MW-4	MARICOPA	(A-1-3)7BBB	332703.44	1120559.4		111	111	MONITORING
61093	55-559931	MW-4	MARICOPA	(A-1-3)7CAB	332635.61	1120539.07		90		MONITORING
61101	55-555388	MW-4	MARICOPA	(A-1-3)6CBD	332720.24	1120547.14	RE-NEW SEALERS INC	90	90	MONITORING
61183	55-546690	MW-3	MARICOPA	(A-1-3)7BBB	332703.21	1120559.5		74	74	MONITORING
61191	55-543296	MW-3	MARICOPA	(A-1-3)7CAB	332637.59	1120544.05		90	90	MONITORING
61255	55-543295	MW-2	MARICOPA	(A-1-3)7CAB	332634.63	1120539.99		86	86	MONITORING
61258	55-539751	MW-2	MARICOPA	(A-1-3)6CBD	332720.95	1120547.86	RE-NEW SEALERS INC	90		MONITORING
61259	55-539750	MW-2	MARICOPA	(A-1-3)6CBD	332719.91	1120547.45		90	90	MONITORING
61323	55-550156	MW-1	MARICOPA	(A-1-3)18BAB	332609.89	1120542.29		91	91	MONITORING
61341	55-543294	MW-1	MARICOPA	(A-1-3)7CAB	332635.12	1120537.44		86	86	MONITORING
61343	55-541547	MW-1	MARICOPA	(A-1-3)7CDB	332643.29	1120531.58		100	100	MONITORING
61345	55-539749	MW-1	MARICOPA	(A-1-3)6CBD	332720.72	1120545.58		90	90	MONITORING
61399	55-568472	AVB118-01	MARICOPA	(A-1-3)7BCA	332647.4	1120548.54		106	106	MONITORING
61438	55-568583	CMW-5	MARICOPA	(A-1-3)18BDC	332549.19	1120540.73		60	91	MONITORING
61439	55-570659	CMW-4	MARICOPA	(A-1-3)18BCC	332549.61	1120553.36				MONITORING
61440	55-562041	CMW-3	MARICOPA	(A-1-3)18BCB	332555.39	1120555.63		131	131	MONITORING
61458	55-546692	B9/MW-1	MARICOPA	(A-1-3)7BBB	332703.7	1120558.55		90	90	MONITORING
61460	55-546691	B10 / MW-2	MARICOPA	(A-1-3)7BBB	332703.81	1120559.6		73	73	MONITORING
61493	55-583851	AS / SVE-1	MARICOPA	(A-1-3)7CAB	332635.54	1120539.36		110	110	MONITORING
61632	55-526631	42-0180	MARICOPA	(A-1-3)6CCC	332718.01	1120543.48		260	260	OTHER
61647	55-526637	42-0174	MARICOPA	(A-1-3)7CCC	332615.31	1120559.0		260	260	OTHER
61669	55-515625	42-0107	MARICOPA	(A-1-3)18BCA	332553.23	1120544.59		270	270	OTHER
61736	55-567779	(A-1-3)7BBB	MARICOPA	(A-1-3)7BBB	332701.31	1120555.84				MONITORING
61737	55-567778	(A-1-3)7BBB	MARICOPA	(A-1-3)7BBB	332701.31	1120555.84				MONITORING
61738	55-567777	(A-1-3)7BBB	MARICOPA	(A-1-3)7BBB	332701.31	1120555.84				MONITORING

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For LAT_LONG : 332537 1120530 and 332727 1120738

Number of test results: 131

DEQ Number	DWR Number	Site/Well Name	County Name	Cadastral	Latitude	Longitude	Well Owner	Drill Depth	Well Depth	Water Use
61739	55-567776	(A-1-3)7BBB	MARICOPA	(A-1-3)7BBB	332701.31	1120555.84				MONITORING
61740	55-547775	(A-1-3)7BBB	MARICOPA	(A-1-3)7BBB	332701.31	1120555.84				MONITORING
61741	55-547774	(A-1-3)7BBB	MARICOPA	(A-1-3)7BBB	332701.31	1120555.84				MONITORING
61742	55-567773	(A-1-3)7BBB	MARICOPA	(A-1-3)7BBB	332701.31	1120555.84				MONITORING
61787	55-515802	(A-1-3)7BCA	MARICOPA	(A-1-3)7BCA	332649.92	1120551.02				MONITORING
62640	55-211115	AVB126-01	MARICOPA	(A-1-2)12CBA	332630.74	1120647.53		150	150	MONITORING
62641	55-211114	AVB126-02	MARICOPA	(A-1-2)12CBA	332630.08	1120647.53		240	240	MONITORING
62642	55-211113	AVB134-01	MARICOPA	(A-1-2)11CAA	332638.27	1120737.68		142	142	MONITORING
62707	55-596916	AVB116-01	MARICOPA	(A-1-2)12ACD	332640.10	1120615.68		150	150	MONITORING
63680	55-202187	AVB116-02	MARICOPA	(A-1-2)12ADC	332641.98	1120614.55		230	230	TEST
63682	55-202185	AVB123-01	MARICOPA	(A-1-3)6CAA	332717.93	1120530.2		150	150	TEST
63683	55-202184	AVB124-01	MARICOPA	(A-1-3)7BBB	332701.05	1120557.82		238		TEST
63684	55-202189	AVB125-01	MARICOPA	(A-1-2)13DAB	332545.84	1120606.75		150	150	TEST
63685	55-202279	AVB127-01	MARICOPA	(A-1-2)11BAD	332651.75	1120736.07		150	150	TEST
65067	55-207163	AVB124-02	MARICOPA	(A-1-3)7BBB	332701.04	1120557.43		300	300	MONITORING
65069	55-207162	AVB133-01	MARICOPA	(A-1-3)7CCD	332613.09	1120546.23		231.5		MONITORING
65446	55-208664	AVB132-01	MARICOPA	(A-1-2)12BCA	332649.52	1120648.55		227		MONITORING
65447	55-208663	AVB132-02	MARICOPA	(A-1-2)12BCA	332649.67	1120648.88		292	300	MONITORING
65610	55-563571	42-0039 SOUTHWEST GAS	MARICOPA	(A-1-2)12BBD	332650.9	1120547.40		260		OTHER
65611	55-086536	42-0066 AZ PUBLIC SERVICE	MARICOPA	(A-1-2)13BDB	332555.9	1120645.9				OTHER
65612	55-086548	42-0074 AZ PUBLIC SERVICE	MARICOPA	(A-1-2)11ACC	332653.8	1120723.4			150	OTHER
65615	55-522456	42-0145 SOUTHWEST GAS	MARICOPA	(A-1-2)11BDA	332649.5	1120733.9		260	260	OTHER
65616	55-522474	42-0146 SOUTHWEST GAS	MARICOPA	(A-1-2)12DCA	332623.8	1120648.9		260	260	OTHER
65617	55-522475	42-0147 SOUTHWEST GAS	MARICOPA	(A-1-2)11CBA	332625.1	1120717.8		260	260	OTHER
65619	55-530724	42-0224 SOUTHWEST GAS	MARICOPA	(A-1-2)2CAD	332719.5	1120734		260	260	OTHER
65620	55-534614	42-0256 SOUTHWEST GAS	MARICOPA	(A-1-2)14BAA	332606	1120734.7		280	280	OTHER
65621	55-539925	42-0284 SOUTHWEST GAS	MARICOPA	(A-1-2)12DDA	332625.67	1120600.72		260	260	OTHER
65650	55-577050	42-0321 SOUTHWEST GAS	MARICOPA	(A-1-2)1DDA	332717.56	1120604.48		270	270	MONITORING
65730	55-528372	CA2 PROFESSIONAL FOOD	MARICOPA	(A-1-2)12CAA	332632	1120640.4		110	110	MONITORING
65815	55-527723	MW-1 SCUD-1	MARICOPA	(A-1-2)12BCB	332638.9	1120700.9		130	130	MONITORING
65818	55-534582	MW-1 DNC-1	MARICOPA	(A-1-2)13ACD	332550.8	1120617.1	CHRISTENSEN, DANE	50	80	MONITORING
65849	55-577997	MW-1 MOTOR CARGO COMPANY	MARICOPA	(A-1-2)12ACC	332620.3	1120648.8		110	110	MONITORING

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65869	55-527724	MW-2 SCUD-2	MARICOPA	(A-1-2)12BCB	332640.53	1120702.31		130	130	MONITORING
65890	55-565461	MW-2 CHRISTY SIGNS	MARICOPA	(A-1-2)13ACD	332550.8	1120617		120	120	MONITORING
65912	55-547511	MW-3 CF-06	MARICOPA	(A-1-2)12CCA	332623.37	1120651.49		50	83	MONITORING
65973	55-587855	MW-3 STEINER CORP.	MARICOPA	(A-1-2)13AAA	332609	1120559.6		45	120	MONITORING
65980	55-544124	MW-4 LSI-01	MARICOPA	(A-1-2)12BCC	332639.54	1120701.74		110	110	MONITORING
65983	55-548533	MW-4 CF-09	MARICOPA	(A-1-2)12CCA	332623.77	1120649.05		55	88	
65990	55-565463	MW-4 CHRISTY SIGNS	MARICOPA	(A-1-2)13ACD	332551.5	1120616.1		120	120	MONITORING
65992	55-584780	MW-4 FLEMING CO.	MARICOPA	(A-1-2)12CBB	332625.9	1120658		70	110	MONITORING
66002	55-547508	MW-5 CF-03	MARICOPA	(A-1-2)12CCA	332622.74	1120654.11		53	83	MONITORING
66024	55-547507	MW-6 CF-02	MARICOPA	(A-1-2)12CCA	332620.71	1120651.52		53	83	MONITORING
66031	55-548532	MW-7 CF-08	MARICOPA	(A-1-2)12CCA	332621.22	1120653.66		53	83	MONITORING
66137	55-400194	EAST-3 DMC ENTERPRISES	MARICOPA	(A-1-2)14ADC	332548.7	1120724				MONITORING
66138	55-400195	EAST-2 DMC ENTERPRISES	MARICOPA	(A-1-2)14ADC	332550.1	1120724.7				MONITORING
66139	55-400196	EAST-1 DMC ENTERPRISES	MARICOPA	(A-1-2)14ADC	332551.4	1120724.1				MONITORING
66140	55-400197	ML-1 DMC ENTERPRISES, L.L	MARICOPA	(A-1-2)14ADC	332549.3	1120724.5				MONITORING
66221	55-805935	WAB-1 WELL	MARICOPA	(A-1-3)18BCC	332546.9	1120600.0			55	UNUSED
66336	55-702207	AMERICAN LINEN WELL	MARICOPA	(A-1-3)18BBB	332611.24	1120559.2	AMERICAN LINEN	80	80	MONITORING
68481	55-214611	AVB126-03	MARICOPA	(A-1-2)12CAC	332629.67	1120646.91		350	352	MONITORING
8825	55-801093	IFS-1 GREENWOOD MEMORIAL	MARICOPA	(A-1-2)1CAC	332720.30	1120646.46		322	322	IRRIGATION
8826	55-629584	AZRIP-1 AZ CEMETERIES	MARICOPA	(A-1-2)1CBB	332724.27	1120656.20		322	322	IRRIGATION
8861	55-607198	RID WELL #11E-5N	MARICOPA	(A-1-2)11AAA	332703.35	1120710.50		415	415	IRRIGATION
8862		RID WELL #10 1/2E-5N	MARICOPA	(A-1-2)11AAC	332654.6	1120713.8		650	650	UNKNOWN
8865	55-607197	RID WELL #11 1/2E-5N	MARICOPA	(A-1-2)12BAA	332703.40	1120631.95		395	395	IRRIGATION
8866	55-800748	A-01-02 12CAA	MARICOPA	(A-1-2)12CAA	332635.3	1120634.7				UNKNOWN
8867	55-607210	RID 100	MARICOPA	(A-1-2)12CBC	332625.55	1120702.11		302	302	IRRIGATION
8868	55-702206	ROOSEVELT IRRIGATION DIST	MARICOPA	(A-1-2)13ABD	332559.5	1120615.69		202	202	UNUSED
8869	55-607196	RID WELL #11 3/4E-3 3/4N	MARICOPA	(A-1-2)13ABD	332559.6	1120615.92		428	440	IRRIGATION
8876	55-607211	RID WELL #11E-3 3/4N	MARICOPA	(A-1-2)14AAD	332559.7	1120702.89		420	420	IRRIGATION
8877	55-702212	BREINHOLT CONTRACTING CO.	MARICOPA	(A-1-2)14ACA	332558.1	1120720.1		400	400	UNUSED
8989	55-801025	A-01-03 07BAB1	MARICOPA	(A-1-3)7BAB	332658.55	1120541.23		400	400	UNUSED
9023	55-626524	ALKIRO PARK POOL WELL	MARICOPA	(A-1-3)18BAD	332602.8	1120539.7	CITY OF PHOENIX	300	300	RECREATION
9024		A-01-03 18BAD	MARICOPA	(A-1-3)18BAD	332602.8	1120531.8		300	300	UNKNOWN

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY
Water Quality Database
Multiple Wells Report

April 14, 2009
14:41:08

For LAT_LONG : 332537 1120530 and 332727 1120738

Number of test results: 131

DEQ Number	DWR Number	Site/Well Name	County Name	Cadastral	Latitude	Longitude	Well Owner	Drill Depth	Well Depth	Water Use
9025	55-600093	AMERICAN LINEN- OLD WELL	MARICOPA	(A-1-3)18BBB	332609.4	1120556		208	208	INDUSTRIAL (SUP
9026	55-607207	RID WELL #12.5E-3.75N	MARICOPA	(A-1-3)18BBC	332559.7	1120554.33		410	410	IRRIGATION
9027		A-01-03 18BBC	MARICOPA	(A-1-3)18BBC	332602.8	1120555.4				UNKNOWN

Appendix D

Public Notice for Groundwater No Further Action Request

PUBLIC NOTICE

Arizona Department of Environmental Quality Voluntary Remediation Program (VRP)

Site Code #509039-00

Pursuant to Arizona Revised Statutes §§ 49-176 and 49-181, Arizona Fueling Facilities Corporation (AFFC) is providing general public notice of the request for a No Further Action (NFA) determination from the Arizona Department of Environmental Quality (ADEQ) Voluntary Remediation Program (VRP) for the AFFC Pipeline 23rd Avenue Release Site located near milepost 904.15 on the west side of 23rd Avenue north of the Union Pacific Railroad (UPRR) tracks in the UPRR right-of-way in Phoenix, Arizona. The AFFC Pipeline 23rd Avenue Release site encompasses an approximate 1-acre area. The NFA determination is being requested for site-specific chemicals of concern in groundwater, which are benzene, ethylbenzene, toluene, and total xylenes.

The AFFC Pipeline 23rd Avenue Release site is an active UPRR right-of-way and the subsurface fuel distribution pipeline located in the right-of-way is currently in use. Environmental impacts associated with the pipeline release were characterized and remediated to concentrations below the Aquifer Water Quality Standards, in accordance with Arizona Administrative Code Title 18, Chapter 11, Article 4.

A 30-day public comment period accompanies this general public notice for a request for NFA. All comments should be submitted in writing to ADEQ or ECM Consultants at the addresses presented below. The public comment period will run from XXX, 2018 to YYY, 2018. Following this public comment period, ADEQ will consider issuing an NFA determination.

Those desiring additional information, including review of environmental reports, should contact:
Arizona Department of Environmental Quality

Voluntary Remediation Program

Attn: Ms. Nicole Osuch, Project Manager

1110 West Washington Street, 6th Floor

Phoenix, AZ 85007

(602) 771-4847

ECM Consultants

Attn: Ms. Tiffany Looff

9018 E. Range Rider Trail

Mesa, Arizona 85207

(602) 339-3750

DRAFT

Para más información por favor, llame a Raymundo Ortega, ADEQ, al teléfono (602) 771-xxxx.

DRAFT