GW – 001

2018 AGWMR

2018 Groundwater Remediation and Monitoring Annual Report

January – December 2018

Bloomfield Terminal

Western Refining Southwest, Inc.

#50 Rd 4990

Bloomfield, New Mexico 87413

Submitted: February 2019

Prepared for
New Mexico Oil Conservation Division and
New Mexico Environment Department – Hazardous Waste Bureau

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List of Acronyms

benzene, toluene, ethylbenzene, and xylene (BTEX)

below grade level (bgl)

diesel range organics (DRO)

dissolved oxygen (D.O.)

Environmental Protection Agency (EPA)

feet (ft)

gallons per minute (gpm)

gasoline range organics (GRO)

New Mexico Environment Department Hazardous Waste Bureau (NMED-HWB)

New Mexico Energy, Minerals and Natural Resources Department Oil Conservation Division (EMNRD-OCD)

investigation derived waste (IDW)

liters (L)

maximum contaminant level (MCL)

methyl tert-butyl ether (MTBE)

micrograms per liter (ug/L)

micro Siemens per centimeter (uS/cm)

milligrams per liter (mg/L)

millivolts (mV)

monitoring well (MW)

New Mexico Administrative Code (NMAC)

Oxidation reduction potential (ORP)

parts per million (ppm)

photoionization detector (PID)

polyvinyl chloride (PVC)

pounds per square inch (psi)

Resource Conservation and Recovery Act (RCRA)

Semi-volatile organic compounds (SVOCs)

separate phase hydrocarbon (SPH)

Standard cubic feet per minute (scfm)

Temporary piezometer (TP)

top of casing (TOC)

total dissolved solids (TDS)

total petroleum hydrocarbon (TPH)
toxicity characteristic leaching procedure (TCLP)
volatile organic compounds (VOC)
Wastewater Treatment System (WWTS)
Water Quality Control Commission (WQCC)

EXECUTIVE SUMMARY

This Annual Report includes a summary of activities conducted at the Bloomfield Terminal in 2018 pursuant to the reporting requirements outlined in Section IV.A.2. of the July 2007 Consent Order (NMED, 2007) issued by the New Mexico Environment Department Hazardous Waste Bureau (NMED-HWB), and Section 2.F. of Discharge Permit GW-001 (NMOCD, 2017) issued by the New Mexico Energy, Mineral, and Natural Resources Department Oil Conservation Division (EMNRD-OCD). This report includes a summary of sampling activities, total fluids recovery, and remediation monitoring activities conducted in 2018.

Groundwater Measurements

Depth-to-groundwater and depth-to-product measurements were taken from the facility monitoring wells, recovery wells, observation wells, and collection wells prior to the collection of groundwater samples during the Semi-Annual and Annual Sampling Events conducted in April 2018 and August 2018, respectively. The field measurements were taken a minimum of 48 hours after the recovery well pumps were turned off to allow the groundwater elevation to stabilize. Groundwater elevation contours show that groundwater generally flows in a northwest direction, with groundwater under the former process areas flowing towards the north boundary barrier wall and Hammond Ditch collection system.

Groundwater and Surface Water Monitoring

Groundwater and surface water monitoring activities conducted in 2018 included the collection of groundwater samples and field data from the following four areas of the facility.

- Terminal Complex – includes Terminal, Cross-Gradient, Downgradient, and RCRA Wells
- North Boundary Barrier – includes observation and collection wells
- San Juan River Bluff – includes Outfall and Seep locations
- San Juan River Terrace – includes San Juan River samples

Sampling associated with the Bioventing System located at the River Terrace is summarized in the *River Terrace Voluntary Corrective Measures Bioventing System Annual Report*, which is submitted in March of each year. Groundwater and surface water monitoring activities conducted in April and August 2018 follow the guidelines outlined in the approved Facility-Wide Groundwater Monitoring Plan dated June 2014 and Discharge Permit GW-001.

Groundwater concentrations above respective screening levels are primarily localized near the former refinery process units and tank farm. The north boundary barrier wall and active groundwater recovery systems within the facility provide hydraulic capture of the impacted groundwater, and thus eliminate the concern of impacts to the San Juan River.

Outfall and Seep Inspections

Bi-monthly visual inspections of Seeps 1, 2, 3, and 5 and along the San Juan River Bluff, which includes the East Fork area, were conducted in 2018. Visual inspection results and samples collected along the San Juan River as part of the groundwater monitoring program for the Bloomfield Terminal indicate that there has been no impact to the San Juan River.

Total Fluids Recovery Systems

The Bloomfield Terminal operates and monitors several fluid recovery systems within the facility, which include:

- Groundwater Recovery System using recovery wells within the Terminal Complex;
- North Boundary Barrier Collection System;
- Hammond Ditch Recovery System;
- River Terrace Remediation system; and
- East Outfall Recovery System.

All fluids recovered from these systems, with the exception of the River Terrace Remediation System, are pumped to the on-site Waste Water Treatment Plant for treatment prior to disposal through the on-site injection well or evaporation ponds. Groundwater recovered at the River Terrace Remediation System is treated through two granular activated carbon units and discharged to the raw water ponds.

SECTION 1.0
INTRODUCTION

1.1 Site Location and Description

Owner: San Juan Refining Company, a New Mexico Corporation
1250 Washington Street
Tempe, Arizona 85281

Operator: Western Refining Southwest, Inc.
(Formerly Giant Industries Arizona, Inc.), an Arizona Corporation
1250 Washington Street
Tempe, Arizona 85281

Facility: Bloomfield Terminal (physical address)
50 Road 4990
Bloomfield, New Mexico 87413

Western Refining Southwest, Inc. (postal address)
P.O. Box 159
Bloomfield, New Mexico 87413

US EPA ID: NMD089416416

SIC Code: 5171

The former Bloomfield Refinery facility is currently owned by San Juan Refining Company, a New Mexico corporation, and operated by Western Refining Southwest, Inc. formerly known as Giant Industries Arizona, Inc., an Arizona corporation. The facility had an approximate refining capacity of 18,000 barrels per day. Various process units operated at the facility, which included crude distillation, reforming, fluidized catalytic cracking, sulfur recovery, merox treater, catalytic polymerization, and diesel hydrotreating. Products produced at the refinery included gasoline, diesel fuels, jet fuels, kerosene, propane, butane, naphtha, residual fuel, fuel oils, and LPG.

The Bloomfield Terminal is located on approximately 263 acres south of Bloomfield, New Mexico in San Juan County (Figure 1). The Bloomfield complex is bisected by County Road 4990 (Sullivan Road), which runs east-west. The terminal offices, former process units, tank farm, wastewater treatment system (WWTS), raw water ponds, and fire training area are located north of the county road. On November 23, 2009, Western Refining indefinitely suspended refining operations at the Bloomfield Facility. The crude oil unloading areas, product loading racks, former LPG storage tanks, maintenance buildings/90-day storage area, pipeline offices, and transportation truck shop. A Class I injection well is located northeast of the tank farm (Figure 2).

The Bloomfield facility is located on a bluff 120 feet above the south side of the San Juan River. The top of the bluff is relatively flat and is at an elevation of 5,540 feet above sea level. Based on the available site-specific and regional subsurface information, the site is underlain by the Quaternary Jackson Lake terrace deposits, which unconformably overlie the tertiary Nacimiento Formation. The Jackson Lake deposits consist of fine grained sand, silt, and clay that grades to course sand, gravel and cobble size material closer to the contact with the Nacimiento Formation. The Jackson Lake Formation is over 40 feet thick near the southeast portion of the site and generally thins to the northwest toward the San Juan River. The Nacimiento Formation is primarily composed of fine grained materials (e.g., carbonaceous mudstone/claystone with interbedded sandstones) with a reported local thickness of approximately 570 feet (Groundwater Technology, 1994).

1.2 History of Facility Modifications and Improvements

1.2.1 Previous Owner's Activities

Local entrepreneur, Kimball Campbell, constructed the crude topping unit that eventually became the Bloomfield Refinery facility in the late 1950s. O.L. Garretson bought the facility in the early 1960s, renamed it Plateau, Inc. and sold it in 1964 to Suburban Propane of New Jersey.

Operationally, the facility had steadily evolved through a series of improvements, modifications and expansions. Suburban upgraded the facility in 1966, increasing the Crude Unit throughput to 4,100 barrels per calendar day (bpcd) and adding 1,850 bpcd Reformer and Naphtha Hydrotreater. In 1975, the Crude Unit was expanded to 8,400 bpcd.

In 1979, the Crude Unit was expanded again to 16,800 bpcd (later demonstrated to have a hydraulic capacity in excess of 18,000 bpcd). A Fluidized Catalytic Cracker (FCC) with a nominal capacity of 6,000 bpcd, an Unsaturated Gas Plant and a Treater Unit were also added at that time. The capacity of the Reformer / Hydrotreater was increased to 2,250 bpcd. The FCC was upgraded in 1982 to conform to State and Federal air quality standards.

1.2.2 Bloomfield Refining Activities

Bloomfield Refining Company (BRC) acquired the facility from Suburban Propane (Plateau) on October 31, 1984. The current owner of the facility is San Juan Refining Company. Western Refining Southwest, Inc. is the facility operator.

Over the years, there have been many improvements made to facility operations and equipment. These improvements are summarized below.

1986

- Relocated the spent caustic tank onto a concrete pad with retaining walls.

1987

- Upgraded the Reformer and increased its capacity to 3,600 barrels per day (bpd). Modified the Laboratory and Treater Unit and increased tank storage capacity.
- Cleaned up the North and South bone yards.
- Decommissioned and dismantled old Tanks 6 and 7.
- Relocated the API recovered oil Tank 8 and Tank 9 to concrete pads with concrete retaining walls.
- Established a systematic inspection, maintenance, and repair program for tanks.

1988

- Added a 2,000 bpd Catalytic Polymerization Unit. Removed the facility's two underground storage tanks and replaced them with aboveground storage tanks.
- Completed installation of a Cathodic Protection System for the Tank Farm and underground piping.
- Rebuilt the process area sewer system and added curbed, concrete paving to the unpaved process areas.

1989

- Increased Reformer throughput to 4,000 bpd.
- Activated the groundwater hydrocarbon recovery system.
- Constructed the first double-lined Evaporation Pond as part of Refinery's Discharge Plan improvements.

1990

- Constructed the second double-lined Evaporation Pond as part of the Refinery's Discharge Plan improvements.
- Constructed a drum storage shed and converted to bulk chemical usage, where possible, in order to minimize the use of drummed chemicals.

1991

- Revamped the burner fuel sales rack with concrete paving and curbing.
- Submitted the permit application for a Class 1 Disposal Well.
- Upgraded the groundwater hydrocarbon recovery system.

1992

- Submitted an air quality permit application. The application included a proposal to install a Diesel Hydrodesulphurization (HDS) Unit and a Sulfur Recovery Unit (SRU) in order to comply with new EPA low-sulfur diesel regulations and decrease air emissions.

1993

- Began a program under a Consent Agreement with the United Stated Environment Protection Agency (USEPA) to conduct Interim Measures (IM), a RCRA Facility

Investigation (RFI) and a Corrective Measures Study (CMS) addressing groundwater contamination.

- Replaced portions of the underground cooling water piping.
- Added concrete paving around the API Separator.
- Installed the HDS Unit and SRU.

1994

- Completed installation of the Class 1 Injection Well.
- Retrofitted the Aeration Lagoons with two additional liners.
- Installed a floating cover for the API Separator.
- Closed the clay-lined evaporation ponds and spray evaporation area.

1995

- Improved the diking south of the Refinery to further reduce storm water runoff.
- Began implementation of additional corrective measures for groundwater cleanup as determined from the CMS.

1998

- Converted the former evaporation ponds on the east side of the Refinery to raw water storage ponds.

1999

- Installed sheet pilings and a bentonite slurry wall adjacent to the San Juan River, North of the process units, in order to intercept a small hydrocarbon seep that had been detected in the area.

2001

- Initiated a program to inoculate the Aeration Lagoons with sludge-consuming micro-organisms.

2002

- A concrete liner was installed on the Hammond Ditch. At that time, Giant constructed the Hammond Ditch French Drain Recovery System to address contamination under the ditch.

2003

- Several monitoring wells were converted into recovery wells to further enhance the continuing ground water remediation efforts. MW-45, MW-46 & MW-47 were installed to facilitate sample collection. East Outfall #1 Recovery System was set up to return impacted water back to the refinery.

2004

- Monitoring wells MW-48, MW-49 and eight temporary piezometers were installed as part of Voluntary River Terrace Investigation activities.

- Several temporary piezometers were drilled on the north side of Hammond Ditch to chart the surface elevation of the Nacimiento Formation. Design of a slurry wall to be constructed on the north side of Hammond Ditch was completed.
- Lined containments were constructed in the draws north of Hammond Ditch in order to collect potentially contaminated groundwater which discharged to the land surface.
- Sewer lines were replaced in the Treater and FCC.

2005

- The North Boundary Barrier Wall installation was completed March 2005. Fourteen observation wells were installed on the north side of the slurry wall and fifteen collection wells were installed on the south side of the slurry wall in April 2005.
- As a matter of preventive maintenance, the lined containments in the draws north of the slurry wall were upgraded periodically.
- In April, five more temporary piezometers were installed at the River Terrace. In August, Dewatering Wells (DW-1 and DW-2) and thirteen bioventing wells were drilled and construction of the River Terrace Bioventing Project was initiated.

2006

- The River Terrace Bioventing System was put on-line in January 2006. Monitoring data from that project is submitted in a separate report to the regulatory agencies.
- During the week of February 13, 2006 seven sump wells were installed along the bluff north of the barrier wall. These wells were drilled in accordance with the North Barrier Wall Work Plan which was submitted to OCD February 7, 2006.
- Fluids extraction from the observation and collection wells, the north draws, and the sump wells continued throughout 2006.
- As a matter of preventive maintenance, the lined containments in the draws north of the slurry wall were upgraded periodically.

2007

- On May 31, 2007, Giant Industries, Inc. became a wholly-owned subsidiary of Western Refining, Inc. of El Paso, Texas.
- Construction of the Ammonia Refrigeration Unit (ARU) was completed and the system put on line by March 2007. This unit is used to recover propane from hydrogen streams.
- Construction of the Benzene Stripper was completed and the system put in service by October 2007. This unit is used to strip benzene from process waste water.
- Discharge piping was installed at RW #1 to increase the recovery capacity of the well.
- As a matter of preventive maintenance, the lined containments in the draws north of the slurry wall (Seeps 1-9) were upgraded periodically.

2008

- The *Facility-Wide Groundwater Monitoring Plan (Revised May 2008)* was approved and implemented in the latter half of 2008.

- In September, Group No. 2 RCRA Site Investigation activities commenced. Areas included in Group No. 2 are SWMU 2, SWMU 8, SWMU 9, SWMU 11, and SWMU 18.
- As part of the *Closure Plan North and South Aeration Lagoons* the ponds were drained, cleaned out, inspected, repaired, and put back in service. This process started in October 2008 and was completed in February 2009.

2009

- In March, monitoring wells were installed around the Aeration Lagoons to satisfy Group No. 1 RCRA site investigation requirements. Group No. 3 Site Investigation activities began in April. This group includes SWMU 4, SWMU 5, AOC 22, AOC 23, AOC 24, AOC 25, and AOC 26.
- On November 23, 2009, Western Refining indefinitely suspended refining operations at the Bloomfield Refinery. The crude unloading and product loading racks, storage tanks and other supporting equipment remain in operation. Guidelines from the *Facility-Wide Groundwater Monitoring Plan December 2007(Revised May 2008)* will continue to be followed.

2010

- In January 2010, due to analytical results indicating high benzene levels, piping was installed to permanently route discharge water from Tank 33 to the API Separator.
- Guidelines from the *Facility-Wide Groundwater Monitoring Plan December 2007(Revised May 2008)* were followed through the first six months of 2010.
- In August, Group No. 4 and Group No. 5 investigation field activities were conducted which included the installation of three monitoring wells.
- After receipt of the New Mexico Environmental Department (NMED) letter *Approval with Direction Facility-Wide Groundwater Monitoring* dated July 26, 2010, Western personnel followed guidelines from the *Facility-Wide Groundwater Monitoring Plan* (FWGMP) dated June 2010.

2011

- In August 2012, Group No. 6 RCRA Investigation activities were conducted, which involved soil sampling within each of the Seep Areas located along the northwest portion of the facility.

2012

- In January 2012 the group 8 RCRA Investigation activities commenced, which involved soil sampling within SMWU No. 3 – Underground Piping Currently in Use, and SWMU No. 6 – Abandoned Underground Piping.
- On October 12, 2012, NMED Hazardous Waste Bureau approved a Work Plan submitted by Western dated October 9, 2012 authorizing Western to optimize the remediation efforts at the River Terrace area. Optimization activities conducted in 2012 included the removal of approximately 250 cubic yards of impacted clay-type soil from the river terrace area, and conversion of a portion of the biovent system to an air

sparging system in efforts to target the most impacted groundwater area located within the southwest corner of the River Terrace Area.

- In the third quarter 2012, Western commenced work that involves enhancement of the total fluids recovery system. This work involves transitioning five monitoring wells (MW-20, MW-55, MW-56, MW-57, and MW-58) and one recovery well (RW-3) to operational total fluids recovery wells. RW-3 was returned to operation by the fourth quarter 2012. Operation of the monitoring wells located near the aeration lagoons is expected to begin in April 2013.

2013

- In the first quarter 2013, Western completed work that involves enhancement of the total fluids recovery system. This work involved transitioning five monitoring wells to active total fluids recovery wells (MW-20, MW-55, MW-56, MW-57, and MW-58). Operation of the monitoring wells located near the aeration lagoons has commenced.
- In June 2013, Western removed two former diesel dispenser pumps, storage tank, associated piping, former fueling pad and approximately 500 cubic yards of soil. Soil samples confirmed all the impacted soil was removed from the immediate vicinity of the former diesel fueling pumps.
- In 2013 Western replaced Tank 37, Tank 38 and Tank 34 with new equivalent tanks. Tank 37 and Tank 34 containments were also lined.
- Well MW-70 was developed on May 22, 2013 and baseline samples were collected on June 13, 2013.

2014

- In 2014 Western Refining preformed an environmental site investigation for the SWMUs designated as Group 9 and SWMU No. 27 Wastewater Collection System. Group 9 includes SWMU No. 12 (API Separator), SWMU No. 13 (Process Area) and SWMU No. 14 (Tanks 3, 4, and 5)
- In August 2014, NMED was notified of a significant rain event that resulted in severe flash flooding in the Bloomfield, New Mexico area. The storm caused the Hammond ditch to reverse flow directions, resulting in the entire roadway along the north boundary barrier to fill with water. The significant run-off along the river bluff resulted in Seep 4, Seep 6, Seep 7, Seep 8 and Seep 9 to permanently erode away due to the heavy surface run-off. Prior to the flooding event, these locations were no longer actively collecting seep water due to the existence of the north boundary barrier, and had previously been investigated as part of the 2007 Consent Order. Therefore as of August 2014, the only existing catchment locations are Seep 1, Seep 2, Seep 3, and Seep 5.

2015

- In 2015 routine groundwater and surface water sampling was conducted per the approved Facility-Wide Groundwater Monitoring Plans.

2016

- Routine groundwater and surface waste sampling was conducted in 2016.

2017

- The terminal operated as usual in 2017 without any deviations from normal operations.

- There were no reportable leaks, spills, or releases in 2017. There was no indication of expanding groundwater contamination and routine corrective action was implemented to address the known plume.
- Fluids were observed in the leachate collection system in the North and South Evaporation ponds, as was also previously observed in prior years since the ponds were constructed. A summary of the fluids was previously provided in correspondence to the OCD dated June 23, 2017.
- Information on the volume of water placed in the evaporation ponds and ultimately disposed in the injection well is provided in the Annual Report for the injection well. The new injection well was put into service in 2017, the details of which are provided in the Annual Report for the injection well.
- Routine groundwater and surface water sampling was conducted in 2017.
- Discharge Permit GW-001 was renewed on June 8, 2017.

2018

- The terminal operated as usual in 2018 without any deviations from normal operations.
- On May 17, 2018 a release of slop oil was discovered at a culvert that crosses beneath County Road 4990. The material described as slop oil consists of petroleum products that originate at the truck loading rack and crude oil that originates at the crude oil unloading rack. The pipeline was evacuated of hydrocarbons and free liquids were removed. Impacted soils were removed and the excavation was backfilled due to potential traffic hazards along the immediately adjacent county road. In October 2018 an Investigation Work Plan was submitted to OCD and NMED.
- Routine groundwater and surface water sampling was conducted in April and August 2018.

SECTION 2.0
SCOPE OF ACTIVITIES

This Annual Report includes a summary of activities conducted at the Bloomfield facility in 2018 pursuant to the reporting requirements outlined in Section IV.A.2. of the July 2007 Consent Order issued by the NMED-HWB, and Section 2.F. of Discharge Permit GW-001 issued to the Bloomfield Terminal by the EMNDR-OCD. This report includes a summary of sampling activities, total fluids recovery, and remediation monitoring activities conducted in 2018.

2.1 Groundwater and Surface Water Monitoring Activities

Groundwater and surface water monitoring activities conducted in 2018 include the collection of groundwater and surface water samples and field data from the following four areas of the facility:

- Terminal Complex;
- North Boundary Barrier;
- San Juan River Bluff; and
- San Juan River Terrace

Monitoring activities conducted in April and August 2018 followed the guidelines outlined in the approved Facility-Wide Groundwater Monitoring Plan dated June 2014. Detailed information regarding groundwater and surface water analyses conducted in 2018 is included in Section 3.1.

2.1.1 Fluid Measurements

Depth-to-groundwater and depth-to-product measurements were collected from the facility monitoring wells, recovery wells, observation wells, and collection wells prior to the collection of groundwater samples during the Semi-Annual and Annual Sampling Events conducted in April 2018 and August 2018, respectively. All fluid level measurements were collected using a Geotech Interface Probe that measures to an accuracy of 0.01 feet. The field measurements were collected a minimum of 48 hours after the recovery well pumps were turned off to allow the groundwater elevation to stabilize. A summary of the fluid measurements collected is provided in Section 3.1.1.

2.1.2 Groundwater Field Parameters

Prior to collecting groundwater samples, each well was purged a minimum of three well volumes. Groundwater field parameters (temperature, pH, and conductivity) were collected every two gallons or after purging one well volume, whichever was less. The total volume purged at each well was determined once the pH, temperature, and conductivity field parameters stabilized to within 10 percent for three measurements. A summary of the field

measurements collected is provided in Section 3.1.2. In addition, field parameters were collected at the outfalls and seeps when sufficient water was present.

2.1.3 Terminal Complex Sampling

Groundwater samples were collected from specified wells located within the Terminal Complex during the Semi-Annual Sampling Event and Annual Sampling Event conducted in April 2018 and August 2018, respectively, with the exception of wells that contained evidence of SPH, wells that were dry, or wells that did not contain enough water to collect a sample. Figure 16 and Figure 17 show the location of the wells sampled during each sampling event. A summary of the analytical results is provided in Section 3.1.3.

Semi-Annual Sampling Event

Groundwater samples were collected from the following wells during the Semi-Annual Sampling Event conducted in April 2018:

- Terminal Wells: MW-52;
- Cross-Gradient Wells: MW-1 and MW-13;
- Downgradient Wells: MW-12, MW-35, MW-37, and MW-38.

Groundwater samples collected during the Semi-Annual Sampling Event were submitted to Hall Environmental Analytical Laboratory and analyzed for the following:

- Volatile organic compounds (VOCs) Target List – benzene, toluene, ethylbenzene, and xylenes (BTEX), and methyl tert-butyl ether (MTBE) by EPA Method 8260B; and
- Total petroleum hydrocarbons (TPH) – Gasoline Range Organics (GRO), Diesel Range Organics (DRO), and Motor Oil Range Organics (MRO) by EPA Modified Method 8015B (Terminal Well MW-52 and Downgradient Well MW-35 are not scheduled for TPH analysis).

Terminal Wells MW-20 and MW-30 were not sampled due to the presence of measurable SPH during the gauging event. Cross-Gradient Well MW-33 was not sampled due to the insufficient volume of groundwater. Background Well MW-6 was dry and was not sampled.

No RCRA Investigation Wells are scheduled for sampling during the Semi-Annual Sampling Event conducted in April.

Annual Sampling Event

Groundwater samples were collected from the following wells during the Annual Sampling Event conducted in August 2018:

- Terminal Wells: MW-29, MW-31, MW-44, and MW-52;
- Cross-Gradient Wells: MW-1, MW-13, MW-27, and MW-32;
- Downgradient Wells: MW-11, MW-12, MW-34, MW-35, MW-37, and MW-38; and
- RCRA Investigation Wells: MW-51, MW-53, MW-59, MW-62, MW-63, MW-64, MW-65, MW-67, MW-68, and MW-70.

Groundwater samples collected during the Annual Sampling Event were submitted to Hall Environmental Analytical Laboratory and analyzed for the following:

- VOCs by EPA Method 8260B;
- TPH-DRO by EPA Method 8015B;
- TPH-GRO by EPA Method 8015B;
- TPH-MRO by EPA Method 8015B;
- Total RCRA 8 Metals by EPA Method 6010B/7470;
- Dissolved Metals by EPA Method 6010B/7470;
- Alkalinity by EPA Method 310.1;
- Anions by EPA Method 300.0; and
- Carbon Dioxide by EPA Method 310.1.

Groundwater samples were not collected from Terminal Wells RW-9, MW-20, RW-23, RW-28, and RW-43 due to the presence of SPH during the facility-wide gauging event. Groundwater samples were not collected from Terminal Wells RW-1, MW-4, RW-15, RW-18, MW-21, MW-30, MW-40, and RW-42 due to the presence of a hydrocarbon sheen during the purging of the well for sampling.

Cross-Gradient Well MW-26 was not sampled due to the presence of SPH during the facility-wide gauging event. Cross-Gradient Well MW-33 was not sampled due to the insufficient volume of groundwater.

Groundwater samples were not collected from RCRA Investigation Wells MW-56, MW-57, MW-61, and MW-66 due to the presence of SPH during the facility-wide gauging event. Groundwater samples were not collected from RCRA Investigation Wells MW-54, MW-55, and MW-58 due to the presence of a hydrocarbon sheen during the purging of the well for sampling. Groundwater samples were not collected from RCRA Investigation Wells MW-60 and MW-69 due to an insufficient volume of groundwater.

Background Wells MW-3, MW-5, and MW-6 were dry and were not sampled.

2.1.4 North Boundary Barrier Sampling

Groundwater samples were collected from observation wells and specified collection wells in April 2018 and August 2018, with the exception of wells that contained evidence of SPH, wells that were dry, or wells that did not contain enough water to collect a sample. Figure 16 and Figure 17 shows the location of the North Boundary Barrier wells that were sampled in April 2018 and August 2018, respectively. A summary of the groundwater results is provided in Section 3.1.4.

Semi-Annual Sampling Event

Groundwater samples were collected from the following wells during the Semi-Annual Sampling Event conducted in April 2018:

- Collection Wells: CW 0+60 and CW 25+95; and

- Observation Wells: OW 3+85, OW 22+00, and OW 25+70.

Groundwater samples collected in April 2018 were submitted to Hall Environmental Analytical Laboratory and analyzed for the following:

- VOCs-BTEX and MTBE only by EPA Method 8260B;
- TPH-GRO by EPA Modified Method 8015B;
- TPH-DRO by EPA Modified Method 8015B; and
- TPH-MRO by EPA Method 8015B.

A groundwater sample was not collected from Observation Well OW 1+50 due to the presence of SPH during the facility-wide gauging event. Groundwater samples were not collected from Observation Wells OW 11+15, OW 16+60, and OW 23+10 due to the presence of a hydrocarbon sheen during the purging of the wells for sampling.

Observation Wells OW 6+70, OW 14+10, and OW 19+50 were dry and were not sampled. Groundwater samples were not collected from Observation Wells OW 0+60, OW 5+50, OW 8+10, and OW 23+90. These wells did not yield enough water after purging to sample.

Annual Sampling Event

Groundwater samples were collected from the following wells during the Annual Sampling Event conducted in August 2018:

- Collection Wells: CW 0+60 and CW 25+95; and
- Observation Wells: OW 23+10 and OW 25+70.

Groundwater samples collected during the Annual Sampling Event were submitted to Hall Environmental Analytical Laboratory and analyzed for the following:

- VOCs – BTEX and MTBE by EPA Method 8260B;
- TPH-GRO by EPA Modified Method 8015B;
- TPH-DRO by EPA Modified Method 8015B; and
- TPH-MRO by EPA Method 8015B.

A groundwater sample was not collected from Observation Well OW 1+50 due to the presence of SPH during the facility-wide gauging event. Groundwater samples were not collected from Observation Wells OW 3+85, OW 11+15, and OW 16+60 due to the presence of a hydrocarbon sheen during the purging of the wells for sampling.

Observation Wells OW 6+70, OW 14+10, and OW 19+50 were dry and were not sampled. Groundwater samples were not collected from Observation Wells OW 0+60, OW 5+50, OW 8+10, OW 22+00, and OW 23+90. These wells did not yield enough water after purging to sample.

2.1.5 San Juan River Bluff Sampling

San Juan River Bluff sampling includes the collection of surface water samples at the outfall locations along the eastern portion of the facility, and at the seeps located along the western portion of the facility. Figure 3 shows the outfall and seep locations. A summary of the surface water analytical results is provided in Section 3.1.5.

Semi-Annual Sampling Event

Surface water samples were collected from the following locations during the 2018 Semi-Annual Sampling Event:

- Outfalls: East Outfall #2 and East Outfall #3; and
- Seeps: Seep 1.

Surface water samples collected were submitted to Hall Environmental Analytical Laboratory and analyzed for the following:

- VOCs – BTEX and MTBE by EPA Method 8260B (Outfall locations only);
- Total RCRA 8 Metals by EPA Method 6010B/7470 (Outfall locations only);
- Dissolved Metals by EPA Method 6010B/7470 (Outfall locations only);
- Alkalinity by EPA Method 310.1;
- Anions by EPA Method 300.0; and
- Carbon Dioxide by EPA Method 310.1.

Surface water samples were not collected from Seep 2, Seep 3 and Seep 5 due to the absence of an active discharge at each location.

Annual Sampling Event

Surface water samples were collected from the following locations during the Annual Sampling Event conducted in August 2018:

- Outfalls: East Outfall #2 and East Outfall #3; and
- Seeps: No seep samples.

Surface water samples were not collected from any of the seeps (i.e., Seep 1, Seep 2, Seep, 3, and Seep 5) due to the absence of an active discharge at each location.

Surface water samples collected during the Annual Sampling Event were submitted to Hall Environmental Analytical Laboratory and analyzed for the following:

- VOCs – BTEX and MTBE by EPA Method 8260B;
- Total RCRA 8 Metals by EPA Method 6010B/7470 (Outfall locations only);
- Dissolved Metals by EPA Method 6010B/7470 (Outfall locations only);
- Alkalinity by EPA Method 310.1;
- Anions by EPA Method 300.0; and
- Carbon Dioxide by EPA Method 310.1.

2.1.6 San Juan River Terrace Sampling

San Juan River Terrace sampling includes the collection of surface water samples at four locations along the San Juan River and the collection of groundwater samples at the San Juan River Terrace. A summary of activities conducted and groundwater samples collected that are associated with the bioventing system located at the San Juan River Terrace are included in the previously submitted *River Terrace Voluntary Corrective Measures Bioventing System Report* dated March 2018. Therefore sampling activities associated with the Bioventing System are not included in this report.

Figure 3 shows the approximate surface water sample locations along the San Juan River. A summary of the surface water analytical results is provided in Section 3.1.6.

Semi-Annual Sampling Event

Surface water samples were collected from the following locations during the Semi-Annual Sampling Event conducted in April 2018:

- San Juan River: Upstream, North of MW-46, North of MW-45, and Downstream.

Surface water samples collected during the Semi-Annual Sampling Event were submitted to Hall Environmental Analytical Laboratory and analyzed for the following:

- VOCs – BTEX and MTBE by EPA Method 8260B;
- TPH-DRO by EPA Method 8015B;
- TPH-GRO by EPA Method 8015B;
- TPH-MRO by EPA Method 8015B;
- Total RCRA 8 Metals by EPA Method 6010B/7470;
- Dissolved Metals by EPA Method 6010B/7470;
- Alkalinity by EPA Method 310.1;
- Anions by EPA Method 300.0;
- Carbon dioxide;
- Specific conductance; and
- Total dissolved solids.

Annual Sampling Event

Surface water samples were collected from the following locations during the Annual Sampling Event conducted in August 2018:

- San Juan River: Upstream, North of MW-46, North of MW-45, and Downstream.

Surface water samples collected during the Annual Sampling Event were submitted to Hall Environmental Analytical Laboratory and analyzed for the following:

- VOCs – BTEX and MTBE by EPA Method 8260B;
- TPH-DRO by EPA Method 8015B;
- TPH-GRO by EPA Method 8015B;

- TPH-MRO by EPA Method 8015B;
- Total RCRA 8 Metals by EPA Method 6010B/7470;
- Dissolved Metals by EPA Method 6010B/7470;
- Alkalinity by EPA Method 310.1;
- Anions by EPA Method 300.0;
- Specific conductance; and
- Total dissolved solids.

2.1.7 Outfall and Seep Inspections

Weekly visual inspections of Seep 1, Seep 2, Seep 3, and Seep 5 along the San Juan River Bluff, which includes the East Fork area, were conducted in 2018. Figure 3 shows the location of the outfalls and seeps. A summary of the inspections performed is provided in Section 3.1.7.

2.2 Total Fluids Recovery Systems

2.2.1 Groundwater Recovery System

The Bloomfield Facility operates a total fluids pumping system used to recover SPH and hydrocarbon impacted groundwater for treatment and disposal. This is accomplished by actively pumping wells within the groundwater impacted area. Recovered fluids are pumped to the on-site API separator for product recovery. The remaining recovered fluid is pumped through the WWTS prior to disposal. The groundwater recovery system was operational throughout 2018. The wells that operated as active recovery wells in 2018 are RW-1, RW-2, RW-3, RW-9, RW-14, RW-15, RW-16, RW-17, RW-19, MW-20, RW-22, RW-23, RW-28, RW-42, MW-55, MW-56, MW-57, and MW-58. Figure 2 shows the location of the recovery wells within the Facility. An operational summary of the groundwater recovery system is included in Section 3.3.1.

2.2.2 North Boundary Barrier Wall Collection System

The North Boundary Barrier Wall, which was installed by April 2005, consists of a 2,700 foot long bentonite slurry wall that extends two to five feet into the Nacimiento Formation. The primary purpose of the wall is to prevent the migration of hydrocarbon-impacted groundwater towards the San Juan River. The collection system consists of 15 collection wells positioned along the facility-side of the barrier wall. For every collection well, there was also an observation well installed along the river-side of the barrier wall. Bloomfield Terminal personnel continued to monitor fluid levels on both sides of the barrier wall in 2018 by collecting depth-to-water and depth-to-product measurements. Figure 2 shows the location of the collection wells and observation wells along the North Boundary Barrier Wall. A summary of the data collected along the North Boundary Barrier Wall is provided in Section 3.3.2.

2.2.3 Hammond Ditch Recovery System

The Hammond Ditch Recovery System consists of recovery Tank 37, located along the western portion of the facility, and a French Drain system that was constructed below the concrete-lined Hammond ditch. Tank 37 collects groundwater from two 8-inch influent lines connected to the perforated sub-drain (the French Drain) beneath the Hammond Irrigation Canal. Tank 37 is

equipped with a liquid level float control system and dedicated flow meter. Recovered water from Tank 37 is automatically pumped through a flow meter to the API Separator. The location of Tank 37 is shown on Figure 3.

The Hammond Ditch Recovery System serves as a hydraulic relief mechanism for groundwater that mounds along the Facility-side of the north barrier wall. Figure 3 shows the location of Tank 37. A summary of operational data for the Hammond Ditch Recovery System is included in Section 3.3.3.

2.2.4 River Terrace Remediation System

The River Terrace Bioventing System commenced operation in January 2006. A summary of activities associated with the River Terrace Bioventing System are submitted separately to the agencies in March of each year.

2.2.5 East Outfall Recovery System

Outfall 1 is equipped with a holding tank and automatic pumping system. Water from Outfall 1 discharges into Tank 38 directly and then is pumped to the on-site WWTS prior to disposal. Figure 3 shows the location of Tank 38.

The flow rate of recovered water entering Tank 38 is dependent upon the operation of the Hammond Ditch, which is located just south of Tank 38. A summary of the operational data of the East Outfall Recovery System for 2018 is included in Section 3.3.4.

2.3 Waste Disposal

Western Refining indefinitely suspended refining operations at the Facility on November 23, 2009. The crude unloading and product loading racks, storage tanks and other supporting equipment remain in operation. Recovered water from on-site remediation activities and facility operations is treated through the on-site WWTS. Treated water is then disposed of through the on-site Class I injection well or evaporation ponds.

Significantly less waste is routinely generated since the suspension of refining operations in November 2009. The on-site landfill is no longer operational, and therefore all operational waste generated is properly characterized and disposed of off-site. Additional information regarding waste disposal activities is provided in Section 3.5.

SECTION 3.0
RESULTS SUMMARY

The following is a summary of the data collected, visual inspections conducted, and analytical results received during monitoring and testing performed in 2018. Figure 8 and Figure 9 provide a summary of the BTEX concentrations detected during the April 2018 and August 2018 sampling events, respectively. Figure 10 shows the results for chloride, sulfate, nitrate, and total dissolved solids (TDS) for April 2018. Figures 11 through 15 depict the analytical results for naphthalene, chloride, sulfate, nitrate, and TDS for August 2018.

3.1 Groundwater and Surface Water Monitoring

A summary of the groundwater and surface water analytical results for samples collected over the past few years are included in Table 3 through Table 10. Screening levels used to evaluate the groundwater condition at the Bloomfield Terminal are reflective of the same conservative screening levels currently used for evaluation of on-going RCRA Investigation activities. Sample results included in the analytical summary tables that exceed the respective regulatory screening levels are highlighted in yellow, while all detected results are bolded. A copy of the respective analytical reports is included in Appendix A. The analytical reports contain the respective quality assurance/quality control data reviews and validation.

3.1.1 Fluid Level Measurements

Depth-to-groundwater and depth-to-product measurements were collected at all facility monitoring wells, recovery wells, observation wells, and collection wells in April and August 2018. Additional fluid measurements were collected at the sump wells periodically throughout the year to monitor fluid levels along the north side of the facility. The fluid pumping wells were turned off and the groundwater was allowed to stabilize for a minimum of 48-hours prior to the collection of fluid levels within the Bloomfield Terminal during both the April and August sampling events. Figure 2 shows the location of the wells within the facility.

Using the fluid level measurements collected in April and August 2018, groundwater potentiometric surface elevations were calculated. The groundwater elevation data was used to develop groundwater potentiometric surface maps, which show the general direction of groundwater flow within the facility. Table 1 provides a summary of the fluid level measurements collected in 2018. Figure 4 and Figure 5 represent the groundwater contours developed from data collected in April 2018 and August 2018, respectively. The groundwater potentiometric surface contours show that groundwater generally flows in a northwest direction. A discussion of the SPH data collected is provided in Section 3.2 of this report.

3.1.2 Groundwater Field Measurements

Prior to collecting groundwater samples, each well was purged of a minimum of three well volumes using a disposable bailer. Groundwater field parameters (temperature, pH, conductivity, dissolved oxygen (DO), oxidation-reduction potential (ORP), and total dissolved solids (TDS)) were collected every two gallons or after purging one well volume, whichever was

less. The total volume purged at each well was determined once the pH, temperature, and conductivity field parameters stabilized to within 10 percent for three measurements. The field parameters were collected using a YSI Professional Plus instrument. Field equipment calibration procedures performed prior to each sampling event are summarized in Section 4 of the Facility-Wide Groundwater Monitoring Plan. Table 2 provides a summary of the groundwater field parameters collected during the April 2018 and August 2018 sampling events. Field parameters were also collected from water samples collected at the East Outfalls, Seeps, and the San Juan River locations.

3.1.3 Terminal Complex Sampling

Terminal Wells

Volatile organic compounds detected above the laboratory detection limit were below their respective screening levels in samples collected in 2018, with the exception of the sample collected from MW-31 in August. The following exceedances were reported:

- 1,2,4-Trimethylbenzene was detected above the respective screening level of 15 ug/l. The detected concentration was 940 ug/l.
- 1,3,5-Trimethylbenzene was detected above the respective screening level of 12 ug/l. The detected concentration was 24 ug/l.
- 1-Methylnaphthalene was detected above the respective screening level of 11 ug/l. The detected concentration was 45 ug/l.
- 2-Methylnaphthalene was detected above the respective screening level of 36 ug/l. The detected concentration was 45 ug/l.
- Benzene was detected above the respective screening level of 5 ug/l. The detected concentration was 1,500 ug/l.
- Ethylbenzene was detected above the respective screening level of 700 ug/l. The detected concentration was 820 ug/l.
- Naphthalene was detected above the respective screening level of 1.65 ug/l. The concentration detected above the screening level was 160 ug/l.
- Toluene was detected above the respective screening level of 750 ug/l. The detected concentration was 760 ug/l.
- Xylenes were detected above the respective screening level of 620 ug/l. The detected concentration was 1,400 ug/l.

General chemistry parameters detected above the laboratory detection limit were below their respective screening levels in samples collected in 2018, with the following exceptions:

- Chloride was detected above the screening level of 250 mg/L at MW-52 in August 2018 with a detected concentration of 880 mg/L.
- Nitrite and nitrate were reported as a combined concentration in two samples where the applicable screening levels for nitrite (1.0 mg/L) and nitrate (10 mg/L), were exceeded. This occurred in the samples collected at MW-29 and MW-52 with a reported combined concentrations of 7.1 mg/L and 27 mg/L, respectively.

- Sulfate was detected above the screening level of 600 mg/L at MW-44 and MW-52 in August 2018 with detected concentrations of 3,000 mg/L and 1,100 mg/L, respectively.

There were no total metals constituents detected above their respective screening levels in samples collected in 2018.

Dissolved metals constituents detected above the laboratory detection limit were below their respective screening levels in samples collected in 2018, with exception of manganese. Manganese was detected above the respective screening level of 0.2 mg/L at MW-29, MW-31, MW-44, and MW-52. The detected concentrations above the screening levels ranged between 0.65 mg/L and 3.5 mg/L, with the highest concentration detected at MW-52 in August 2018.

Total petroleum hydrocarbons were detected above the laboratory detection limits in the GRO and DRO analyses. The detected concentrations were below the screening levels with the exception of DRO fraction detected in MW-31. DRO was detected above the screening level of 0.0398 mg/L for unknown oil at a concentration of 0.64 mg/L in August 2018.

A summary of the analytical results for samples collected at the Terminal Complex Wells is provided in Table 3.

Cross-Gradient Wells

The following volatile organic compounds were detected above the laboratory detection limits in samples collected in 2018.

- 1-Methylnaphthalene – MW-1 – August 2018;
- 2-Methylnaphthalene – MW-1 – August 2018;
- MTBE – MW-13 – August 2018; and
- Naphthalene – MW-1 – August 2018.

None of the volatile organic compound concentrations exceeded their respective screening levels.

General chemistry parameters detected above the laboratory detection limit were below their respective screening levels in samples collected in 2018, with the following exceptions:

- Chloride was detected above the respective screening level of 250 mg/L at MW-27 and MW-32 at concentrations of 870 mg/L and 680 mg/L, respectively, in August 2018.
- Nitrite and nitrate were reported as a combined concentration in two samples where the applicable screening level for nitrite (1.0 mg/L), was exceeded. This occurred in the samples collected at MW-13 and MW-32 with a reported combined concentrations of 3.5 mg/L and 43 mg/L, respectively. Nitrate was exceeded in one sample collect at MW-32 in August 2018 with a reported concentration of 43 mg/L vs. the screening level of 10 mg/L.
- Sulfate was detected above the respective screening level of 600 mg/L at MW-13, MW-27, and MW-32. The detected concentrations ranged between 920 mg/L and 3100 mg/L, with the highest concentration detected at MW-27 in August 2018.

There were no total metals constituents detected above their respective screening levels in samples collected in 2018.

Dissolved metals constituents detected above the laboratory detection limit were below their respective screening levels in samples collected in 2018, with the exception of manganese.

Manganese was detected above the respective screening level of 0.2 mg/L at MW-13 and MW-27. The detected concentrations were 1.6 mg/L and 0.75 mg/L, respectively.

Total petroleum hydrocarbons were detected in one sample collected at MW-27 for the DRO fraction at a concentration of 3.2 mg/L vs. the screening level of 0.0398 mg/L. Total petroleum hydrocarbons were detected above the laboratory detection limit in the GRO fraction for those samples collected from MW-1 and MW-13.

A summary of the analytical results for samples collected at the Cross-Gradient Wells is provided in Table 4.

Downgradient Wells

Volatile organic compounds detected above the laboratory detection limit were below their respective screening levels in samples collected in 2018, with the following exceptions:

- 1,2,4-Trimethylbenzene was detected above the screening level of 15 ug/l at MW-11 at a concentration of 67 ug/l;
- 1-Methylnaphthalene was detected above the respective screening level of 11 ug/l at MW-11 with a concentration of 15 ug/l in August 2018;
- Benzene was detected in samples collected at MW-11 at 66 ug/l, which exceeds the screening level of 5 ug/l; and
- Naphthalene was detected above the respective screening level of 1.65 ug/l at MW-11. The detected concentration was 98 ug/l.

General chemistry parameters detected above the laboratory detection limit were below their respective screening levels in samples collected in 2018.

Total metals constituents detected above the laboratory detection limit were below their respective screening levels in samples collected in 2018, with the exception of arsenic. Arsenic was detected above the screening level of 0.01 mg/L at MW-34 (0.015 mg/L).

Dissolved metals constituents detected above the laboratory detection limit were below their respective screening levels in samples collected in 2018, with the following exceptions:

- Arsenic was detected above the screening level of 0.01 mg/L at MW-11 (0.021 mg/L);
- Iron was detected above the respective screening level of 1.0 mg/L at MW-11(1.9 mg/L) and MW-34 (3 mg/L); and
- Manganese was detected above the respective screening level of 0.2 mg/L at MW-11, MW-34, MW-35, MW-37, and MW-38. The detected concentrations above the screening level ranged between 1.1 mg/L and 3.8 mg/L, with the highest concentration detected at MW-34 in August 2018.

Total petroleum hydrocarbons were detected in the GRO and DRO fractions. The detected GRO concentrations ranged from 0.18 mg/L to 1.3 mg/L with the highest concentration at MW-11. The DRO fraction was detected at concentrations above the screening level of 0.0398 mg/L in the samples from MW-11 and MW-34. The concentrations reported were 0.45 mg/L (MW-11) and 0.4 mg/L (MW-34).

A summary of the analytical results for samples collected at the Downgradient Wells is provided in Table 5.

RCRA Wells

Volatile organic compounds detected above the laboratory detection limit were below their respective screening levels in samples collected in August 2018, with the following exceptions:

- 1,2,4-Trimethylbenzene was detected above the respective screening level of 15 ug/l at MW-65 with a concentration of 590 ug/l;
- 1,2-Dichloroethane was detected above the respective screening level of 5 ug/l at MW-65 with a concentration of 170 ug/l;
- 1,3,5-Trimethylbenzene was detected above the respective screening level of 12 ug/l at MW-65 with a concentration of 41 ug/l;
- 1-Methylnaphthalene was detected above the screening level of 11 ug/l at MW-65 with a concentration of 110 ug/l. 1-Methylnaphthalene was also detected above the screening level in the semi-volatile analysis of the sample collected at MW-65, but at a lower concentration of 100 ug/l;
- Benzene was detected above the respective screening level of 5 ug/l at MW-59 and MW-65. The detected concentrations were 23 ug/l and 4,500 ug/l, respectively;
- Ethylbenzene was detected above the respective screening level of 700 ug/l at MW-65, with a concentration detected of 1,800 ug/l;
- MTBE was detected above the respective screening level of 143 ug/l at MW-59 (1,400 mg/L) and MW-65 (4,600 mg/L); and
- Naphthalene was detected above the respective screening level of 1.65 ug/l at MW-65 with a concentration of 51 ug/l. Naphthalene was also detected above the screening level in the semi-volatile analysis of the sample collected at MW-65, but at a lower concentration of 21 ug/l;

General chemistry parameters detected above the laboratory detection limit were below their respective screening levels in samples collected in August 2018, with the following exceptions:

- Chloride was detected above the respective screening level of 250 mg/L at MW-53, MW-64, and MW-70. The detected concentrations above the screening level ranged between 280 mg/L and 890 mg/L. The highest concentration was detected at MW-53;
- Nitrite was detected above the respective screening level of 1 mg/L at MW-53, MW-67, and MW-68, with concentrations ranging from 4.5 mg/L to 15 mg/L. The highest concentration was detected at MW-53;
- Nitrate was detected above the respective screening level of 10 mg/L at MW-53, MW-63, and MW-64, with concentrations ranging from 15 mg/L to 52 mg/L. The highest concentration was detected at MW-64; and
- Sulfate was detected above the respective screening level of 600 mg/L at MW-53, MW-62, MW-63, MW-64, and MW-70. The detected concentrations ranged between 900 mg/L and 3,600 mg/L, with the highest concentration detected at MW-62.

None of the total metals analyses indicated concentrations of constituents detected above their respective screening levels in samples collected in August 2018.

Dissolved metals constituents detected above the laboratory detection limit were below their respective screening levels in samples collected in August 2018, with the following exceptions:

- Arsenic was detected above the screening level of 0.01 mg/L in groundwater sample collected at MW-51 (0.020 mg/L);
- Iron was detected above the respective screening level of 1.0 mg/L at MW-59, MW-65, and MW-70. The detected concentrations above screening levels ranged between 5.3 mg/L and 9.6 mg/L with the highest concentration at MW-70; and
- Manganese was detected above the respective screening level of 0.2 mg/L at MW-51, MW-53, MW-59, MW-62, MW-63, MW-65, and MW-70. The detected concentrations ranged between 0.48 mg/L and 2.5 mg/L, with the highest concentration detected at MW-51.

Total petroleum hydrocarbons were detected above the laboratory detection limit in the GRO and DRO fractions. The DRO concentration exceeded the screening level of 0.0398 mg/L in groundwater sample collected at MW-65 a concentration of 2.8 mg/L.

A summary of the analytical results for samples collected at the RCRA Wells in August 2018 is provided in Table 6.

3.1.4 North Boundary Barrier Sampling

Collection Wells

No volatile organic compounds were detected above their respective screening levels in samples collected in 2018. Total petroleum hydrocarbons were detected above the laboratory detection limit in the GRO and DRO fractions. The DRO concentration reported in the sample from CW 0+60 exceeded the screening level of 0.0398 mg/L and was reported at 1.2 mg/L in April 2018.

A summary of the analytical results for samples collected at the collection wells in 2018 is provided in Table 7.

Observation Wells

Volatile organic compounds detected above the laboratory detection limit were below their respective screening levels in samples collected in 2018.

Total petroleum hydrocarbons were detected above the laboratory detection limit in the GRO, DRO, and MRO fractions. The DRO concentration in the sample from OW 3+85 (7.9 mg/L) exceeded the screening level (0.0398 mg/L). The MRO concentration from OW 3+85 (3.7 mg/L) exceeded the screening level (0.0398 mg/L).

A summary of the analytical results for samples collected at the observation wells in 2018 is provided in Table 7.

3.1.5 San Juan River Bluff Sampling

Outfalls

Samples were collected from East Outfall #2 and East Outfall #3 in April and August 2018. A summary of the analytical results for samples collected at East Outfall #2 and East Outfall #3 in 2018 is provided in Table 8.

Volatile organic compounds were not detected in samples collected in 2018. General chemistry parameters detected above the laboratory detection limit were below their respective screening levels in samples collected in 2018.

For the total metals analyses, none of the metals were detected at a concentration above the screening levels in April and August 2018. All dissolved metals constituents detected above the laboratory detection limit were below their respective screening levels in samples collected in April and August 2018.

Seeps

Samples were only collected from Seep 1 in May 2018, as the other seep locations were dry in April and August 2018.

The groundwater sample collected from Seep 1 was not analyzed for Target List Volatile Organic Compounds.

General chemistry parameters detected above the laboratory detection limit were below their respective screening levels in samples collected in 2018, with the following exception:

- Chloride was detected above the respective screening level of 250 mg/L at Seep 1 in May 2018 at concentrations of 270 mg/L.
- Sulfate was detected above the respective screening level of 600 mg/L at Seep 1 in May 2018 at concentrations of 1,000 mg/L.

A summary of the analytical results for samples collected at the Seeps in 2018 is provided in Table 9.

3.1.6 San Juan River Terrace Sampling

Sample locations related to the bioventing system are discussed in a separate report, and therefore are not included in this submittal. However, surface water samples were collected at four locations along the San Juan River in 2018. Samples were collected in April 2018 and August 2018 upstream of the Terminal, north of MW-46, north of MW-45, and downstream of the Terminal. A summary of the analytical results for samples is provided in Table 10.

Volatile organic compounds were not detected above laboratory detection limits in any of the samples for 2018. Similarly, Total Petroleum Hydrocarbons were not detected above laboratory detection limits in surface water samples collected for 2018. General chemistry parameters detected above the laboratory detection limits were below their respective screening levels in samples collected in 2018.

Total and dissolved metal constituents detected above the laboratory detection limits were below their respective screening levels in samples collected in 2018. Figure 3 shows the location of the San Juan River samples in relation to the Bloomfield Terminal.

3.1.7 Outfall and Seep Inspections

Bi-monthly visual inspections of Seep 1, Seep 2, Seep 3, and Seep 5 and along the San Juan River Bluff, including the East Fork area, were conducted in 2018. Inspections of the draws

north of the barrier wall and analysis of samples of water collected in the seeps indicate that the barrier wall is preventing migration of contaminated groundwater toward the San Juan River.

Visual inspection of the East Fork area indicates that the flow rate at this seep location has decreased to less than 1 gallon/minute. The flow rate at this location does not appear to be impacted by the operation of the Hammond Ditch. Figure 3 shows the location of the outfalls and seeps in relation to the Bloomfield Terminal.

3.2 Separate-Phase Hydrocarbons

Field measurements collected in April and August 2018 were also used to determine product thickness in areas where SPH was detected. In April 2018, SPH was identified in 14 wells. The product thickness detected ranged between 0.01 feet and 0.75 feet, with the most product detected at monitor well MW-77. In August 2018, SPH was identified in 17 wells. The product thickness ranged between 0.01 feet and 1.25 feet, with the most product detected at recovery well RW-19. Figure 6 and Figure 7 show a summary of the product thickness detected in April 2018 and August 2018, respectively.

Product had been detected in the groundwater prior to suspension of refining operations in November 2009. Review of the past 10 years of data collected shows SPH to be present in four general areas of the facility; the Terminals Area, the Tank Farm Area, the former Refinery Process Area, and the North Boundary Barrier Area. The following is a brief summary of the SPH trends observed as reported each year. A review of the historic SPH measurements collected are included in the Facility-Wide Groundwater Monitoring Plan dated December 2007 and in subsequent Annual Groundwater Remediation & Monitoring Reports submitted in April of each year.

Terminals Area

The area historically referred to as the “Terminals Area” is located south of County Road 4990. Primary operations in this area include product loading and unloading, crude unloading, and product storage. At the Terminal Area, SPH has been localized to two wells (MW-61 and MW-66). These wells were installed in 2009 as part of the on-going RCRA investigation activities. Over the past four and a half years, SPH has been detected at MW-61, which is located just east of the Terminal office building. In the most recent measurement in August 2018, 0.30 feet of SPH was observed in MW-61. The SPH thickness at MW-61 has fluctuated between 0.21 feet and 0.98 feet. At MW-66, located west of Tank 45, the amount of SPH has fluctuated between 0.0 feet and 0.32 feet, with 0.07 feet measured most recently in August 2018.

Tank Farm Area

The Tank Farm Area is located in the eastern portion of the facility, north of County Road 4990. This area is equipped with four total fluids recovery wells located along the center dike area (RW-14, RW-15, RW-16, and RW-17). Recovery wells RW-14 and RW-16 are equipped with electrical submersible pumps, while RW-15 and RW-17 are equipped with dedicated pneumatic pumps that operate on a timer. All fluids pumped from these wells are routed to the on-site WWTP for product recovery and treatment.

Former Refinery Process Area

In 2005, a 2,700-foot long bentonite slurry wall was installed along the western and northern boundary of the former process area. This north boundary barrier provides hydraulic control for product and groundwater that exists at the Bloomfield facility. Several monitoring wells located within the vicinity of the former refinery process area have shown detectable amounts of SPH prior to the suspension of refinery operations in November 2009. Total fluids recovery wells, as well as the French drain fluids collection system located below the Hammond Ditch in this area, provide hydraulic relief and enhance product recovery efforts.

Two wells within the warehouse area have shown detectable SPH. Monitoring well MW-54, which was installed in 2008, has shown decreasing levels of SPH since 2010. In August 2016, MW-54 contained only approximately 0.01 feet of SPH and no SPH was measured in 2018. Recovery well RW-1 is an active total fluids recovery well. This well operates at a constant flowrate of approximately 2 gpm. The amount of SPH at RW-1 has fluctuated since 2008, with no SPH measured during 2018.

Two active recovery wells (RW-2 and RW-3) are located along the southern property boundary and are equipped with dedicated pneumatic total fluids pumps. In 2018, RW-2 did not contain any measurable SPH. RW-3 has shown traces of SPH prior to returning to operation in 2012, with SPH detected at 0.05 feet or less. No measurable SPH was detected in RW-3 in 2018.

Monitoring well MW-41, located adjacent to the former crude process unit, has shown fluctuating levels of SPH over the years. The range of SPH detected has been between 0.0 feet and 1.18 feet since 2007. As of August 2018, 0.10 feet of SPH was measured in MW-41.

The SPH level at RW-42, an active recovery well located upgradient of MW-41, has also fluctuated over time. The amount of SPH has ranged between 0.00 feet and 0.90 feet since 2007. In August 2018, there was no SPH detected at RW-42.

In the area near the WWTP and north of the former process units there are several wells in which SPH has been detected over the years. It is expected to see SPH levels fluctuate in this area due to the numerous active recovery wells, as well as, the existence of the north boundary barrier providing hydraulic control for all groundwater beneath the former process areas. To further enhance the product recovery efforts in this area, work has been done to equip five existing monitoring wells with dedicated pneumatic pumps for total fluids recovery. Monitoring wells MW-55, MW-56, MW-57, MW-58, and MW-20 have been converted to recovery wells. These wells are located in the area where SPH is currently most prevalent. The wells have been operational as of 2013 and continued to operate through 2018.

North Boundary Barrier Area

In 2005, a 2,700-foot long bentonite slurry wall was installed along the western and northern boundary of the former process area. This north boundary barrier provides hydraulic control for product and groundwater within the Bloomfield facility. Monitoring wells and observation wells located along the river-side of the slurry wall have shown intermittent detections of SPH. The greatest of which was 0.08 feet in April 2014 in MW-45; however, no SPH has been detected in

excess of 0.01 feet since that time. The amount of groundwater detected in these wells is significantly less than the wells located on the facility-side of the wall, giving proof that the hydraulic barrier is effective. The intermittent detections of SPH are believed to be the residual effect of SPH in the area that existed prior to installation of the slurry wall.

3.3 Total Fluids Recovery Systems

3.3.1 Groundwater Recovery System

In 2018, 18 wells operated as total fluids recovery wells. The wells used for total fluids recovery were RW-1, RW-2, RW-3, RW-9, RW-14, RW-15, RW-16, RW-17, RW-19, MW-20, RW-22, RW-23, RW-28, RW-42, MW-55, MW-56, MW-57, and MW-58. In the past, Western estimated the total gallons pumped (SPH and groundwater) from the recovery wells on an annual basis. The recovery wells are not equipped with individual flow meters. Most wells are equipped with pneumatic pumps that run on a timer system. Based on the timer setting and field verified flow rates, the total gallons pumped per well over time was calculated. The wells are routinely checked to make sure they are in service and to make any repairs, as necessary, to return wells to service. Because it is not possible to know with certainty how long an individual pump may have been out of service between inspections, Western has not attempted to estimate the annual recovery volumes for the wells.

3.3.2 North Boundary Barrier Wall Collection System

Depth-to-groundwater measurements collected in April 2018 and August 2018 indicate that the barrier wall continues to provide a hydraulic barrier for groundwater below the facility. Based on the data collected in 2018, seven of the fourteen observation wells contain little to no fluid (i.e., measuring less than 0.5 ft of fluid in the well at any one time). Of the 13 well pairs (i.e., observation and collection wells on opposite sides of the slurry wall) where water is present in the observation wells, the average difference in water level elevations across the slurry wall is 6.84 feet. This difference in water level elevations immediately across the slurry wall is further evidence of its continued effectiveness.

Table 1 provides a summary of the fluids level measurements collected from the wells along the north boundary barrier wall.

3.3.3 Hammond Ditch Recovery System

The Hammond Ditch Recovery System serves as a hydraulic relief system for groundwater accumulating within the western portion of the Terminal on the up-gradient side of the slurry wall. All water recovered through the Hammond Ditch French drain west of the pipeline easement discharges to Tank 37, which is then transferred to the API separator for product recovery. The location of Tank 37 is shown on Figures 2 and 3. Terminal Operators inspect the operation of recovery system and Tank 37 daily and record the amount of water recovered in the tank using a flow meter located on the discharge end of the Tank 37 transfer pump. In 2018, the total volume of fluids recovered at Tank 37 was approximately 20,393 barrels.

3.3.4 East Outfall Recovery System

Water recovered through the Hammond Ditch French drain east of the pipeline easement discharges through three outfalls (i.e., Outfall 1, Outfall 2 and Outfall 3). Total fluids from Outfall 1 is recovered via Tank 38 and transferred to the WWTS for treatment prior to disposal through the on-site injection well. Figures 2 and 3 show the location of Tank 38.

Tank 38 piping is equipped with a flow meter to measure the total gallons transferred to the WWTP. In 2018, the total fluid volume recovered at Tank 38 was approximately 106,349 barrels.

3.4 Waste Disposal

Western Refining indefinitely suspended refining operations at the Bloomfield Facility on November 23, 2009. The crude unloading and product loading racks, storage tanks and other supporting equipment remain in operation. Recovered water from on-site remediation activities and facility operations is treated through the on-site WWTS. Treated water is then disposed of through an on-site Class I non-hazardous injection well and/or two on-site evaporations ponds. The monthly and annual cumulative volumes of water discharged to the evaporation ponds are summarized in Table 11.

Significantly less waste is routinely generated since the suspension of refining operations in November 2009. The on-site landfill is no longer operational, and therefore all operational waste generated is properly characterized and disposed of off-site. There was no off-site disposal of hazardous wastes in 2018.

SECTION 4.0
CONCLUSIONS

The following is a summary of conclusions based on monitoring and inspection data collected in 2018.

4.1 Groundwater Monitoring

Western has in-place a Facility-Wide Groundwater Monitoring Program that is updated annually as required under the 2007 Consent Order issued by NMED-HWB. Updates to this program include incorporation of additional wells installed as part of on-going completed RCRA Investigation activities. Such updates are proposed for agency approval in June of each year. Screening levels used to evaluate the groundwater condition at the Bloomfield Terminal are reflective of the same conservative screening levels currently used for evaluation of on-going RCRA Investigation activities. Tables 3 through 10 include the applicable screening level for each respective analyte. Sample results included in the analytical summary tables that exceed the respective screening levels are highlighted in yellow and all detected results are bolded. Figure 8 and Figure 9 shows a summary of the BTEX and MTBE concentrations detected site-wide during the April 2018 and August 2018 sampling events, respectively. Figure 10 shows the results for chloride, sulfate, nitrate, and total dissolved solids (TDS) for April 2018. Figures 11 through 15 show the analytical results for naphthalene, chloride, sulfate, nitrate, and TDS for August 2018.

Depth-to-groundwater and depth-to-product measurements were collected at all facility monitoring wells, recovery wells, observation wells, collection wells and sump wells in 2018. Groundwater elevation contours show that groundwater flows in the general northwest direction, with the groundwater under the process areas flowing towards the north boundary barrier wall and Hammond Ditch Collection System.

Groundwater Quality

Based on the analytical results for groundwater monitoring collected in 2018, the following constituents were detected at concentrations in groundwater above their respective most conservative screening levels.

- Organic Compounds
    - 1,2,4-Trimethylbenzene;
    - 1,3,5-Trimethylbenzene;
    - 1,2-Dichloroethane;
    - 1-Methylnaphthalene;
    - 2-Methylnaphthalene;
    - Naphthalene;
    - Benzene;
    - Ethylbenzene;
    - MTBE;

    - Toluene;
    - Xylenes;
    - Diesel Range Organics; and
    - Motor Oil Range Organics.
- General Chemistry
    - Chloride;
    - Sulfate;
    - Nitrite; and
    - Nitrate.
- Total Metals;
    - Arsenic
- Dissolved Metals
    - Arsenic;
    - Iron; and
    - Manganese.

An investigation of naturally occurring (i.e., background) concentrations of constituents in groundwater was initiated in January 2012, with the last submission to NMED in January 2015. As of February 2019, NMED has not yet responded to the January 2015 *Investigation Report Background Concentrations*, thus background concentrations are not yet available for comparison to detected results.

4.2 Outfall and Seep Inspections

Bi-monthly visual inspections of the seeps and along the San Juan River Bluff, which includes the East Fork Area, were conducted in 2018. No visual sheens or odors were identified during the inspections. Fluid in the Seeps is most often prevalent during the spring, corresponding with the times of higher precipitation. In 2018, only Seep 1 had sufficient discharge for sample collection in April and none of the seeps had sufficient discharge to allow for sample collection in August.

4.3 Total Fluids Recovery Systems

The Bloomfield Terminal operates and monitors several fluid recovery systems within the facility, which include:

- Groundwater Recovery System using recovery wells within the Terminal Complex;
- North Boundary Barrier Collection System;
- Hammond Ditch Recovery System;
- River Terrace Remediation system; and
- East Outfall Recovery System.

All fluids recovered from these systems, with the exception of the effluent from the River Terrace Remediation System, are pumped to the on-site WWTS for treatment prior to disposal through the on-site injection well or evaporation ponds. Water from the River Terrace is treated separately and is re-used as plant water for facility operations.

SECTION 5.0
REFERENCES

Groundwater Technology, Inc., 1994, RCRA Facility Investigation/Corrective Measures Study Report Bloomfield Refining Company #50 County Road 4990 Bloomfield, New Mexico.

NMED, 2007, State of New Mexico Environment Department v. San Juan Refining Company and Giant Industries, Inc.; Order July 27, 2007.

NMOCD, 2017, New Mexico Oil Conservation Division, Discharge Permit Renewal (GW-001) Bloomfield Refinery, June 8, 2017.

Tables

TABLE 1
Fluid Level Measurements Summary
2018 Groundwater Remediation and Monitoring Annual Report

Well ID	Date	Measuring Point Elevation *(ft amsl)*	Total Well Depth *(ft below TOC)*	Depth To Product *(ft below TOC)*	Depth To Water *(ft below TOC)*	Corrected Groundwater Elevation *(ft amsl)*	SPH Thickness *(ft)*
MW-01	08/01/18	5519.21	21.40	NPP	18.16	5501.05	NPP
	04/16/18	5519.21	21.41	NPP	17.68	5501.53	NPP
	08/22/17	5519.21	21.41	NPP	17.35	5501.86	NPP
	04/18/17	5519.21	21.56	NPP	17.62	5501.59	NPP
	08/15/16	5519.21	21.56	NPP	16.83	5502.38	NPP
	04/15/16	5519.21	21.56	NPP	17.23	5501.98	NPP
	08/18/15	5519.21	21.56	NPP	16.95	5502.26	NPP
	04/20/15	5519.21	21.56	NPP	16.95	5502.26	NPP
	08/18/14	5519.21	21.56	NPP	17.14	5502.07	NPP
	04/02/14	5519.21	21.56	NPP	17.60	5501.61	NPP
	08/05/13	5519.21	21.56	NPP	17.18	5502.03	NPP
	04/08/13	5519.21	21.56	NPP	17.51	5501.70	NPP
MW-03	08/01/18	5539.27	36.50	NPP	36.50	5502.77	NPP
	04/16/18	5539.27	36.50	NPP	36.50	5502.77	NPP
	08/22/17	5539.27	36.46	NPP	36.46	5502.81	NPP
	04/18/17	5539.27	36.75	NPP	NWP	NWP	NPP
	08/15/16	5539.27	36.75	NPP	36.29	5502.98	NPP
	04/15/16	5539.27	36.75	NPP	36.33	5502.94	NPP
	08/18/15	5539.27	36.75	NPP	36.13	5503.14	NPP
	04/27/15	5539.27	36.75	NPP	36.25	5503.02	NPP
	08/18/14	5539.27	36.75	NPP	36.49	5502.78	NPP
	04/02/14	5539.27	36.75	NPP	NWP	NWP	NPP
	08/05/13	5539.27	36.75	NPP	NWP	NWP	NPP
	04/08/13	5539.27	36.75	NPP	NWP	NWP	NPP
MW-04	08/01/18	5527.78	29.77	NPP	27.47	5500.31	NPP
	04/16/18	5527.78	29.76	NPP	27.31	5500.47	NPP
	08/22/17	5527.78	29.82	NPP	27.10	5500.68	NPP
	04/17/17	5527.78	30.48	NPP	27.85	5499.93	NPP
	08/15/16	5527.78	30.48	NPP	27.21	5500.57	NPP
	04/15/16	5527.78	30.48	NPP	27.10	5500.68	NPP
	08/25/15	5527.78	30.48	NPP	27.94	5499.84	NPP
	04/27/15	5527.78	30.48	NPP	27.12	5500.66	NPP
	08/18/14	5527.78	30.48	NPP	27.47	5500.31	NPP
	04/02/14	5527.78	30.48	NPP	27.45	5500.33	NPP
	08/05/13	5527.78	30.48	NPP	27.45	5500.33	NPP
	04/08/13	5527.78	30.48	NPP	27.41	5500.37	NPP

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Well ID	Date	Measuring Point Elevation *(ft amsl)*	Total Well Depth *(ft below TOC)*	Depth To Product *(ft below TOC)*	Depth To Water *(ft below TOC)*	Corrected Groundwater Elevation *(ft amsl)*	SPH Thickness *(ft)*
MW-05	08/02/18	5548.56	31.15	NPP	NWP	NWP	NPP
	04/16/18	5548.56	31.15	NPP	NWP	NWP	NPP
	08/22/17	5548.56	37.20	NPP	NWP	NWP	NPP
	04/18/17	5548.56	37.20	NPP	NWP	NWP	NPP
	08/16/16	5548.56	37.20	NPP	NWP	NWP	NPP
	04/18/16	5548.56	37.20	NPP	NWP	NWP	NPP
	08/13/15	5548.56	37.20	NPP	NWP	NWP	NPP
	04/27/15	5548.56	37.20	NPP	NWP	NWP	NPP
	08/18/14	5548.56	37.20	NPP	NWP	NWP	NPP
	04/02/14	5548.56	37.20	NPP	NWP	NWP	NPP
	08/05/13	5548.56	37.20	NPP	NWP	NWP	NPP
	04/08/13	5548.56	37.20	NPP	NWP	NWP	NPP
MW-06	08/02/18	5554.61	47.45	NPP	NWP	NWP	NPP
	04/16/18	5554.61	47.45	NPP	NWP	NWP	NPP
	08/22/17	5554.61	48.00	NPP	NWP	NWP	NPP
	04/18/17	5554.61	48.00	NPP	NWP	NWP	NPP
	08/16/16	5554.61	48.00	NPP	NWP	NWP	NPP
	04/18/16	5554.61	48.00	NPP	NWP	NWP	NPP
	08/13/15	5554.61	48.00	NPP	NWP	NWP	NPP
	04/27/15	5554.61	48.00	NPP	NWP	NWP	NPP
	08/18/14	5554.61	48.00	NPP	NWP	NWP	NPP
	04/02/14	5554.61	48.00	NPP	NWP	NWP	NPP
	08/05/13	5554.61	48.00	NPP	NWP	NWP	NPP
	04/08/13	5554.61	48.00	NPP	NWP	NWP	NPP
MW-07	08/01/18	5527.66	62.09	NPP	27.79	5499.87	NPP
	04/16/18	5527.66	62.08	NPP	27.40	5500.26	NPP
	08/22/17	5527.66	62.05	NPP	27.62	5500.04	NPP
	04/17/17	5527.66	62.61	NPP	27.28	5500.38	NPP
	08/15/16	5527.66	62.61	NPP	27.74	5499.92	NPP
	04/15/16	5527.66	62.61	NPP	27.31	5500.35	NPP
	08/13/15	5527.66	62.61	NPP	27.75	5499.91	NPP
	04/27/15	5527.66	62.61	NPP	27.43	5500.23	NPP
	08/18/14	5527.66	62.61	NPP	28.03	5499.63	NPP
	04/02/14	5527.66	62.61	NPP	27.58	5500.08	NPP
	08/05/13	5527.66	62.61	NPP	27.88	5499.78	NPP
	04/08/13	5527.66	62.61	NPP	27.45	5500.21	NPP

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Well ID	Date	Measuring Point Elevation *(ft amsl)*	Total Well Depth *(ft below TOC)*	Depth To Product *(ft below TOC)*	Depth To Water *(ft below TOC)*	Corrected Groundwater Elevation *(ft amsl)*	SPH Thickness *(ft)*
MW-08	08/01/18	5534.58	34.73	NPP	32.40	5502.18	NPP
	04/16/18	5534.58	34.78	NPP	32.22	5502.36	NPP
	08/22/17	5534.58	34.75	NPP	31.92	5502.66	NPP
	04/18/17	5534.58	35.93	NPP	31.92	5502.66	NPP
	08/16/16	5534.58	35.93	NPP	34.75	5499.83	NPP
	04/15/16	5534.58	35.93	NPP	31.62	5502.96	NPP
	08/13/15	5534.58	35.93	NPP	31.42	5503.16	NPP
	04/27/15	5534.58	35.93	NPP	31.54	5503.04	NPP
	08/18/14	5534.58	35.93	NPP	31.73	5502.85	NPP
	04/02/14	5534.58	35.93	NPP	32.11	5502.47	NPP
	08/05/13	5534.58	35.93	NPP	31.90	5502.68	NPP
	04/08/13	5534.58	35.93	NPP	31.82	5502.76	NPP
MW-11	08/02/18	5510.31	21.80	NPP	12.28	5498.03	NPP
	04/16/18	5510.31	21.81	NPP	12.12	5498.19	NPP
	08/23/17	5510.31	22.32	NPP	12.11	5498.20	NPP
	04/18/17	5510.31	22.94	NPP	11.49	5498.82	NPP
	08/16/16	5510.31	22.94	NPP	11.11	5499.20	NPP
	04/18/16	5510.31	22.94	NPP	11.89	5498.42	NPP
	08/19/15	5510.31	22.94	NPP	11.25	5499.06	NPP
	04/20/15	5510.31	22.94	NPP	11.30	5499.01	NPP
	08/18/14	5510.31	22.94	NPP	10.95	5499.36	NPP
	04/02/14	5510.31	22.94	NPP	11.85	5498.46	NPP
	08/05/13	5510.31	22.94	NPP	11.82	5498.49	NPP
	04/08/13	5510.31	22.94	NPP	11.91	5498.40	NPP
MW-12	08/02/18	5501.61	13.15	NPP	10.30	5491.31	NPP
	04/16/18	5501.61	13.15	NPP	10.65	5490.96	NPP
	08/25/17	5501.61	13.36	NPP	10.29	5491.32	NPP
	04/18/17	5501.61	14.98	NPP	10.04	5491.57	NPP
	08/16/16	5501.61	14.98	NPP	9.49	5492.12	NPP
	04/18/16	5501.61	14.98	NPP	10.02	5500.29	NPP
	08/19/15	5501.61	14.98	NPP	8.52	5501.79	NPP
	04/20/15	5501.61	14.98	NPP	8.55	5501.76	NPP
	08/18/14	5501.61	14.98	NPP	8.42	5501.89	NPP
	04/02/14	5501.61	14.98	NPP	10.20	5500.11	NPP
	08/05/13	5501.61	14.98	NPP	10.70	5499.61	NPP
	04/08/13	5501.61	14.98	NPP	10.58	5499.73	NPP

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Fluid Level Measurements Summary
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Well ID	Date	Measuring Point Elevation *(ft amsl)*	Total Well Depth *(ft below TOC)*	Depth To Product *(ft below TOC)*	Depth To Water *(ft below TOC)*	Corrected Groundwater Elevation *(ft amsl)*	SPH Thickness *(ft)*
MW-13	08/02/18	5542.04	52.89	NPP	40.85	5501.19	NPP
	04/16/18	5542.04	52.90	NPP	40.75	5501.29	NPP
	08/23/17	5542.04	52.85	NPP	40.65	5501.39	NPP
	04/18/17	5542.04	52.89	NPP	40.59	5501.45	NPP
	08/16/16	5542.04	52.89	NPP	40.67	5501.37	NPP
	04/18/16	5542.04	52.89	NPP	40.51	5501.53	NPP
	08/18/15	5542.04	52.89	NPP	40.53	5501.51	NPP
	04/20/15	5542.04	52.89	NPP	40.68	5501.36	NPP
	08/18/14	5542.04	52.89	NPP	40.94	5501.10	NPP
	04/02/14	5542.04	52.89	NPP	40.90	5501.14	NPP
	08/05/13	5542.04	52.89	NPP	40.85	5501.19	NPP
	04/08/13	5542.04	52.89	NPP	40.80	5501.24	NPP
MW-20	08/01/18	5519.90	27.11	20.78	21.32	5499.01	0.54
	04/16/18	5519.90	27.12	20.73	21.13	5499.09	0.40
	08/22/17	5519.90	27.13	20.65	20.94	5499.19	0.29
	04/17/17	5519.90	27.13	20.60	20.87	5499.25	0.27
	08/16/16	5519.90	27.13	20.60	20.64	5499.29	0.04
	04/15/16	5519.90	27.13	20.60	21.20	5499.18	0.60
	08/13/15	5519.90	27.13	20.60	20.65	5499.29	0.05
	04/27/15	5519.90	27.13	NPP	20.73	5499.17	NPP
	08/18/14	5519.90	27.13	20.90	21.30	5498.92	0.40
	04/02/14	5519.90	27.13	20.77	21.80	5498.92	1.03
	08/05/13	5519.90	27.13	20.69	21.41	5499.07	0.72
	04/08/13	5519.90	27.13	20.81	21.65	5498.92	0.84
MW-21	08/01/18	5521.99	30.46	NPP	21.94	5500.05	NPP
	04/16/18	5521.99	30.46	NPP	21.88	5500.11	NPP
	08/22/17	5521.99	30.44	NPP	21.60	5500.39	NPP
	04/18/17	5521.99	30.38	NPP	21.58	5500.41	NPP
	08/15/16	5521.99	30.38	NPP	21.21	5500.78	NPP
	04/15/16	5521.99	30.38	NPP	21.68	5500.31	NPP
	08/13/15	5521.99	30.38	21.32	21.33	5500.67	0.01
	04/27/15	5521.99	30.38	NPP	21.54	5500.45	NPP
	08/18/14	5521.99	30.38	NPP	21.64	5500.35	NPP
	04/02/14	5521.99	30.38	NPP	22.00	5499.99	NPP
	08/05/13	5521.99	30.38	21.83	21.86	5500.15	0.03
	04/08/13	5521.99	30.38	21.82	21.87	5500.16	0.05

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Well ID	Date	Measuring Point Elevation *(ft amsl)*	Total Well Depth *(ft below TOC)*	Depth To Product *(ft below TOC)*	Depth To Water *(ft below TOC)*	Corrected Groundwater Elevation *(ft amsl)*	SPH Thickness *(ft)*
MW-25	08/02/18	5533.99	41.23	NPP	33.18	5500.81	NPP
	04/16/18	5533.99	41.24	NPP	33.06	5500.93	NPP
	08/23/17	5533.99	41.20	NPP	32.90	5501.09	NPP
	04/18/17	5533.99	41.20	NPP	32.84	5501.15	NPP
	08/16/16	5533.99	41.20	NPP	30.01	5503.98	NPP
	04/18/16	5533.99	41.20	NPP	32.86	5501.13	NPP
	08/13/15	5533.99	41.20	NPP	32.82	5501.17	NPP
	04/27/15	5533.99	41.20	NPP	33.95	5500.04	NPP
	08/18/14	5533.99	41.20	NPP	33.25	5500.74	NPP
	04/02/14	5533.99	41.20	NPP	33.24	5500.75	NPP
	08/05/13	5533.99	41.20	33.18	33.20	5500.81	0.02
	04/08/13	5533.99	41.20	33.14	33.15	5500.85	0.01
MW-26	08/02/18	5517.88	25.12	17.85	17.88	5500.02	0.03
	04/16/18	5517.88	25.12	17.73	17.76	5500.14	0.03
	08/23/17	5517.88	25.11	17.60	17.67	5500.27	0.07
	04/18/17	5517.88	25.11	17.45	17.50	5500.42	0.05
	08/16/16	5517.88	25.11	17.55	17.65	5500.31	0.10
	04/18/16	5517.88	25.11	17.51	17.65	5500.34	0.14
	08/13/15	5517.88	25.11	17.31	17.55	5500.52	0.24
	04/20/15	5517.88	25.11	17.48	17.72	5500.35	0.24
	08/18/14	5517.88	25.11	17.70	17.95	5500.13	0.25
	04/02/14	5517.88	25.11	17.78	17.82	5500.09	0.04
	08/05/13	5517.88	25.11	17.73	18.01	5500.09	0.28
	04/08/13	5517.88	25.11	17.72	17.83	5500.14	0.11
MW-27	08/02/18	5518.67	24.32	NPP	22.41	5496.26	NPP
	04/16/18	5518.67	24.32	NPP	20.88	5497.79	NPP
	08/23/17	5518.67	24.21	NPP	19.73	5498.94	NPP
	04/18/17	5518.67	24.42	NPP	18.87	5499.80	NPP
	08/16/16	5518.67	24.42	NPP	19.10	5499.57	NPP
	04/18/16	5518.67	24.42	NPP	18.91	5499.76	NPP
	08/18/15	5518.67	24.42	NPP	18.62	5500.05	NPP
	04/20/15	5518.67	24.42	NPP	18.86	5499.81	NPP
	08/18/14	5518.67	24.42	NPP	22.38	5496.29	NPP
	04/02/14	5518.67	24.42	NPP	21.65	5497.02	NPP
	08/05/13	5518.67	24.42	NPP	22.43	5496.24	NPP
	04/08/13	5518.67	24.42	NPP	21.56	5497.11	NPP

TABLE 1
Fluid Level Measurements Summary
2018 Groundwater Remediation and Monitoring Annual Report

Well ID	Date	Measuring Point Elevation *(ft amsl)*	Total Well Depth *(ft below TOC)*	Depth To Product *(ft below TOC)*	Depth To Water *(ft below TOC)*	Corrected Groundwater Elevation *(ft amsl)*	SPH Thickness *(ft)*
MW-29	08/01/18	5524.97	28.60	NPP	23.66	5501.31	NPP
	04/16/18	5524.97	28.65	NPP	23.45	5501.52	NPP
	08/22/17	5524.97	28.69	NPP	23.11	5501.86	NPP
	04/18/17	5524.97	28.62	NPP	23.23	5501.74	NPP
	08/15/16	5524.97	28.62	NPP	22.68	5502.29	NPP
	04/15/16	5524.97	28.62	NPP	23.04	5501.93	NPP
	08/24/15	5524.97	28.62	NPP	22.70	5502.27	NPP
	04/27/15	5524.97	28.62	NPP	22.83	5502.14	NPP
	08/18/14	5524.97	28.62	NPP	23.00	5501.97	NPP
	04/02/14	5524.97	28.62	NPP	23.42	5501.55	NPP
	08/05/13	5524.97	28.62	NPP	23.13	5501.84	NPP
	04/08/13	5524.97	28.62	NPP	23.25	5501.72	NPP
MW-30	08/01/18	5536.83	40.19	NPP	34.35	5502.48	NPP
	04/16/18	5536.83	40.22	34.29	34.30	5502.54	0.01
	08/22/17	5536.83	40.12	NPP	33.99	5502.84	NPP
	04/18/17	5536.83	40.13	NPP	34.07	5502.76	NPP
	08/15/16	5536.83	40.13	NPP	33.84	5502.99	NPP
	04/15/16	5536.83	40.13	NPP	33.92	5502.91	NPP
	08/24/15	5536.83	40.13	NPP	33.69	5503.14	NPP
	04/20/15	5536.83	40.13	NPP	33.82	5503.01	NPP
	08/18/14	5536.83	40.13	NPP	34.09	5502.74	NPP
	04/02/14	5536.83	40.13	34.39	34.40	5502.44	0.01
	08/05/13	5536.83	40.13	NPP	34.21	5502.62	NPP
	04/08/13	5536.83	40.13	NPP	34.16	5502.67	NPP
MW-31	08/02/18	5536.24	39.19	NPP	34.44	5501.80	NPP
	04/16/18	5536.24	39.18	NPP	34.30	5501.94	NPP
	08/22/17	5536.24	39.16	NPP	34.20	5502.04	NPP
	04/18/17	5536.24	39.16	NPP	34.16	5502.08	NPP
	08/16/16	5536.24	39.16	NPP	34.30	5501.94	NPP
	04/18/16	5536.24	39.16	NPP	34.13	5502.11	NPP
	08/24/15	5536.24	39.16	NPP	34.15	5502.09	NPP
	04/27/15	5536.24	39.16	NPP	34.34	5501.90	NPP
	08/18/14	5536.24	39.16	NPP	34.55	5501.69	NPP
	04/02/14	5536.24	39.16	NPP	34.55	5502.28	NPP
	08/05/13	5536.24	39.16	NPP	34.49	5501.75	NPP
	04/08/13	5536.24	39.16	NPP	34.37	5501.87	NPP

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Well ID	Date	Measuring Point Elevation *(ft amsl)*	Total Well Depth *(ft below TOC)*	Depth To Product *(ft below TOC)*	Depth To Water *(ft below TOC)*	Corrected Groundwater Elevation *(ft amsl)*	SPH Thickness *(ft)*
MW-32	08/02/18	5525.64	27.55	NPP	25.54	5500.10	NPP
	04/16/18	5525.64	27.53	NPP	25.45	5500.19	NPP
	08/23/17	5525.64	27.54	NPP	25.30	5500.34	NPP
	04/18/17	5525.64	27.51	NPP	25.31	5500.33	NPP
	08/16/16	5525.64	27.51	NPP	25.37	5500.27	NPP
	04/18/16	5525.64	27.51	NPP	25.25	5500.39	NPP
	08/08/15	5525.64	27.51	NPP	25.18	5500.46	NPP
	04/20/15	5525.64	27.51	NPP	25.30	5500.34	NPP
	08/18/14	5525.64	27.51	NPP	25.52	5500.12	NPP
	04/02/14	5525.64	27.51	NPP	25.55	5500.09	NPP
	08/05/13	5525.64	27.51	NPP	25.47	5500.17	NPP
	04/08/13	5525.64	27.51	NPP	25.45	5500.19	NPP
MW-33	08/02/18	5521.79	25.51	NPP	24.38	5497.41	NPP
	04/16/18	5521.79	25.51	NPP	22.78	5499.01	NPP
	08/23/17	5521.79	25.50	NPP	22.56	5499.23	NPP
	04/18/17	5521.79	25.51	NPP	22.50	5499.29	NPP
	08/16/16	5521.79	25.51	NPP	22.78	5499.01	NPP
	04/18/16	5521.79	25.51	NPP	22.54	5499.25	NPP
	08/18/15	5521.79	25.51	NPP	22.39	5499.40	NPP
	04/20/15	5521.79	25.51	NPP	22.35	5499.44	NPP
	08/18/14	5521.79	25.51	NPP	23.26	5498.53	NPP
	04/02/14	5521.79	25.51	NPP	23.45	5498.34	NPP
	08/05/13	5521.79	25.51	NPP	23.86	5497.93	NPP
	04/08/13	5521.79	25.51	NPP	23.56	5498.23	NPP
MW-34	08/02/18	5511.63	20.96	NPP	14.95	5496.68	NPP
	04/16/18	5511.63	20.96	NPP	14.87	5496.76	NPP
	08/23/17	5511.63	20.97	NPP	14.55	5497.08	NPP
	04/18/17	5511.63	20.96	NPP	14.55	5497.08	NPP
	08/16/16	5511.63	20.96	NPP	14.05	5497.58	NPP
	04/18/16	5511.63	20.96	NPP	14.57	5497.06	NPP
	08/19/15	5511.63	20.96	NPP	13.90	5497.73	NPP
	04/20/15	5511.63	20.96	NPP	13.83	5497.80	NPP
	08/18/14	5511.63	20.96	NPP	14.01	5497.62	NPP
	04/02/14	5511.63	20.96	NPP	14.77	5496.86	NPP
	08/05/13	5511.63	20.96	NPP	14.63	5497.00	NPP
	04/08/13	5511.63	20.96	NPP	14.70	5496.93	NPP

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Fluid Level Measurements Summary
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Well ID	Date	Measuring Point Elevation *(ft amsl)*	Total Well Depth *(ft below TOC)*	Depth To Product *(ft below TOC)*	Depth To Water *(ft below TOC)*	Corrected Groundwater Elevation *(ft amsl)*	SPH Thickness *(ft)*
MW-35	08/02/18	5518.95	25.92	NPP	22.72	5496.23	NPP
	04/16/18	5518.95	25.65	NPP	22.68	5496.27	NPP
	08/23/17	5518.95	25.62	NPP	22.32	5496.63	NPP
	04/18/17	5518.95	26.45	NPP	22.45	5496.50	NPP
	08/16/16	5518.95	26.45	NPP	22.04	5496.91	NPP
	04/18/16	5518.95	26.45	NPP	22.44	5496.51	NPP
	08/19/15	5518.95	26.45	NPP	21.83	5497.12	NPP
	04/20/15	5518.95	26.45	NPP	22.85	5496.10	NPP
	08/18/14	5518.95	26.45	NPP	22.34	5496.61	NPP
	04/02/14	5518.95	26.45	NPP	22.69	5496.26	NPP
	08/05/13	5518.95	26.45	NPP	22.54	5496.41	NPP
	04/08/13	5518.95	26.45	NPP	22.57	5496.38	NPP
MW-36	08/02/18	5516.95	23.06	NPP	21.01	5495.94	NPP
	04/16/18	5516.95	23.08	NPP	21.16	5495.79	NPP
	08/23/17	5516.95	23.06	NPP	20.77	5496.18	NPP
	04/18/17	5516.95	23.26	NPP	20.86	5496.09	NPP
	08/16/16	5516.95	23.26	NPP	20.18	5496.77	NPP
	04/18/16	5516.95	23.26	NPP	20.95	5496.00	NPP
	08/13/15	5516.95	23.26	NPP	20.16	5496.79	NPP
	04/27/15	5516.95	23.26	NPP	19.87	5497.08	NPP
	08/18/14	5516.95	23.26	NPP	19.64	5497.31	NPP
	04/02/14	5516.95	23.26	NPP	21.12	5495.83	NPP
	08/05/13	5516.95	23.26	NPP	20.98	5495.97	NPP
	04/08/13	5516.95	23.26	NPP	21.10	5495.85	NPP
MW-37	08/02/18	5519.62	27.37	NPP	23.77	5495.85	NPP
	04/16/18	5519.62	27.39	NPP	23.80	5495.82	NPP
	08/23/17	5519.62	27.35	NPP	23.44	5496.18	NPP
	04/18/17	5519.62	27.58	NPP	23.60	5496.02	NPP
	08/16/16	5519.62	27.58	NPP	23.21	5496.41	NPP
	04/18/16	5519.62	27.58	NPP	23.66	5495.96	NPP
	08/19/15	5519.62	27.58	NPP	23.06	5496.56	NPP
	04/20/15	5519.62	27.58	NPP	23.13	5496.49	NPP
	08/18/14	5519.62	27.58	NPP	22.98	5496.64	NPP
	04/02/14	5519.62	27.58	NPP	23.72	5495.90	NPP
	08/05/13	5519.62	27.58	NPP	23.69	5495.93	NPP
	04/08/13	5519.62	27.58	NPP	23.72	5495.90	NPP

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Fluid Level Measurements Summary
2018 Groundwater Remediation and Monitoring Annual Report

Well ID	Date	Measuring Point Elevation *(ft amsl)*	Total Well Depth *(ft below TOC)*	Depth To Product *(ft below TOC)*	Depth To Water *(ft below TOC)*	Corrected Groundwater Elevation *(ft amsl)*	SPH Thickness *(ft)*
MW-38	08/02/18	5519.19	26.84	NPP	23.90	5495.29	NPP
	04/16/18	5519.19	26.84	NPP	23.89	5495.30	NPP
	08/22/17	5519.19	26.82	NPP	23.57	5495.62	NPP
	04/18/17	5519.19	26.82	NPP	23.59	5495.60	NPP
	08/16/16	5519.19	26.82	NPP	23.13	5496.06	NPP
	04/18/16	5519.19	26.82	NPP	23.64	5495.55	NPP
	08/19/15	5519.19	26.82	NPP	23.19	5496.00	NPP
	04/20/15	5519.19	26.82	NPP	23.08	5496.11	NPP
	08/18/14	5519.19	26.82	NPP	22.45	5496.74	NPP
	04/02/14	5519.19	26.82	NPP	23.83	5495.36	NPP
	08/05/13	5519.19	26.82	NPP	23.91	5495.28	NPP
	04/08/13	5519.19	26.82	NPP	23.87	5495.32	NPP
MW-39	08/01/18	5520.83	38.34	NPP	25.70	5495.13	NPP
	04/16/18	5520.83	38.34	NPP	25.50	5495.33	NPP
	08/22/17	5520.83	38.31	NPP	25.73	5495.10	NPP
	04/17/17	5520.83	38.34	NPP	25.53	5495.30	NPP
	08/16/16	5520.83	38.34	NPP	25.80	5495.03	NPP
	04/15/16	5520.83	38.34	NPP	25.60	5495.23	NPP
	08/13/15	5520.83	38.34	NPP	25.78	5495.05	NPP
	04/27/15	5520.83	38.34	NPP	25.75	5495.08	NPP
	08/18/14	5520.83	38.34	NPP	25.94	5494.89	NPP
	04/02/14	5520.83	38.34	NPP	25.70	5495.13	NPP
	08/05/13	5520.83	38.34	NPP	25.95	5494.88	NPP
	04/08/13	5520.83	38.34	NPP	25.70	5495.13	NPP
MW-40	08/01/18	5527.31	29.62	NPP	28.33	5498.98	NPP
	04/16/18	5527.31	29.61	NPP	27.92	5499.39	NPP
	08/22/17	5527.31	30.07	NPP	27.94	5499.37	NPP
	04/17/17	5527.31	30.07	NPP	27.86	5499.45	NPP
	08/16/16	5527.31	30.07	NPP	28.14	5499.17	NPP
	04/15/16	5527.31	30.07	NPP	28.25	5499.06	NPP
	08/13/15	5527.31	30.07	28.08	28.09	5499.23	0.01
	04/27/15	5527.31	30.07	NPP	28.08	5499.23	NPP
	08/18/14	5527.31	30.07	28.59	28.65	5498.71	0.06
	04/02/14	5527.31	30.07	28.55	29.10	5498.65	0.55
	08/05/13	5527.31	30.07	28.42	28.81	5498.81	0.39
	04/08/13	5527.31	30.07	28.48	28.77	5498.77	0.29

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Well ID	Date	Measuring Point Elevation *(ft amsl)*	Total Well Depth *(ft below TOC)*	Depth To Product *(ft below TOC)*	Depth To Water *(ft below TOC)*	Corrected Groundwater Elevation *(ft amsl)*	SPH Thickness *(ft)*
MW-41	08/01/18	5526.41	31.25	26.85	26.95	5499.54	0.10
	04/16/18	5526.41	31.25	26.51	26.58	5499.89	0.07
	08/22/17	5526.41	31.62	26.38	26.49	5500.01	0.11
	04/17/17	5526.41	31.62	NPP	26.21	5500.20	NPP
	08/16/16	5526.41	31.62	NPP	28.14	5498.27	NPP
	04/15/16	5526.41	31.62	26.55	26.66	5499.84	0.11
	08/13/15	5526.41	31.62	26.43	26.67	5499.93	0.24
	04/27/15	5526.41	31.62	26.59	26.80	5499.78	0.21
	08/18/14	5526.41	31.62	26.96	27.70	5499.30	0.74
	04/02/14	5526.41	31.62	26.96	27.99	5499.24	1.03
	08/05/13	5526.41	31.62	26.83	27.75	5499.40	0.92
	04/08/13	5526.41	31.62	26.85	27.78	5499.37	0.93
MW-44	08/01/18	5535.44	50.96	NPP	34.35	5501.09	NPP
	04/16/18	5535.44	50.98	NPP	34.10	5501.34	NPP
	08/22/17	5535.44	50.91	NPP	34.18	5501.26	NPP
	04/18/17	5535.44	50.91	NPP	34.05	5501.39	NPP
	08/16/16	5535.44	50.91	NPP	34.32	5501.12	NPP
	04/15/16	5535.44	50.91	NPP	33.98	5501.46	NPP
	08/24/15	5535.44	50.91	NPP	34.30	5501.14	NPP
	04/27/15	5535.44	50.91	NPP	34.98	5500.46	NPP
	08/18/14	5535.44	50.91	NPP	34.57	5500.87	NPP
	04/02/14	5535.44	50.91	NPP	34.30	5501.14	NPP
	08/05/13	5535.44	50.91	NPP	34.46	5500.98	NPP
	04/08/13	5535.44	50.91	NPP	34.04	5501.40	NPP
MW-45	08/01/18	5506.36	16.71	11.95	11.96	5494.41	0.01
	04/17/18	5506.36	16.71	NPP	11.96	5494.40	NPP
	08/22/17	5506.36	16.74	NPP	11.83	5494.53	NPP
	04/17/17	5506.36	16.92	NPP	11.81	5494.55	NPP
	08/16/16	5506.36	16.92	NPP	11.78	5494.58	NPP
	04/15/16	5506.36	16.92	NPP	11.88	5494.48	NPP
	08/13/15	5506.36	16.92	NPP	11.85	5494.51	NPP
	04/27/15	5506.36	16.92	NPP	11.95	5494.41	NPP
	08/18/14	5506.36	16.92	NPP	11.85	5494.51	NPP
	04/02/14	5506.36	16.92	12.07	12.15	5494.27	0.08
	08/05/13	5506.36	16.92	11.88	11.89	5494.48	0.01
	04/08/13	5506.36	16.92	11.98	12.05	5494.37	0.07

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Fluid Level Measurements Summary
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Well ID	Date	Measuring Point Elevation *(ft amsl)*	Total Well Depth *(ft below TOC)*	Depth To Product *(ft below TOC)*	Depth To Water *(ft below TOC)*	Corrected Groundwater Elevation *(ft amsl)*	SPH Thickness *(ft)*
MW-46	08/01/18	5504.65	10.10	NPP	NWP	NWP	NPP
	04/17/18	5504.65	10.10	NPP	10.10	5494.55	NPP
	08/24/17	5504.65	10.09	NPP	10.08	5494.57	NPP
	04/17/17	5504.65	10.39	NPP	NWP	NWP	NPP
	08/15/16	5504.65	10.39	NPP	NWP	NWP	NPP
	04/15/16	5504.65	10.39	NPP	10.03	5494.62	NPP
	08/13/15	5504.65	10.39	NPP	9.94	5494.71	NPP
	04/27/15	5504.65	10.39	NPP	9.94	5494.71	NPP
	08/18/14	5504.65	10.39	NPP	NWP	NWP	NPP
	04/02/14	5504.65	10.39	NPP	NWP	NWP	NPP
	08/05/13	5504.65	10.39	NPP	NWP	NWP	NPP
	04/08/13	5504.65	10.39	NPP	NWP	NWP	NPP
MW-47	08/01/18	5506.77	14.11	NPP	13.30	5493.47	NPP
	04/17/18	5506.77	14.12	NPP	13.17	5493.60	NPP
	08/23/17	5506.77	14.11	NPP	12.96	5493.81	NPP
	04/17/17	5506.77	14.28	NPP	12.60	5494.17	NPP
	08/15/16	5506.77	14.28	NPP	12.14	5494.63	NPP
	04/15/16	5506.77	14.28	NPP	12.55	5494.22	NPP
	08/13/15	5506.77	14.28	NPP	11.82	5494.95	NPP
	04/21/15	5506.77	14.28	NPP	12.23	5494.54	NPP
	08/18/14	5506.77	14.28	NPP	13.30	5493.47	NPP
	04/02/14	5506.77	14.28	NPP	13.80	5492.97	NPP
	08/05/13	5506.77	14.28	NPP	12.97	5493.80	NPP
	04/08/13	5506.77	14.28	NPP	12.84	5493.93	NPP
MW-50	08/01/18	5518.79	22.11	NPP	18.02	5500.77	NPP
	04/16/18	5518.79	22.07	NPP	17.30	5501.49	NPP
	08/22/17	5518.79	22.07	NPP	17.04	5501.75	NPP
	04/18/17	5518.79	20.00	NPP	17.42	5501.37	NPP
	08/15/16	5518.79	20.00	NPP	16.50	5502.29	NPP
	04/15/16	5518.79	20.00	NPP	16.87	5501.92	NPP
	08/13/15	5518.79	20.00	NPP	16.62	5502.17	NPP
	04/27/15	5518.79	20.00	NPP	16.67	5502.12	NPP
	08/18/14	5518.79	20.00	NPP	16.78	5502.01	NPP
	04/02/14	5518.79	20.00	NPP	17.28	5501.51	NPP
	08/05/13	5518.79	20.00	NPP	16.76	5502.03	NPP
	04/08/13	5518.79	20.00	NPP	17.21	5501.58	NPP
	08/06/12	5518.79	20.00	NPP	16.88	5501.91	NPP
	04/02/12	5518.79	20.00	NPP	17.22	5501.57	NPP

TABLE 1
Fluid Level Measurements Summary
2018 Groundwater Remediation and Monitoring Annual Report

Well ID	Date	Measuring Point Elevation *(ft amsl)*	Total Well Depth *(ft below TOC)*	Depth To Product *(ft below TOC)*	Depth To Water *(ft below TOC)*	Corrected Groundwater Elevation *(ft amsl)*	SPH Thickness *(ft)*
MW-51	08/01/18	5515.58	22.13	NPP	15.31	5500.27	NPP
	04/16/18	5515.58	22.14	NPP	15.00	5500.58	NPP
	08/22/17	5515.58	22.11	NPP	14.01	5501.57	NPP
	04/18/17	5515.58	20.00	NPP	14.93	5500.65	NPP
	08/15/16	5515.58	20.00	NPP	14.18	5501.40	NPP
	04/15/16	5515.58	20.00	NPP	14.79	5500.79	NPP
	08/13/15	5515.58	20.00	NPP	14.37	5501.21	NPP
	04/27/15	5515.58	20.00	NPP	14.52	5501.06	NPP
	08/18/14	5515.58	20.00	NPP	14.48	5501.10	NPP
	04/02/14	5515.58	20.00	NPP	14.98	5500.60	NPP
	08/05/13	5515.58	20.00	NPP	14.54	5501.04	NPP
	04/08/13	5515.58	20.00	NPP	14.95	5500.63	NPP
MW-52	08/01/18	5538.63	41.72	NPP	36.92	5501.71	NPP
	04/16/18	5538.63	41.71	NPP	36.78	5501.85	NPP
	08/22/17	5538.63	41.68	NPP	36.45	5502.18	NPP
	04/18/17	5538.63	41.00	NPP	36.49	5502.14	NPP
	08/16/16	5538.63	41.00	NPP	36.17	5502.46	NPP
	04/15/16	5538.63	41.00	NPP	36.19	5502.44	NPP
	08/13/15	5538.63	41.00	NPP	36.00	5502.63	NPP
	04/20/15	5538.63	41.00	NPP	36.05	5502.58	NPP
	08/18/14	5538.63	41.00	NPP	36.31	5502.32	NPP
	04/02/14	5538.63	41.00	NPP	36.69	5501.94	NPP
	08/05/13	5538.63	41.00	NPP	36.47	5502.16	NPP
	04/08/13	5538.63	41.00	NPP	36.41	5502.22	NPP
MW-53	08/01/18	5541.32	43.55	NPP	39.40	5501.92	NPP
	04/16/18	5541.32	43.55	NPP	39.29	5502.03	NPP
	08/22/17	5541.32	43.50	NPP	39.03	5502.29	NPP
	04/18/17	5541.32	41.50	NPP	38.99	5502.33	NPP
	08/16/16	5541.32	41.50	NPP	38.90	5502.42	NPP
	04/15/16	5541.32	41.50	NPP	38.85	5502.47	NPP
	08/13/15	5541.32	41.50	NPP	38.68	5502.64	NPP
	04/27/15	5541.32	41.50	NPP	38.80	5502.52	NPP
	08/18/14	5541.32	41.50	NPP	39.05	5502.27	NPP
	04/02/14	5541.32	41.50	NPP	39.32	5502.00	NPP
	08/05/13	5541.32	41.50	NPP	39.16	5502.16	NPP
	04/08/13	5541.32	41.50	NPP	39.04	5502.28	NPP

TABLE 1
Fluid Level Measurements Summary
2018 Groundwater Remediation and Monitoring Annual Report

Well ID	Date	Measuring Point Elevation *(ft amsl)*	Total Well Depth *(ft below TOC)*	Depth To Product *(ft below TOC)*	Depth To Water *(ft below TOC)*	Corrected Groundwater Elevation *(ft amsl)*	SPH Thickness *(ft)*
MW-54	08/01/18	5530.08	41.28	NPP	32.26	5497.82	NPP
	04/16/18	5530.08	41.24	NPP	31.83	5498.25	NPP
	08/22/17	5530.08	41.20	NPP	31.98	5498.10	NPP
	04/17/17	5530.08	38.00	NPP	31.73	5498.35	NPP
	08/16/16	5530.08	38.00	31.87	31.88	5498.21	0.01
	04/15/16	5530.08	38.00	32.46	32.52	5497.61	0.06
	08/13/15	5530.08	38.00	32.40	32.45	5497.67	0.05
	04/27/15	5530.08	38.00	32.02	32.05	5498.05	0.03
	08/18/14	5530.08	38.00	32.38	32.52	5497.67	0.14
	04/02/14	5530.08	38.00	32.75	32.95	5497.29	0.20
	08/05/13	5530.08	38.00	32.45	32.64	5497.59	0.19
	04/08/13	5530.08	38.00	32.71	32.93	5497.33	0.22
MW-55	08/01/18	5519.84	26.19	NPP	21.80	5498.04	NPP
	04/16/18	5519.84	26.18	NPP	21.75	5498.09	NPP
	08/22/17	5519.84	24.18	NPP	21.61	5498.23	NPP
	04/17/17	5519.84	27.25	NPP	21.63	5498.21	NPP
	08/15/16	5519.84	27.25	NPP	21.74	5498.10	NPP
	04/15/16	5519.84	27.25	NPP	21.71	5498.13	NPP
	08/13/15	5519.84	27.25	22.08	22.09	5497.76	0.01
	04/27/15	5519.84	27.25	21.85	21.88	5497.98	0.03
	08/18/14	5519.84	27.25	21.84	21.86	5498.00	0.02
	04/02/14	5519.84	27.25	21.95	22.01	5497.88	0.06
	08/05/13	5519.84	27.25	21.74	22.58	5497.93	0.84
	04/08/13	5519.84	27.25	21.05	21.95	5498.61	0.90
MW-56	08/01/18	5519.31	23.76	18.33	18.42	5500.96	0.09
	04/16/18	5519.31	23.76	NPP	18.25	5501.06	NPP
	08/22/17	5519.31	23.75	NPP	18.05	5501.26	NPP
	04/17/17	5519.31	23.75	NPP	17.88	5501.43	NPP
	08/15/16	5519.31	23.75	NPP	17.85	5501.46	NPP
	04/15/16	5519.31	23.75	NPP	18.03	5501.28	NPP
	08/13/15	5519.31	23.75	17.86	17.87	5501.45	0.01
	04/27/15	5519.31	23.75	18.04	18.05	5501.27	0.01
	08/18/14	5519.31	23.75	18.10	18.25	5501.18	0.15
	04/02/14	5519.31	23.75	18.26	19.10	5500.88	0.84
	08/05/13	5519.31	23.75	18.11	18.87	5501.05	0.76
	04/08/13	5519.31	23.75	18.25	19.33	5500.84	1.08

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Fluid Level Measurements Summary
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Well ID	Date	Measuring Point Elevation *(ft amsl)*	Total Well Depth *(ft below TOC)*	Depth To Product *(ft below TOC)*	Depth To Water *(ft below TOC)*	Corrected Groundwater Elevation *(ft amsl)*	SPH Thickness *(ft)*
MW-57	08/01/18	5521.17	23.95	19.74	19.76	5501.43	0.02
	04/16/18	5521.17	23.95	19.65	19.66	5501.52	0.01
	08/22/17	5521.17	24.25	19.43	19.44	5501.74	0.01
	04/17/17	5521.17	24.25	NPP	19.37	5501.80	NPP
	08/15/16	5521.17	24.25	NPP	19.29	5501.88	NPP
	04/15/16	5521.17	24.25	NPP	19.46	5501.71	NPP
	08/13/15	5521.17	24.25	19.42	19.43	5501.75	0.01
	04/27/15	5521.17	24.25	19.42	19.43	5501.75	0.01
	08/18/14	5521.17	24.25	19.60	19.75	5501.54	0.15
	04/02/14	5521.17	24.25	19.78	20.36	5501.27	0.58
	08/05/13	5521.17	24.25	19.60	20.30	5501.43	0.70
	04/08/13	5521.17	24.25	19.66	20.35	5501.37	0.69
MW-58	08/01/18	5520.29	27.35	NPP	21.15	5499.14	NPP
	04/16/18	5520.29	27.35	NPP	21.03	5499.26	NPP
	08/22/17	5520.29	27.00	20.83	20.84	5499.46	0.01
	04/17/17	5520.29	27.00	NPP	20.78	5499.51	NPP
	08/15/16	5520.29	27.00	20.9	20.93	5499.38	0.03
	04/15/16	5520.29	27.00	20.9	21.06	5499.36	0.16
	08/13/15	5520.29	27.00	20.8	20.83	5499.48	0.03
	04/27/15	5520.29	27.00	20.97	21.75	5499.16	0.78
	08/18/14	5520.29	27.00	21.08	21.87	5499.05	0.79
	04/02/14	5520.29	27.00	21.25	22.90	5498.71	1.65
	08/05/13	5520.29	27.00	21.10	22.17	5498.98	1.07
	04/08/13	5520.29	27.00	21.25	22.35	5498.82	1.10
MW-59	08/02/18	5545.20	46.88	NPP	43.62	5501.58	NPP
	04/16/18	5545.20	46.88	NPP	43.49	5501.71	NPP
	08/22/17	5545.20	46.85	NPP	43.43	5501.77	NPP
	04/18/17	5545.20	44.25	NPP	43.37	5501.83	NPP
	08/16/16	5545.20	44.25	NPP	43.52	5501.68	NPP
	04/18/16	5545.20	44.25	NPP	43.36	5501.84	NPP
	08/13/15	5545.20	44.25	NPP	43.42	5501.78	NPP
	04/27/15	5545.20	44.25	NPP	43.55	5501.65	NPP
	08/18/14	5545.20	44.25	NPP	43.75	5501.45	NPP
	04/02/14	5545.20	44.25	NPP	43.73	5501.47	NPP
	08/05/13	5545.20	44.25	NPP	43.67	5501.53	NPP
	04/08/13	5545.20	44.25	NPP	43.56	5501.64	NPP

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Fluid Level Measurements Summary
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Well ID	Date	Measuring Point Elevation *(ft amsl)*	Total Well Depth *(ft below TOC)*	Depth To Product *(ft below TOC)*	Depth To Water *(ft below TOC)*	Corrected Groundwater Elevation *(ft amsl)*	SPH Thickness *(ft)*
MW-60	08/02/18	5543.71	43.38	NPP	42.88	5500.83	NPP
	04/16/18	5543.71	43.38	NPP	42.74	5500.97	NPP
	08/22/17	5543.71	43.36	NPP	42.65	5501.06	NPP
	04/18/17	5543.71	43.33	NPP	42.58	5501.13	NPP
	08/16/16	5543.71	43.33	NPP	42.72	5500.99	NPP
	04/18/16	5543.71	43.33	NPP	42.55	5501.16	NPP
	08/13/15	5543.71	43.33	NPP	42.62	5501.09	NPP
	04/27/15	5543.71	43.33	NPP	42.76	5500.95	NPP
	08/18/14	5543.71	43.33	NPP	43.15	5500.56	NPP
	04/02/14	5543.71	43.33	NPP	43.20	5500.51	NPP
	08/05/13	5543.71	43.33	NPP	42.90	5500.81	NPP
	04/08/13	5543.71	43.33	NPP	42.85	5500.86	NPP
MW-61	08/02/18	5539.41	40.50	36.93	37.23	5502.42	0.30
	04/17/18	5539.41	40.50	36.80	37.04	5502.56	0.24
	08/22/17	5539.41	40.45	36.60	36.81	5502.77	0.21
	04/18/17	5539.41	40.25	36.59	36.80	5502.78	0.21
	08/16/16	5539.41	40.25	36.60	36.93	5502.74	0.33
	04/18/16	5539.41	40.25	36.60	36.86	5502.76	0.26
	08/13/15	5539.41	40.25	36.38	36.70	5502.97	0.32
	04/27/15	5539.41	40.25	36.60	36.96	5502.74	0.36
	08/18/14	5539.41	40.25	36.80	37.40	5502.49	0.60
	04/02/14	5539.41	40.25	36.88	37.86	5502.33	0.98
	08/05/13	5539.41	40.25	36.80	37.70	5502.43	0.90
	04/08/13	5539.41	40.25	36.71	37.40	5502.56	0.69
MW-62	08/02/18	5561.32	61.29	NPP	56.65	5504.67	NPP
	04/16/18	5561.32	61.24	NPP	56.52	5504.80	NPP
	08/22/17	5561.32	61.25	NPP	56.71	5504.61	NPP
	04/18/17	5561.32	58.25	NPP	56.53	5504.79	NPP
	08/16/16	5561.32	58.25	NPP	56.51	5504.81	NPP
	04/18/16	5561.32	58.25	NPP	56.57	5504.75	NPP
	08/13/15	5561.32	58.25	NPP	56.59	5504.73	NPP
	04/27/15	5561.32	58.25	NPP	56.33	5504.99	NPP
	08/18/14	5561.32	58.25	NPP	56.28	5505.04	NPP
	04/02/14	5561.32	58.25	NPP	56.05	5505.27	NPP
	08/05/13	5561.32	58.25	NPP	56.36	5504.96	NPP
	04/08/13	5561.32	58.25	NPP	55.93	5505.39	NPP

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Well ID	Date	Measuring Point Elevation *(ft amsl)*	Total Well Depth *(ft below TOC)*	Depth To Product *(ft below TOC)*	Depth To Water *(ft below TOC)*	Corrected Groundwater Elevation *(ft amsl)*	SPH Thickness *(ft)*
MW-63	08/02/18	5547.26	47.83	NPP	45.17	5502.09	NPP
	04/16/18	5547.26	47.79	NPP	45.02	5502.24	NPP
	08/22/17	5547.26	47.81	NPP	44.92	5502.34	NPP
	04/18/17	5547.26	46.00	NPP	44.87	5502.39	NPP
	08/16/16	5547.26	46.00	NPP	40.01	5507.25	NPP
	04/18/16	5547.26	46.00	NPP	44.87	5502.39	NPP
	08/13/15	5547.26	46.00	NPP	44.84	5502.42	NPP
	04/27/15	5547.26	46.00	NPP	45.03	5502.23	NPP
	08/18/14	5547.26	46.00	NPP	45.23	5502.03	NPP
	04/02/14	5547.26	46.00	NPP	45.27	5501.99	NPP
	08/05/13	5547.26	46.00	NPP	45.20	5502.06	NPP
	04/08/13	5547.26	46.00	NPP	45.09	5502.17	NPP
MW-64	08/02/18	5547.26	52.36	NPP	50.38	5496.88	NPP
	04/16/18	5547.26	52.35	NPP	50.25	5497.01	NPP
	08/22/17	5547.26	52.32	NPP	50.19	5497.07	NPP
	04/18/17	5547.26	52.25	NPP	44.87	5502.39	NPP
	08/16/16	5552.29	52.25	NPP	50.26	5502.03	NPP
	04/18/16	5552.29	52.25	NPP	50.11	5502.18	NPP
	08/13/15	5552.29	52.25	NPP	50.17	5502.12	NPP
	04/27/15	5552.29	52.25	NPP	50.27	5502.02	NPP
	08/18/14	5552.29	52.25	NPP	50.46	5501.83	NPP
	04/02/14	5552.29	52.25	NPP	50.45	5501.84	NPP
	08/05/13	5552.29	52.25	NPP	50.37	5501.92	NPP
	04/08/13	5552.29	52.25	NPP	50.32	5501.97	NPP
MW-65	08/02/18	5539.62	44.21	NPP	37.35	5502.27	NPP
	04/17/18	5539.62	44.21	NPP	37.22	5502.40	NPP
	08/22/17	5539.62	44.22	NPP	37.03	5502.59	NPP
	04/18/17	5539.62	44.25	NPP	36.98	5502.64	NPP
	08/16/16	5539.62	44.25	NPP	36.93	5502.69	NPP
	04/18/16	5539.62	44.25	NPP	36.94	5502.68	NPP
	08/13/15	5539.62	44.25	NPP	36.70	5502.92	NPP
	04/27/15	5539.62	44.25	NPP	37.50	5502.12	NPP
	08/18/14	5539.62	44.25	NPP	37.15	5502.47	NPP
	04/02/14	5539.62	44.25	NPP	37.38	5502.24	NPP
	08/05/13	5539.62	44.25	NPP	37.24	5502.38	NPP
	04/08/13	5539.62	44.25	NPP	37.13	5502.49	NPP

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Well ID	Date	Measuring Point Elevation *(ft amsl)*	Total Well Depth *(ft below TOC)*	Depth To Product *(ft below TOC)*	Depth To Water *(ft below TOC)*	Corrected Groundwater Elevation *(ft amsl)*	SPH Thickness *(ft)*
MW-66	08/02/18	5544.62	45.48	42.10	42.17	5502.51	0.07
	04/16/18	5544.62	45.48	41.97	42.01	5502.64	0.04
	08/22/17	5544.62	45.49	41.81	41.82	5502.81	0.01
	04/18/17	5544.62	43.25	NPP	41.77	5502.85	NPP
	08/16/16	5544.62	43.25	41.82	41.83	5502.80	0.01
	04/18/16	5544.62	43.25	NPP	41.75	5502.87	NPP
	08/13/15	5544.62	43.25	41.57	41.58	5503.05	0.01
	04/27/15	5544.62	43.25	NPP	41.81	5502.81	NPP
	08/18/14	5544.62	43.25	42.01	42.13	5502.59	0.12
	04/02/14	5544.62	43.25	42.13	42.45	5502.43	0.32
	08/05/13	5544.62	43.25	42.01	42.28	5502.56	0.27
	04/08/13	5544.62	43.25	42.04	42.20	5502.55	0.16
MW-67	08/01/18	5523.31	26.23	NPP	22.08	5501.23	NPP
	04/16/18	5523.31	26.22	NPP	21.60	5501.71	NPP
	08/22/17	5523.31	26.18	NPP	21.37	5501.94	NPP
	04/18/17	5523.31	25.14	NPP	21.53	5501.78	NPP
	08/16/16	5523.31	25.14	NPP	20.94	5502.37	NPP
	04/15/16	5523.31	25.14	NPP	21.25	5502.06	NPP
	08/13/15	5523.31	25.14	NPP	21.02	5502.29	NPP
	04/27/15	5523.31	25.14	NPP	21.10	5502.21	NPP
	08/18/14	5523.31	25.14	NPP	21.42	5501.89	NPP
	04/02/14	5523.31	25.14	NPP	21.54	5501.77	NPP
	08/05/13	5523.31	25.14	NPP	21.24	5502.07	NPP
	04/08/13	5523.31	25.14	NPP	21.47	5501.84	NPP
MW-68	08/01/18	5517.37	21.10	NPP	17.33	5500.04	NPP
	04/16/18	5517.37	21.10	NPP	17.13	5500.24	NPP
	08/22/17	5517.37	21.10	NPP	16.72	5500.65	NPP
	04/18/17	5517.37	20.58	NPP	16.91	5500.46	NPP
	08/15/16	5517.37	20.58	NPP	16.20	5501.17	NPP
	04/15/16	5517.37	20.58	NPP	16.66	5500.71	NPP
	08/13/15	5517.37	20.58	NPP	16.23	5501.14	NPP
	04/27/15	5517.37	20.58	NPP	16.40	5500.97	NPP
	08/18/14	5517.37	20.58	NPP	16.50	5500.87	NPP
	04/02/14	5517.37	20.58	NPP	16.94	5500.43	NPP
	08/05/13	5517.37	20.58	NPP	16.57	5500.80	NPP
	04/08/13	5517.37	20.58	NPP	16.84	5500.53	NPP

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Well ID	Date	Measuring Point Elevation *(ft amsl)*	Total Well Depth *(ft below TOC)*	Depth To Product *(ft below TOC)*	Depth To Water *(ft below TOC)*	Corrected Groundwater Elevation *(ft amsl)*	SPH Thickness *(ft)*
MW-69	08/18/18	5508.51	12.01	NPP	11.95	5496.56	NPP
	04/17/18	5508.51	12.01	NPP	11.94	5496.57	NPP
	08/22/17	5508.51	NM	NM	NM	NM	NM
	04/17/17	5508.51	12.08	NPP	11.90	5496.61	NPP
	08/15/16	5508.51	12.08	NPP	11.89	5496.62	NPP
	04/15/16	5508.51	12.08	NPP	11.89	5496.62	NPP
	08/13/15	5508.51	12.08	NPP	NWP	NWP	NPP
	04/27/15	5508.51	12.08	NPP	11.81	5496.70	NPP
	08/18/14	5508.51	12.08	NPP	11.96	5496.55	NPP
	04/02/14	5508.51	12.08	NPP	11.96	5496.55	NPP
	08/05/13	5508.51	12.08	NPP	11.90	5496.61	NPP
	04/08/13	5508.51	12.08	NPP	11.91	5496.60	NPP
MW-70	08/01/18	5527.96	28.94	NPP	26.36	5501.60	NPP
	04/16/18	5527.96	28.93	NPP	26.16	5501.80	NPP
	08/22/17	5527.96	28.89	NPP	25.83	5502.13	NPP
	04/18/17	5527.96	26.25	NPP	25.99	5501.97	NPP
	08/15/16	5508.51	26.25	NPP	25.43	5483.08	NPP
	04/15/16	5508.51	26.25	NPP	25.63	5482.88	NPP
	08/13/15	5527.96	26.25	NPP	25.29	5502.67	NPP
	04/27/15	5527.96	26.25	NPP	25.46	5502.50	NPP
	08/18/14	5527.96	26.25	NPP	25.56	5502.40	NPP
	04/02/14	5527.96	26.25	NPP	26.05	5501.91	NPP
	08/05/13	5527.96	26.25	NPP	25.85	5502.11	NPP
MW-71	08/01/18	5529.08	37.98	30.20	30.24	5498.87	0.04
	04/16/18	5529.08	37.98	29.96	29.97	5499.12	0.01
	08/22/17	5529.08	37.96	NPP	29.85	5499.23	NPP
	04/17/17	5529.08	38.95	NPP	29.91	5499.17	NPP
	08/16/16	5529.08	38.95	30.14	30.26	5498.92	0.12
	04/15/16	5529.08	38.95	30.12	30.16	5498.95	0.04
	08/13/15	5529.08	38.95	30.05	30.15	5499.01	0.10
	04/28/15	5529.08	38.95	30.22	30.35	5498.83	0.13
MW-72	08/01/18	5528.54	34.94	28.78	29.98	5499.52	1.20
	04/16/18	5528.54	34.95	28.55	28.71	5499.96	0.16
	08/22/17	5528.54	34.91	28.33	28.37	5500.20	0.04
	04/17/17	5528.54	34.94	28.30	28.48	5500.20	0.18
	08/16/16	5528.54	34.94	28.51	28.90	5499.95	0.39
	04/15/16	5528.54	34.94	NPP	28.93	5499.61	NPP
	08/13/15	5528.54	34.94	NPP	28.66	5499.88	NPP
	04/28/15	5528.54	34.94	NPP	28.66	5499.88	NPP

TABLE 1
Fluid Level Measurements Summary
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Well ID	Date	Measuring Point Elevation *(ft amsl)*	Total Well Depth *(ft below TOC)*	Depth To Product *(ft below TOC)*	Depth To Water *(ft below TOC)*	Corrected Groundwater Elevation *(ft amsl)*	SPH Thickness *(ft)*
MW-73	08/01/18	5528.92	36.79	NPP	29.77	5499.15	NPP
	04/16/18	5528.92	36.78	NPP	29.53	5499.39	NPP
	08/22/17	5528.92	36.76	NPP	29.39	5499.53	NPP
	04/17/17	5528.92	36.66	NPP	29.33	5499.59	NPP
	08/16/16	5528.92	36.66	NPP	29.71	5499.21	NPP
	04/15/16	5528.92	36.66	NPP	29.58	5499.34	NPP
	08/13/15	5528.92	36.66	NPP	29.61	5499.31	NPP
	04/28/15	5528.92	36.66	NPP	29.80	5499.12	NPP
MW-74	08/01/18	5528.92	33.93	NPP	29.09	5499.83	NPP
	04/16/18	5528.92	33.94	NPP	28.87	5500.05	NPP
	08/22/17	5528.92	33.91	NPP	28.75	5500.17	NPP
	04/17/17	5528.92	33.91	NPP	28.63	5500.29	NPP
	08/16/16	5528.92	33.91	NPP	28.95	5499.97	NPP
	04/15/16	5528.92	33.91	NPP	28.87	5500.05	NPP
	08/13/15	5528.92	33.91	NPP	28.79	5500.13	NPP
	04/28/15	5528.55	33.91	29.00	29.04	5499.54	0.04
MW-75	08/01/18	5528.76	32.18	NPP	28.66	5500.10	NPP
	04/16/18	5528.76	32.18	NPP	28.46	5500.30	NPP
	08/23/17	5528.76	32.25	NPP	28.21	5500.55	NPP
	04/17/17	5528.76	32.25	NPP	28.13	5500.63	NPP
	08/15/16	5528.76	32.25	NPP	28.37	5500.39	NPP
	04/15/16	5528.76	32.25	NPP	28.35	5500.41	NPP
	08/13/15	5528.76	32.25	28.15	28.16	5500.61	0.01
	04/28/15	5528.76	32.25	28.40	28.41	5500.36	0.01
MW-76	08/01/18	5528.61	34.10	NPP	29.14	5499.47	NPP
	04/16/18	5528.61	34.09	NPP	28.84	5499.77	NPP
	08/22/17	5528.61	34.09	NPP	28.70	5499.91	NPP
	04/17/17	5528.61	34.16	NPP	28.54	5500.07	NPP
	08/15/16	5528.61	34.16	NPP	28.79	5499.82	NPP
	04/15/16	5528.61	34.16	NPP	28.84	5499.77	NPP
	08/13/15	5528.61	34.16	NPP	28.48	5500.13	NPP
	04/28/15	5528.61	34.16	NPP	28.97	5499.64	NPP
MW-77	08/01/18	5527.59	34.30	28.95	29.57	5498.52	0.62
	04/16/18	5527.59	34.30	28.48	29.23	5498.96	0.75
	08/23/17	5527.59	34.30	28.63	29.22	5498.84	0.59
	04/17/17	5527.59	34.30	28.54	29.12	5498.93	0.58
	08/15/16	5527.59	34.30	28.80	29.44	5498.66	0.64
	04/15/16	5527.59	34.30	29.05	29.56	5498.44	0.51
	08/13/15	5527.59	34.30	28.93	29.50	5498.55	0.57
	04/28/15	5527.59	34.30	28.86	29.44	5498.61	0.58

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P-03	08/02/18	5510.77	22.75	NPP	11.66	5499.11	NPP
	04/16/18	5510.77	22.75	NPP	11.52	5499.25	NPP
	08/23/17	5510.77	22.73	NPP	11.34	5499.43	NPP
	04/18/17	5510.77	22.73	NPP	10.53	5500.24	NPP
	08/16/16	5510.77	22.73	NPP	10.40	5500.37	NPP
	04/18/16	5510.77	22.73	NPP	11.55	5499.22	NPP
	08/13/15	5510.77	22.73	NPP	10.71	5500.06	NPP
	04/27/15	5510.77	22.73	NPP	11.09	5499.68	NPP
	08/18/14	5510.77	22.73	NPP	10.27	5500.50	NPP
	04/02/14	5510.77	22.73	NPP	11.27	5499.50	NPP
	08/05/13	5510.77	22.73	NPP	11.04	5499.73	NPP
	04/08/13	5510.77	22.73	NPP	11.62	5499.15	NPP
BCK-1	08/02/18	5517.80	80.55	NPP	77.35	5440.45	NPP
	04/20/18	5517.80	80.55	NPP	77.35	5440.45	NPP
	08/13/15	5517.80	79.00	NPP	77.43	5440.37	NPP
	04/27/15	5517.80	79.00	NPP	77.30	5440.50	NPP
	08/18/14	5517.80	79.00	NPP	77.37	5440.43	NPP
	08/05/13	5517.80	79.00	NPP	77.28	5440.52	NPP
	04/08/13	5517.80	79.00	NPP	77.15	5440.65	NPP
	08/06/12	5517.80	79.00	NPP	77.12	5440.68	NPP
	04/02/12	5517.80	79.00	NPP	77.07	5440.73	NPP
BCK-2	08/02/18	5620.14	46.95	NPP	25.85	5594.29	NPP
	04/20/18	5620.14	46.95	NPP	25.10	5595.04	NPP
	08/13/15	5620.14	46.97	NPP	26.10	5594.04	NPP
	04/27/15	5620.14	46.97	NPP	25.57	5594.57	NPP
	08/18/14	5620.14	46.97	NPP	28.10	5592.04	NPP
	08/05/13	5620.14	46.97	NPP	26.52	5593.62	NPP
	04/08/13	5620.14	46.97	NPP	25.58	5594.56	NPP
	08/06/12	5620.14	46.97	NPP	27.17	5592.97	NPP
	04/02/12	5620.14	46.97	NPP	25.81	5594.33	NPP

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RW-01	08/01/18	5529.34	40.93	NPP	31.12	5498.22	NPP
	04/16/18	5529.34	40.91	NPP	30.80	5498.54	NPP
	08/22/17	5529.34	40.80	NPP	30.84	5498.50	NPP
	04/17/17	5529.34	40.80	NPP	30.52	5498.82	NPP
	08/16/16	5529.34	40.80	30.6	30.71	5498.72	0.11
	04/15/16	5529.34	40.80	NPP	31.31	5498.03	NPP
	08/13/15	5529.34	40.80	30.77	30.78	5498.57	0.01
	04/27/15	5529.34	40.80	NPP	30.83	5498.51	NPP
	08/18/14	5529.34	40.80	NPP	31.15	5498.19	NPP
	04/02/14	5529.34	40.80	NPP	31.62	5497.72	NPP
	08/05/13	5529.34	40.80	31.29	31.30	5498.05	0.01
	04/08/13	5529.34	40.80	NPP	31.57	5497.77	NPP
RW-02	08/01/18	5526.94	35.00	NPP	26.72	5500.22	NPP
	04/16/18	5526.94	35.10	NPP	26.55	5500.39	NPP
	08/22/17	5526.94	35.86	NPP	26.35	5500.59	NPP
	04/17/17	5526.94	35.86	NPP	26.08	5500.86	NPP
	08/15/16	5526.94	35.86	NPP	26.43	5500.51	NPP
	04/15/16	5526.94	35.86	NPP	26.35	5500.59	NPP
	08/13/15	5526.94	35.86	NPP	26.26	5500.68	NPP
	04/27/15	5526.94	35.86	NPP	26.37	5500.57	NPP
	08/18/14	5526.94	35.86	26.69	26.79	5500.23	0.10
	04/02/14	5526.94	35.86	NPP	26.67	5500.27	NPP
	08/05/13	5526.94	35.86	NPP	26.70	5500.24	NPP
	04/08/13	5526.94	35.86	NPP	26.65	5500.29	NPP
RW-03	08/01/18	5520.35	33.75	NPP	22.08	5498.27	NPP
	04/16/18	5520.35	33.78	NPP	21.72	5498.63	NPP
	08/22/17	5520.35	34.57	NM	NM	NM	NM
	04/17/17	5520.35	34.57	NPP	21.33	5499.02	NPP
	08/16/16	5520.35	34.57	NPP	21.34	5499.01	NPP
	04/15/16	5520.35	34.57	NPP	22.25	5498.10	NPP
	08/13/15	5520.35	34.57	NPP	22.02	5498.33	NPP
	04/27/15	5520.35	34.57	NPP	21.59	5498.76	NPP
	08/18/14	5520.35	34.57	NPP	21.53	5498.82	NPP
	04/02/14	5520.35	34.57	NPP	22.42	5497.93	NPP
	08/05/13	5520.35	34.57	NPP	22.10	5498.25	NPP
	04/08/13	5520.35	34.57	NPP	22.57	5497.78	NPP

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Well ID	Date	Measuring Point Elevation *(ft amsl)*	Total Well Depth *(ft below TOC)*	Depth To Product *(ft below TOC)*	Depth To Water *(ft below TOC)*	Corrected Groundwater Elevation *(ft amsl)*	SPH Thickness *(ft)*
RW-09	08/01/18	5523.21	33.54	24.73	24.74	5498.48	0.01
	04/16/18	5523.21	33.55	NPP	24.65	5498.56	NPP
	08/22/17	5523.21	34.04	24.55	24.58	5498.65	0.03
	04/17/17	5523.21	34.04	24.55	24.56	5498.66	0.01
	08/16/16	5523.21	34.04	24.64	24.67	5498.56	NPP
	04/15/16	5523.21	34.04	24.64	24.67	5498.56	0.03
	08/13/15	5523.21	34.04	24.64	24.70	5498.56	0.06
	04/27/15	5523.21	34.04	24.77	24.87	5498.42	0.10
	08/18/14	5523.21	34.04	24.75	25.09	5498.39	0.34
	04/02/14	5523.21	34.04	NPP	24.89	5498.32	NPP
	08/05/13	5523.21	34.04	24.61	24.95	5498.53	0.34
	04/08/13	5523.21	34.04	24.78	25.10	5498.37	0.32
RW-14	08/01/18	5537.50	41.92	NPP	35.65	5501.85	NPP
	04/16/18	5537.50	41.92	35.49	35.50	5502.01	0.01
	08/22/17	5537.50	41.94	NPP	35.07	5502.43	NPP
	04/17/17	5537.50	41.94	35.13	35.59	5502.28	0.46
	08/15/16	5537.50	41.94	34.79	34.83	5502.70	0.04
	04/15/16	5537.50	41.94	34.79	36.09	5502.45	1.30
	08/13/15	5537.50	41.94	NPP	34.92	5502.58	NPP
	04/27/15	5537.50	41.94	NPP	34.95	5502.55	NPP
	08/18/14	5537.50	41.94	35.94	36.05	5501.54	0.11
	04/02/14	5537.50	41.94	35.49	35.50	5502.01	0.01
	08/05/13	5537.50	41.94	NPP	35.29	5502.21	NPP
	04/08/13	5537.50	41.94	NPP	35.30	5502.20	NPP
RW-15	08/01/18	5536.83	42.22	NPP	35.40	5501.43	NPP
	04/16/18	5536.83	42.22	NPP	35.25	5501.58	NPP
	08/22/17	5536.83	43.43	NPP	34.85	5501.98	NPP
	04/18/17	5536.83	43.43	NPP	34.90	5501.93	NPP
	08/15/16	5536.83	43.43	NPP	34.68	5502.15	NPP
	04/15/16	5536.83	43.43	NPP	34.89	5501.75	NPP
	08/13/15	5536.83	43.43	NPP	34.46	5501.71	NPP
	04/27/15	5536.83	43.43	NPP	34.75	5501.86	NPP
	08/18/14	5536.83	43.43	NPP	35.95	5500.22	NPP
	04/02/14	5536.83	43.43	NPP	35.31	5501.52	NPP
	08/05/13	5536.83	43.43	NPP	35.12	5501.71	NPP
	04/08/13	5536.83	43.43	NPP	35.11	5501.72	NPP

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RW-16	08/01/18	5535.45	43.13	NPP	34.42	5501.03	NPP
	04/16/18	5535.45	43.16	NPP	34.26	5501.19	NPP
	08/22/17	5535.45	41.48	NPP	33.94	5501.51	NPP
	04/18/17	5535.45	41.48	NPP	33.90	5501.55	NPP
	08/15/16	5535.45	41.48	NPP	33.85	5501.60	NPP
	04/15/16	5535.45	41.48	33.87	33.90	5501.57	0.03
	08/13/15	5535.45	41.48	33.30	35.50	5501.71	2.20
	04/27/15	5535.45	41.48	33.83	34.15	5501.56	0.32
	08/18/14	5535.45	41.48	34.21	34.49	5501.18	0.28
	04/02/14	5535.45	41.48	34.31	34.89	5501.02	0.58
	08/05/13	5535.45	41.48	34.30	34.62	5501.09	0.32
	04/08/13	5535.45	41.48	34.10	34.20	5501.33	0.10
RW-17	08/01/18	5533.84	39.88	NPP	33.28	5500.56	NPP
	04/16/18	5533.84	40.10	NPP	33.08	5500.76	NPP
	08/22/17	5533.84	41.89	NPP	32.85	5500.99	NPP
	04/18/17	5533.84	41.89	NPP	32.76	5501.08	NPP
	08/15/16	5533.84	41.89	NPP	32.94	5500.90	NPP
	04/15/16	5533.84	41.89	NPP	32.89	5500.95	NPP
	08/13/15	5533.84	41.89	32.67	32.68	5501.17	0.01
	04/27/15	5533.84	41.89	33.04	33.08	5500.79	0.04
	08/18/14	5533.84	41.89	NPP	33.27	5500.57	NPP
	04/02/14	5533.84	41.89	NPP	33.39	5500.45	NPP
	08/05/13	5533.84	41.89	NPP	33.32	5500.52	NPP
	04/08/13	5533.84	41.89	NPP	33.18	5500.66	NPP
RW-18	08/01/18	5529.38	34.40	NPP	30.08	5499.30	NPP
	04/16/18	5529.38	34.40	NPP	29.87	5499.51	NPP
	08/23/17	5529.38	37.58	NPP	29.76	5499.62	NPP
	04/17/17	5529.38	37.58	NPP	29.71	5499.67	NPP
	08/16/16	5529.38	37.58	NPP	32.92	5496.46	NPP
	04/15/16	5529.38	37.58	NPP	29.84	5499.54	NPP
	08/13/15	5529.38	37.58	NPP	29.88	5499.50	NPP
	04/27/15	5529.38	37.58	NPP	30.02	5499.36	NPP
	08/18/14	5529.38	37.58	30.32	32.02	5498.72	1.70
	04/02/14	5529.38	37.58	NPP	30.47	5498.91	NPP
	08/05/13	5529.38	37.58	NPP	31.64	5497.74	NPP
	04/08/13	5529.38	37.58	NPP	30.18	5499.20	NPP

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RW-19	08/01/18	5530.51	35.70	30.21	31.46	5500.05	1.25
	04/16/18	5530.51	35.60	30.10	30.37	5500.36	0.27
	08/23/17	5530.51	36.64	NPP	29.86	5500.65	NPP
	04/17/17	5530.51	36.64	29.70	30.65	5500.62	0.95
	08/15/16	5530.51	36.64	NPP	31.16	5499.35	NPP
	04/15/16	5530.51	36.64	NPP	30.04	5500.47	NPP
	08/13/15	5530.51	36.64	NPP	29.96	5500.55	NPP
	04/27/15	5530.51	36.64	NPP	30.15	5500.36	NPP
	08/18/14	5530.51	36.64	30.30	30.75	5500.12	0.45
	04/02/14	5530.51	36.64	30.50	30.85	5499.94	0.35
	08/05/13	5530.51	36.64	NPP	30.50	5500.01	NPP
	04/08/13	5530.51	36.64	NPP	30.40	5500.11	NPP
RW-22	08/01/18	5524.44	35.32	NPP	25.65	5498.79	NPP
	04/16/18	5524.44	35.33	NPP	25.51	5498.93	NPP
	08/22/17	5524.44	35.60	NPP	25.36	5499.08	NPP
	04/17/17	5524.44	35.60	25.37	25.39	5499.07	0.02
	08/16/16	5524.44	35.60	25.51	25.74	5498.88	0.23
	04/15/16	5524.44	35.60	25.50	25.73	5498.89	0.23
	08/13/15	5524.44	35.60	25.50	25.55	5498.93	0.05
	04/27/15	5524.44	35.60	25.70	25.80	5498.72	0.10
	08/18/14	5524.44	35.60	25.73	26.17	5498.62	0.44
	04/02/14	5524.44	35.60	25.87	26.07	5498.53	0.20
	08/05/13	5524.44	35.60	NPP	25.62	5498.82	NPP
	04/08/13	5524.44	35.60	NPP	25.80	5498.64	NPP
RW-23	08/01/18	5521.38	35.55	23.21	23.25	5498.16	0.04
	04/16/18	5521.38	35.55	23.20	23.25	5498.17	0.05
	08/22/17	5521.38	35.53	NPP	23.09	5498.29	NPP
	04/17/17	5521.38	35.53	23.06	23.15	5498.30	0.09
	08/16/16	5521.38	35.53	22.81	22.93	5498.55	0.12
	04/15/16	5521.38	35.53	23.13	23.39	5498.20	0.26
	08/13/15	5521.38	35.53	23.80	23.82	5497.58	0.02
	04/27/15	5521.38	35.53	NPP	23.70	5497.68	NPP
	08/18/14	5521.38	35.53	23.05	23.08	5498.32	0.03
	04/02/14	5521.38	35.53	NPP	23.26	5498.12	NPP
	08/05/13	5521.38	35.53	NPP	23.15	5498.23	NPP
	04/08/13	5521.38	35.53	NPP	23.30	5498.08	NPP

TABLE 1
Fluid Level Measurements Summary
2018 Groundwater Remediation and Monitoring Annual Report

Well ID	Date	Measuring Point Elevation *(ft amsl)*	Total Well Depth *(ft below TOC)*	Depth To Product *(ft below TOC)*	Depth To Water *(ft below TOC)*	Corrected Groundwater Elevation *(ft amsl)*	SPH Thickness *(ft)*
RW-28	08/01/18	5527.93	37.00	29.19	29.98	5498.58	0.79
	04/16/18	5527.93	37.00	28.94	28.95	5498.99	0.01
	08/22/17	5527.93	36.99	29.09	29.79	5498.70	0.70
	04/18/17	5527.93	36.99	28.96	30.07	5498.75	1.11
	08/16/16	5527.93	36.99	29.10	29.36	5498.78	0.26
	04/15/16	5527.93	36.99	29.05	29.06	5498.88	0.01
	08/13/15	5527.93	36.99	26.92	26.93	5501.01	0.01
	04/27/15	5527.93	36.99	29.18	29.76	5498.63	0.58
	08/18/14	5527.93	36.99	29.56	30.02	5498.28	0.46
	04/02/14	5527.93	36.99	29.55	30.45	5498.20	0.90
	08/05/13	5527.93	36.99	29.28	30.40	5498.43	1.12
	04/08/13	5527.93	36.99	29.35	30.50	5498.35	1.15
RW-42	08/01/18	5527.48	31.97	NPP	27.36	5500.12	NPP
	04/16/18	5527.48	31.95	NPP	27.11	5500.37	NPP
	08/23/17	5527.48	31.95	NPP	27.00	5500.48	NPP
	04/17/17	5527.48	32.02	NPP	26.96	5500.52	NPP
	08/15/16	5527.48	32.02	NPP	27.10	5500.38	NPP
	04/15/16	5527.48	32.02	NPP	27.03	5500.45	NPP
	08/13/15	5527.48	32.02	26.92	26.93	5500.56	0.01
	04/27/15	5527.48	32.02	27.15	27.18	5500.32	0.03
	08/18/14	5527.48	32.02	27.36	27.70	5500.05	0.34
	04/02/14	5527.48	32.02	27.59	28.00	5499.81	0.41
	08/05/13	5527.48	32.02	27.40	27.55	5500.05	0.15
	04/08/13	5527.48	32.02	27.37	27.79	5500.03	0.42
RW-43	08/01/18	5520.02	24.19	20.72	20.74	5499.30	0.02
	04/16/18	5520.02	24.18	NPP	20.60	5499.42	NPP
	08/22/17	5520.02	24.20	NPP	20.40	5499.62	NPP
	04/17/17	5520.02	24.03	NPP	20.45	5499.57	NPP
	08/15/16	5520.02	24.03	NPP	20.44	5499.58	NPP
	04/15/16	5520.02	24.03	NPP	20.51	5499.51	NPP
	08/13/15	5520.02	24.03	20.30	20.33	5499.71	0.03
	04/27/15	5520.02	24.03	20.53	20.75	5499.45	0.22
	08/18/14	5520.02	24.03	21.80	22.00	5498.18	0.20
	04/02/14	5520.02	24.03	21.76	22.25	5498.16	0.49
	08/05/13	5520.02	24.03	21.75	21.91	5498.24	0.16
	04/08/13	5520.02	24.03	21.87	22.03	5498.12	0.16

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Well ID	Date	Measuring Point Elevation *(ft amsl)*	Total Well Depth *(ft below TOC)*	Depth To Product *(ft below TOC)*	Depth To Water *(ft below TOC)*	Corrected Groundwater Elevation *(ft amsl)*	SPH Thickness *(ft)*
OW 0+60	08/01/18	5506.62	12.30	NPP	12.10	5494.52	NPP
	04/17/18	5506.62	12.29	NPP	11.95	5494.67	NPP
	08/23/17	5506.62	12.03	NPP	11.91	5494.71	NPP
	04/18/17	5506.62	12.26	NPP	11.66	5494.96	NPP
	08/16/16	5506.62	12.26	NPP	11.14	5495.48	NPP
	04/15/16	5506.62	12.26	NPP	11.78	5494.84	NPP
	08/13/15	5506.62	12.26	NPP	10.77	5495.85	NPP
	04/21/15	5506.62	12.26	NPP	11.24	5495.38	NPP
	08/18/14	5506.62	12.26	NPP	11.01	5495.61	NPP
	04/02/14	5506.62	12.26	NPP	11.91	5494.71	NPP
	08/05/13	5506.62	12.26	NPP	11.85	5494.77	NPP
	04/08/13	5506.62	12.26	NPP	12.07	5494.55	NPP
OW 1+50	08/01/18	5508.03	14.38	14.33	NWP	NWP	NPP
	04/17/18	5508.03	14.36	14.23	14.25	5493.80	0.02
	08/23/17	5508.03	14.37	NPP	14.05	5493.98	NPP
	04/18/17	5508.03	14.36	NPP	13.74	5494.29	NPP
	08/16/16	5508.03	14.36	NPP	13.06	5494.97	NPP
	04/15/16	5508.03	14.36	NPP	13.72	5494.31	NPP
	08/13/15	5508.03	14.36	NPP	12.62	5495.41	NPP
	04/21/15	5508.03	14.36	NPP	13.24	5494.79	NPP
	08/18/14	5508.03	14.36	NPP	13.17	5494.86	NPP
	04/02/14	5508.03	14.36	NPP	13.98	5494.05	NPP
	08/05/13	5508.03	14.36	14.02	14.03	5494.01	0.01
	04/08/13	5508.03	14.36	NPP	14.05	5493.98	NPP
OW 3+85	08/01/18	5507.31	15.10	NPP	13.92	5493.39	NPP
	04/17/18	5507.31	15.08	NPP	13.73	5493.58	NPP
	08/23/17	5507.31	15.08	NPP	13.56	5493.75	NPP
	04/17/17	5507.31	15.06	NPP	13.14	5494.17	NPP
	08/15/16	5507.31	15.06	NPP	12.83	5494.48	NPP
	04/15/16	5507.31	15.06	NPP	13.15	5494.16	NPP
	08/13/15	5507.31	15.06	NPP	12.31	5495.00	NPP
	04/21/15	5507.31	15.06	NPP	12.80	5494.51	NPP
	08/18/14	5507.31	15.06	NPP	12.95	5494.36	NPP
	04/02/14	5507.31	15.06	NPP	13.49	5493.82	NPP
	08/05/13	5507.31	15.06	13.56	13.57	5493.75	0.01
	04/08/13	5507.31	15.06	NPP	13.40	5493.91	NPP

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Well ID	Date	Measuring Point Elevation *(ft amsl)*	Total Well Depth *(ft below TOC)*	Depth To Product *(ft below TOC)*	Depth To Water *(ft below TOC)*	Corrected Groundwater Elevation *(ft amsl)*	SPH Thickness *(ft)*
OW 5+50	08/01/18	5507.59	13.78	NPP	13.57	5494.02	NPP
	04/17/18	5507.59	13.78	NPP	13.65	5493.94	NPP
	08/23/17	5507.59	13.77	NPP	13.41	5494.18	NPP
	04/17/17	5507.59	13.67	NPP	13.42	5494.17	NPP
	08/15/16	5507.59	13.67	NPP	13.29	5494.30	NPP
	04/15/16	5507.59	13.67	NPP	13.43	5494.16	NPP
	08/13/15	5507.59	13.67	NPP	13.32	5494.27	NPP
	04/21/15	5507.59	13.67	NPP	13.28	5494.31	NPP
	08/18/14	5507.59	13.67	NPP	13.50	5494.09	NPP
	04/02/14	5507.59	13.67	NPP	13.64	5493.95	NPP
	08/05/13	5507.59	13.67	NPP	13.51	5494.08	NPP
	04/08/13	5507.59	13.67	NPP	13.67	5493.92	NPP
OW 6+70	08/01/18	5504.78	16.47	NPP	NWP	NWP	NPP
	04/17/18	5504.78	16.47	NPP	NWP	NWP	NPP
	08/24/17	5504.78	16.48	NPP	NWP	NWP	NPP
	04/17/17	5504.78	14.67	NPP	NWP	NWP	NPP
	08/15/16	5504.78	14.67	NPP	NWP	NWP	NPP
	04/15/16	5504.78	14.67	NPP	NWP	NWP	NPP
	08/13/15	5504.78	14.67	NPP	NWP	NWP	NPP
	04/21/15	5504.78	14.67	NPP	NWP	NWP	NPP
	08/18/14	5504.78	14.67	NPP	NWP	NWP	NPP
	04/02/14	5504.78	14.67	NPP	NWP	NWP	NPP
	08/05/13	5504.78	14.67	NPP	NWP	NWP	NPP
	04/08/13	5504.78	14.67	NPP	NWP	NWP	NPP
OW 8+10	08/01/18	5506.53	16.02	NPP	15.54	5490.99	NPP
	04/17/18	5506.53	16.03	NPP	15.55	5490.98	NPP
	08/24/17	5506.53	16.01	NPP	15.25	5491.28	NPP
	04/17/17	5506.53	15.99	NPP	13.99	5492.54	NPP
	08/15/16	5504.78	15.99	NPP	14.69	5490.09	NPP
	04/15/16	5504.78	15.99	NPP	NWP	NWP	NPP
	08/13/15	5506.53	15.99	NPP	NWP	NWP	NPP
	04/21/15	5506.53	15.99	NPP	NWP	NWP	NPP
	08/18/14	5506.53	15.99	NPP	NWP	NWP	NPP
	04/02/14	5506.53	15.99	NPP	NWP	NWP	NPP
	08/05/13	5506.53	15.99	NPP	NWP	NWP	NPP
	04/08/13	5506.53	15.99	NPP	NWP	NWP	NPP

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Fluid Level Measurements Summary
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Well ID	Date	Measuring Point Elevation *(ft amsl)*	Total Well Depth *(ft below TOC)*	Depth To Product *(ft below TOC)*	Depth To Water *(ft below TOC)*	Corrected Groundwater Elevation *(ft amsl)*	SPH Thickness *(ft)*
OW 11+15	08/01/18	5506.70	16.60	NPP	12.65	5494.05	NPP
	04/17/18	5506.70	16.60	NPP	12.64	5494.06	NPP
	08/24/17	5506.70	16.59	NPP	12.53	5494.17	NPP
	04/17/17	5506.70	16.59	NPP	12.56	5494.14	NPP
	08/15/16	5506.70	16.59	NPP	12.53	5494.17	NPP
	04/15/16	5506.70	16.59	NPP	12.65	5494.05	NPP
	08/13/15	5506.70	16.59	NPP	12.47	5494.23	NPP
	04/21/15	5506.70	16.59	NPP	12.59	5494.11	NPP
	08/18/14	5506.70	16.59	NPP	12.55	5494.15	NPP
	04/02/14	5506.70	16.59	12.74	12.75	5493.96	0.01
	08/05/13	5506.70	16.59	12.56	12.57	5494.14	0.01
	04/08/13	5506.70	16.59	12.71	12.72	5493.99	0.01
OW 14+10	08/01/18	5508.14	12.99	NPP	NWP	NWP	NPP
	04/17/18	5508.14	12.97	NPP	NWP	NWP	NPP
	08/24/17	5508.14	12.96	NPP	NWP	NWP	NPP
	04/17/17	5508.14	12.96	NPP	NWP	NWP	NPP
	08/15/16	5508.14	12.96	NPP	NWP	NWP	NPP
	04/15/16	5508.14	12.96	NPP	NWP	NWP	NPP
	08/13/15	5508.14	12.96	NPP	NWP	NWP	NPP
	04/21/15	5508.14	12.96	NPP	NWP	NWP	NPP
	08/18/14	5508.14	12.96	NPP	NWP	NWP	NPP
	04/02/14	5508.14	12.96	NPP	NWP	NWP	NPP
	08/05/13	5508.14	12.96	NPP	NWP	NWP	NPP
	04/08/13	5508.14	12.96	NPP	NWP	NWP	NPP
OW 16+60	08/01/18	5508.43	15.25	NPP	12.98	5495.45	NPP
	04/17/18	5508.43	15.25	NPP	13.43	5495.00	NPP
	08/24/17	5508.43	15.25	NPP	13.05	5495.38	NPP
	04/17/17	5508.43	15.21	NPP	12.73	5495.70	NPP
	08/15/16	5508.43	15.21	NPP	13.04	5495.39	NPP
	04/15/16	5508.43	15.21	NPP	13.06	5495.37	NPP
	08/13/15	5508.43	15.21	NPP	12.78	5495.65	NPP
	04/21/15	5508.43	15.21	NPP	12.78	5495.65	NPP
	08/18/14	5508.43	15.21	NPP	13.25	5495.18	NPP
	04/02/14	5508.43	15.21	NPP	13.10	5495.33	NPP
	08/05/13	5508.43	15.21	NPP	13.95	5494.48	NPP
	04/08/13	5508.43	15.21	NPP	13.16	5495.27	NPP

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Well ID	Date	Measuring Point Elevation *(ft amsl)*	Total Well Depth *(ft below TOC)*	Depth To Product *(ft below TOC)*	Depth To Water *(ft below TOC)*	Corrected Groundwater Elevation *(ft amsl)*	SPH Thickness *(ft)*
OW 19+50	08/01/18	5508.03	13.00	NPP	NWP	NWP	NPP
	04/17/18	5508.03	13.00	NPP	NWP	NWP	NPP
	08/24/17	5508.03	13.00	NPP	12.88	5495.15	NPP
	04/17/17	5508.03	13.00	NPP	11.85	5496.18	NPP
	08/15/16	5508.03	13.00	NPP	12.95	5495.08	NPP
	04/15/16	5508.03	13.00	NPP	12.69	5495.34	NPP
	08/13/15	5508.03	13.00	NPP	NWP	NWP	NPP
	04/21/15	5508.03	13.00	NPP	12.92	5495.11	NPP
	08/18/14	5508.03	13.00	NPP	NWP	NWP	NPP
	04/02/14	5508.03	13.00	NPP	NWP	NWP	NPP
	08/05/13	5508.03	13.00	NPP	NWP	NWP	NPP
	04/08/13	5508.03	13.00	NPP	NWP	NWP	NPP
OW 22+00	08/01/18	5506.91	14.18	NPP	13.32	5493.59	NPP
	04/17/18	5506.91	14.17	NPP	12.39	5494.52	NPP
	08/24/17	5506.91	14.15	NPP	12.91	5494.00	NPP
	04/17/17	5506.91	14.16	NPP	10.59	5496.32	NPP
	08/15/16	5506.91	14.16	NPP	10.88	5496.03	NPP
	04/15/16	5506.91	14.16	NPP	12.05	5494.86	NPP
	08/13/15	5506.91	14.16	NPP	10.80	5496.11	NPP
	04/21/15	5506.91	14.16	NPP	11.37	5495.54	NPP
	08/18/14	5506.91	14.16	NPP	12.74	5494.17	NPP
	04/02/14	5506.91	14.16	NPP	11.73	5495.18	NPP
	08/05/13	5506.91	14.16	NPP	13.04	5493.87	NPP
	04/08/13	5506.91	14.16	NPP	12.17	5494.74	NPP
OW 23+10	08/01/18	5514.12	18.35	NPP	16.75	5497.37	NPP
	04/17/18	5514.12	18.35	NPP	16.58	5497.54	NPP
	08/24/17	5514.12	18.34	NPP	16.65	5497.47	NPP
	04/17/17	5514.12	18.34	NPP	16.46	5497.66	NPP
	08/15/16	5514.12	18.34	NPP	16.37	5497.75	NPP
	04/15/16	5514.12	18.34	NPP	16.48	5497.64	NPP
	08/13/15	5514.12	18.34	NPP	16.46	5497.66	NPP
	04/21/15	5514.12	18.34	NPP	16.40	5497.72	NPP
	08/18/14	5514.12	18.34	NPP	16.50	5497.62	NPP
	04/02/14	5514.12	18.34	NPP	16.42	5497.70	NPP
	08/05/13	5514.12	18.34	NPP	16.46	5497.66	NPP
	04/08/13	5514.12	18.34	NPP	16.38	5490.53	NPP

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Well ID	Date	Measuring Point Elevation *(ft amsl)*	Total Well Depth *(ft below TOC)*	Depth To Product *(ft below TOC)*	Depth To Water *(ft below TOC)*	Corrected Groundwater Elevation *(ft amsl)*	SPH Thickness *(ft)*
OW 23+90	08/01/18	5515.18	18.10	NPP	17.58	5497.60	NPP
	04/17/18	5515.18	18.08	NPP	17.42	5497.76	NPP
	08/24/17	5515.18	18.01	NPP	17.47	5497.71	NPP
	04/17/17	5515.18	18.01	NPP	17.37	5497.81	NPP
	08/15/16	5515.18	18.01	NPP	17.25	5497.93	NPP
	04/15/16	5515.18	18.01	NPP	17.34	5497.84	NPP
	08/13/15	5515.18	18.01	NPP	17.30	5497.88	NPP
	04/21/15	5515.18	18.01	NPP	17.28	5497.90	NPP
	08/18/14	5515.18	18.01	NPP	17.33	5497.85	NPP
	04/02/14	5515.18	18.01	NPP	17.26	5497.92	NPP
	08/05/13	5515.18	18.01	NPP	17.29	5497.89	NPP
	04/08/13	5515.18	18.01	NPP	17.22	5497.96	NPP
OW 25+70	08/01/18	5509.00	13.98	NPP	11.20	5497.80	NPP
	04/17/18	5509.00	13.98	NPP	11.10	5497.90	NPP
	08/24/17	5509.00	14.00	NPP	11.17	5497.83	NPP
	04/17/17	5509.00	13.98	NPP	10.97	5498.03	NPP
	08/15/16	5509.00	13.98	NPP	10.90	5498.10	NPP
	04/15/16	5509.00	13.98	NPP	10.97	5498.03	NPP
	08/13/15	5509.00	13.98	NPP	10.97	5498.03	NPP
	04/21/15	5509.00	13.98	NPP	10.92	5498.08	NPP
	08/18/14	5509.00	13.98	NPP	10.96	5498.04	NPP
	04/02/14	5509.00	13.98	NPP	10.95	5498.05	NPP
	08/05/13	5509.00	13.98	NPP	10.93	5498.07	NPP
	04/08/13	5509.00	13.98	NPP	10.86	5498.14	NPP
CW 0+60	08/01/18	5506.68	14.10	NPP	8.76	5497.92	NPP
	04/17/18	5506.68	13.98	NPP	8.41	5498.27	NPP
	08/22/17	5506.68	14.09	NPP	8.49	5498.19	NPP
	04/18/17	5506.68	14.09	NPP	8.00	5498.68	NPP
	08/16/16	5506.68	14.09	NPP	7.99	5498.69	NPP
	04/15/16	5506.68	14.09	NPP	8.88	5497.80	NPP
	08/13/15	5506.68	14.09	NPP	8.23	5498.45	NPP
	04/21/15	5506.68	14.09	NPP	8.24	5498.44	NPP
	08/18/14	5506.68	14.09	NPP	8.19	5498.49	NPP
	04/02/14	5506.68	14.09	NPP	9.01	5497.67	NPP
	08/05/13	5506.68	14.09	NPP	8.53	5498.15	NPP
	04/08/13	5506.68	14.09	NPP	9.12	5497.56	NPP

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Fluid Level Measurements Summary
2018 Groundwater Remediation and Monitoring Annual Report

Well ID	Date	Measuring Point Elevation *(ft amsl)*	Total Well Depth *(ft below TOC)*	Depth To Product *(ft below TOC)*	Depth To Water *(ft below TOC)*	Corrected Groundwater Elevation *(ft amsl)*	SPH Thickness *(ft)*
CW 1+50	08/01/18	5505.13	13.40	NPP	7.05	5498.08	NPP
	04/17/18	5505.13	13.35	NPP	6.75	5498.38	NPP
	08/23/17	5505.13	13.38	NPP	6.80	5498.33	NPP
	04/18/17	5505.13	13.74	NPP	6.51	5498.62	NPP
	08/16/16	5505.13	13.74	NPP	6.59	5498.54	NPP
	04/15/16	5505.13	13.74	NPP	7.22	5497.91	NPP
	08/13/15	5505.13	13.74	NPP	6.84	5498.29	NPP
	04/21/15	5505.13	13.74	NPP	6.77	5498.36	NPP
	08/18/14	5505.13	13.74	NPP	6.92	5498.21	NPP
	04/02/14	5505.13	13.74	NPP	7.47	5497.66	NPP
	08/05/13	5505.13	13.74	NPP	7.13	5498.00	NPP
	04/08/13	5505.13	13.74	NPP	7.49	5497.64	NPP
CW 3+85	08/01/18	5503.87	13.12	NPP	5.45	5498.42	NPP
	04/17/18	5503.87	13.12	NPP	5.65	5498.22	NPP
	08/23/17	5503.87	13.11	NPP	5.60	5498.27	NPP
	04/17/17	5503.87	13.11	NPP	5.48	5498.39	NPP
	08/15/16	5503.87	13.11	NPP	5.52	5498.35	NPP
	04/15/16	5503.87	13.11	NPP	5.91	5497.96	NPP
	08/13/15	5503.87	13.11	NPP	5.70	5498.17	NPP
	04/21/15	5503.87	13.11	NPP	5.60	5498.27	NPP
	08/18/14	5503.87	13.11	NPP	5.85	5498.02	NPP
	04/02/14	5503.87	13.11	NPP	6.14	5497.73	NPP
	08/05/13	5503.87	13.11	NPP	5.98	5497.89	NPP
	04/08/13	5503.87	13.11	NPP	6.17	5497.70	NPP
CW 5+50	08/01/18	5503.76	12.25	NPP	6.55	5497.21	NPP
	04/17/18	5503.76	12.23	NPP	6.40	5497.36	NPP
	08/23/17	5503.76	12.27	NPP	6.45	5497.31	NPP
	04/17/17	5503.76	12.27	NPP	6.36	5497.40	NPP
	08/15/16	5503.76	12.27	NPP	6.30	5497.46	NPP
	04/15/16	5503.76	12.27	NPP	6.39	5497.37	NPP
	08/13/15	5503.76	12.27	NPP	6.38	5497.38	NPP
	04/21/15	5503.76	12.27	NPP	6.35	5497.41	NPP
	08/18/14	5503.76	12.27	NPP	6.58	5497.18	NPP
	04/02/14	5503.76	12.27	NPP	6.63	5497.13	NPP
	08/05/13	5503.76	12.27	NPP	6.50	5497.26	NPP
	04/08/13	5503.76	12.27	NPP	6.63	5497.13	NPP

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Well ID	Date	Measuring Point Elevation *(ft amsl)*	Total Well Depth *(ft below TOC)*	Depth To Product *(ft below TOC)*	Depth To Water *(ft below TOC)*	Corrected Groundwater Elevation *(ft amsl)*	SPH Thickness *(ft)*
CW 6+70	08/01/18	5503.84	6.80	NPP	NWP	NWP	NPP
	04/17/18	5503.84	6.80	NPP	6.72	5497.12	NPP
	08/24/17	5503.84	11.50	NPP	6.94	5496.90	NPP
	04/17/17	5503.84	11.45	NPP	6.61	5497.23	NPP
	08/15/16	5503.84	11.45	NPP	6.54	5497.30	NPP
	04/15/16	5503.84	11.45	NPP	6.61	5497.23	NPP
	08/13/15	5503.84	11.45	NPP	6.38	5497.46	NPP
	04/21/15	5503.84	11.45	NPP	6.63	5497.21	NPP
	08/18/14	5503.84	11.45	NPP	6.70	5497.14	NPP
	04/02/14	5503.84	11.45	NPP	6.96	5496.88	NPP
	08/05/13	5503.84	11.45	NPP	6.87	5496.97	NPP
	04/08/13	5503.84	11.45	NPP	6.93	5496.83	NPP
CW 8+10	08/01/18	5504.02	11.37	NPP	7.87	5496.15	NPP
	04/17/18	5504.02	11.35	NPP	7.70	5496.32	NPP
	08/24/17	5504.02	11.35	NPP	7.69	5496.33	NPP
	04/17/17	5504.02	11.63	NPP	7.45	5496.57	NPP
	08/15/16	5504.02	11.63	NPP	7.35	5496.67	NPP
	04/15/16	5504.02	11.63	NPP	7.56	5496.46	NPP
	08/13/15	5504.02	11.63	NPP	7.48	5496.54	NPP
	04/21/15	5504.02	11.63	NPP	7.43	5496.59	NPP
	08/18/14	5504.02	11.63	NPP	7.43	5496.59	NPP
	04/02/14	5504.02	11.63	NPP	7.80	5496.22	NPP
	08/05/13	5504.02	11.63	NPP	7.60	5496.42	NPP
	04/08/13	5504.02	11.63	NPP	7.80	5496.22	NPP
CW 8+45	08/01/18	5503.80	12.61	NPP	8.15	5495.65	NPP
	04/17/18	5503.80	12.61	NPP	7.95	5495.85	NPP
	08/24/17	5503.80	12.60	NPP	7.92	5495.88	NPP
	04/17/17	5503.80	12.60	NPP	7.67	5496.13	NPP
	08/15/16	5503.80	12.60	NPP	7.51	5496.29	NPP
	04/15/16	5503.80	12.60	NPP	7.70	5496.10	NPP
	08/13/15	5503.80	12.60	NPP	7.65	5496.15	NPP
	04/21/15	5503.80	12.60	NPP	7.68	5496.12	NPP
	08/18/14	5503.80	12.60	NPP	7.58	5496.22	NPP
	04/02/14	5503.80	12.60	NPP	7.94	5495.86	NPP
	08/05/13	5503.80	12.60	NPP	7.74	5496.06	NPP
	04/08/13	5503.80	12.60	NPP	7.91	5495.89	NPP

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Well ID	Date	Measuring Point Elevation *(ft amsl)*	Total Well Depth *(ft below TOC)*	Depth To Product *(ft below TOC)*	Depth To Water *(ft below TOC)*	Corrected Groundwater Elevation *(ft amsl)*	SPH Thickness *(ft)*
CW 11+15	08/01/18	5503.95	12.29	6.10	6.14	5497.84	0.04
	04/17/18	5503.95	12.29	NPP	6.00	5497.95	NPP
	08/24/17	5503.95	12.40	5.91	6.13	5498.00	0.22
	04/17/17	5503.95	12.27	5.81	6.23	5498.06	0.42
	08/15/16	5503.95	12.27	NPP	5.99	5497.96	NPP
	04/15/16	5503.95	12.27	5.91	6.36	5497.95	0.45
	08/13/15	5503.95	12.27	5.87	6.85	5497.88	0.98
	04/21/15	5503.95	12.27	5.97	7.05	5497.76	1.08
	08/18/14	5503.95	12.27	5.99	7.93	5497.57	1.94
	04/02/14	5503.95	12.27	6.00	7.95	5497.56	1.95
	08/05/13	5503.95	12.27	NPP	6.31	5497.64	NPP
	04/08/13	5503.95	12.27	NPP	6.22	5497.73	NPP
CW 14+10	08/01/18	5504.39	13.04	NPP	6.48	5497.91	NPP
	04/17/18	5504.39	13.04	NPP	6.52	5497.87	NPP
	08/24/17	5504.39	13.05	NPP	6.50	5497.89	NPP
	04/17/17	5504.39	13.05	NPP	6.39	5498.00	NPP
	08/15/16	5504.39	13.05	NPP	6.29	5498.10	NPP
	04/15/16	5504.39	13.05	NPP	6.25	5498.14	NPP
	08/13/15	5504.39	13.05	NPP	6.44	5497.95	NPP
	04/21/15	5504.39	13.05	NPP	6.38	5498.01	NPP
	08/18/14	5504.39	13.05	NPP	6.25	5498.14	NPP
	04/02/14	5504.39	13.05	NPP	6.45	5497.94	NPP
	08/05/13	5504.39	13.05	NPP	6.24	5498.15	NPP
	04/08/13	5504.39	13.05	NPP	6.47	5497.92	NPP
CW 16+60	08/01/18	5504.32	12.88	NPP	6.30	5498.02	NPP
	04/17/18	5504.32	12.88	NPP	6.33	5497.99	NPP
	08/24/17	5504.32	12.86	NPP	6.24	5498.08	NPP
	04/17/17	5504.32	12.86	NPP	6.20	5498.12	NPP
	08/15/16	5504.32	12.86	NPP	6.09	5498.23	NPP
	04/15/16	5504.32	12.86	NPP	6.20	5498.12	NPP
	08/13/15	5504.32	12.86	NPP	6.23	5498.09	NPP
	04/21/15	5504.32	12.86	NPP	6.18	5498.14	NPP
	08/18/14	5504.32	12.86	NPP	6.11	5498.21	NPP
	04/02/14	5504.32	12.86	NPP	6.29	5498.03	NPP
	08/05/13	5504.32	12.86	NPP	5.98	5498.34	NPP
	04/08/13	5504.32	12.86	NPP	6.34	5497.98	NPP

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Well ID	Date	Measuring Point Elevation *(ft amsl)*	Total Well Depth *(ft below TOC)*	Depth To Product *(ft below TOC)*	Depth To Water *(ft below TOC)*	Corrected Groundwater Elevation *(ft amsl)*	SPH Thickness *(ft)*
CW 19+50	08/01/18	5504.52	9.97	NPP	6.30	5498.22	NPP
	04/17/18	5504.52	9.97	NPP	6.30	5498.22	NPP
	08/24/17	5504.52	9.99	NPP	6.25	5498.27	NPP
	04/17/17	5504.52	9.99	NPP	6.18	5498.34	NPP
	08/15/16	5504.52	9.99	NPP	6.18	5498.34	NPP
	04/15/16	5504.52	9.99	NPP	6.16	5498.36	NPP
	08/13/15	5504.52	9.99	NPP	6.23	5498.29	NPP
	04/21/15	5504.52	9.99	NPP	6.24	5498.28	NPP
	08/18/14	5504.52	9.99	NPP	6.21	5498.31	NPP
	04/02/14	5504.52	9.99	NPP	6.36	5498.16	NPP
	08/05/13	5504.52	9.99	NPP	6.20	5498.32	NPP
	04/08/13	5504.52	9.99	NPP	6.39	5498.13	NPP
CW 22+00	08/01/18	5508.04	12.35	NPP	8.96	5499.08	NPP
	04/17/18	5508.04	12.35	NPP	8.91	5499.13	NPP
	08/24/17	5508.04	12.34	NPP	8.81	5499.23	NPP
	04/17/17	5508.04	12.34	NPP	8.71	5499.33	NPP
	08/15/16	5508.04	12.34	NPP	8.57	5499.47	NPP
	04/15/16	5508.04	12.34	NPP	8.73	5499.31	NPP
	08/13/15	5508.04	12.34	NPP	8.56	5499.48	NPP
	04/21/15	5508.04	12.34	NPP	8.69	5499.35	NPP
	08/18/14	5508.04	12.34	NPP	8.73	5499.31	NPP
	04/02/14	5508.04	12.34	NPP	9.01	5499.03	NPP
	08/05/13	5508.04	12.34	NPP	8.84	5499.20	NPP
	04/08/13	5508.04	12.34	NPP	8.93	5499.11	NPP
CW 23+10	08/01/18	5510.04	14.80	NPP	10.60	5499.44	NPP
	04/17/18	5510.04	14.80	NPP	10.55	5499.49	NPP
	08/24/17	5510.04	14.65	NPP	7.77	5502.27	NPP
	04/17/17	5510.04	14.65	NPP	10.32	5499.72	NPP
	08/15/16	5508.04	14.65	NPP	10.14	5497.90	NPP
	04/15/16	5508.04	14.65	NPP	10.31	5497.73	NPP
	08/13/15	5510.04	14.65	NPP	10.10	5499.94	NPP
	04/21/15	5510.04	14.65	NPP	10.28	5499.76	NPP
	08/18/14	5510.04	14.65	NPP	10.32	5499.72	NPP
	04/02/14	5510.04	14.65	NPP	10.63	5499.41	NPP
	08/05/13	5510.04	14.65	NPP	10.45	5499.59	NPP
	04/08/13	5510.04	14.65	NPP	10.54	5499.50	NPP

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Well ID	Date	Measuring Point Elevation *(ft amsl)*	Total Well Depth *(ft below TOC)*	Depth To Product *(ft below TOC)*	Depth To Water *(ft below TOC)*	Corrected Groundwater Elevation *(ft amsl)*	SPH Thickness *(ft)*
CW 23+90	08/01/18	5507.32	11.70	NPP	7.95	5499.37	NPP
	04/17/18	5507.32	11.71	NPP	7.95	5499.37	NPP
	08/24/17	5507.32	11.72	NPP	8.10	5499.22	NPP
	04/17/17	5507.32	11.72	NPP	7.77	5499.55	NPP
	08/15/16	5507.32	11.72	NPP	7.61	5499.71	NPP
	04/15/16	5507.32	11.72	NPP	7.82	5499.50	NPP
	08/13/15	5507.32	11.72	NPP	7.54	5499.78	NPP
	04/21/15	5507.32	11.72	NPP	7.74	5499.58	NPP
	08/18/14	5507.32	11.72	NPP	7.75	5499.57	NPP
	04/02/14	5507.32	11.72	NPP	8.05	5499.27	NPP
	08/05/13	5507.32	11.72	NPP	7.88	5499.44	NPP
	04/08/13	5507.32	11.72	NPP	7.99	5499.33	NPP
CW 25+95	08/01/18	5505.90	12.26	NPP	7.35	5498.55	NPP
	04/17/18	5505.90	12.26	NPP	7.30	5498.60	NPP
	08/24/17	5505.90	12.25	NPP	7.25	5498.65	NPP
	04/17/17	5505.90	12.25	NPP	7.21	5498.69	NPP
	08/15/16	5505.90	12.25	NPP	7.15	5498.75	NPP
	04/15/16	5505.90	12.25	NPP	8.10	5497.80	NPP
	08/13/15	5505.90	12.25	Active Recovery Well			
	04/21/15	5505.90	12.25	Active Recovery Well			
	08/18/14	5505.90	12.25	Active Recovery Well			
	04/02/14	5505.90	12.25	Active Recovery Well			
	08/05/13	5505.90	12.25	Active Recovery Well			
	04/08/13	5505.90	12.25	Active Recovery Well			
*SW1-0206	08/01/18	5508.27	53.10	NPP	52.60	5455.67	NPP
	04/17/18	5508.27	53.10	NPP	52.60	5455.67	NPP
	08/24/17	5508.27	53.08	NPP	52.58	5455.69	NPP
	04/17/17	5508.27	53.08	NPP	52.58	5455.69	NPP
	08/15/16	5508.27	53.08	NPP	52.61	5455.66	NPP
	04/15/16	5508.27	53.08	NPP	52.58	5455.69	NPP
	08/12/15	5508.27	53.08	NPP	52.62	5455.65	NPP
	05/19/15	5508.27	53.08	NPP	52.63	5455.64	NPP
	04/27/15	5508.27	53.08	NPP	52.61	5455.66	NPP
	03/05/15	5508.27	53.08	NPP	52.61	5455.66	NPP
	12/11/14	5508.27	53.08	NPP	52.65	5455.62	NPP
	07/29/14	5508.27	53.08	NPP	52.63	5455.64	NPP
	08/05/13	5508.27	53.08	NPP	52.58	5455.69	NPP
	04/24/13	5508.27	53.08	NPP	52.58	5455.69	NPP

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*SW2-0206	08/01/18	5508.27	27.72	NPP	24.87	5483.40	NPP
	04/17/18	5508.27	27.70	NPP	24.56	5483.71	NPP
	08/24/17	5508.27	27.69	NPP	24.80	5483.47	NPP
	04/17/17	5508.27	27.69	NPP	24.90	5483.37	NPP
	08/15/16	5508.27	27.69	NPP	25.43	5482.84	NPP
	04/15/16	5508.27	27.69	NPP	25.38	5482.89	NPP
	08/12/15	5507.75	27.69	NPP	25.80	5481.95	NPP
	05/19/15	5507.75	27.69	NPP	25.74	5482.01	NPP
	04/27/15	5507.75	27.69	NPP	25.69	5482.06	NPP
	03/05/15	5507.75	27.69	NPP	25.48	5482.27	NPP
	12/11/14	5507.75	27.69	NPP	25.41	5482.34	NPP
	07/29/14	5507.75	27.69	NPP	25.89	5481.86	NPP
	08/05/13	5507.75	27.69	NPP	25.62	5482.13	NPP
	04/24/13	5507.75	27.69	NPP	25.27	5482.48	NPP
*SW3-0206	08/01/18	5505.29	52.58	NPP	26.90	5478.39	NPP
	04/17/18	5505.29	52.58	NPP	26.50	5478.79	NPP
	08/24/17	5505.29	52.56	NPP	26.42	5478.87	NPP
	04/17/17	5505.29	52.56	NPP	26.55	5478.74	NPP
	08/15/16	5505.29	52.56	NPP	26.36	5478.93	NPP
	04/15/16	5505.29	52.56	NPP	26.56	5478.73	NPP
	08/12/15	5505.29	52.56	NPP	26.53	5478.76	NPP
	05/19/15	5505.29	52.56	NPP	26.62	5478.67	NPP
	04/27/15	5505.29	52.56	NPP	26.64	5478.65	NPP
	03/05/15	5505.29	52.56	NPP	26.53	5478.76	NPP
	12/11/14	5505.29	52.56	NPP	26.10	5479.19	NPP
	07/29/14	5505.29	52.56	NPP	26.82	5478.47	NPP
	08/05/13	5505.29	52.56	NPP	26.69	5478.60	NPP
	04/24/13	5505.29	52.56	NPP	26.70	5478.59	NPP

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*SW4-0206	08/01/18	5504.45	42.35	NPP	33.10	5471.35	NPP
	04/17/18	5504.45	42.35	NPP	32.70	5471.75	NPP
	08/24/17	5504.45	42.34	NPP	33.09	5471.36	NPP
	04/17/17	5504.45	42.34	NPP	32.72	5471.73	NPP
	08/15/16	5504.45	42.34	NPP	33.08	5471.37	NPP
	04/15/16	5504.45	42.34	NPP	32.71	5471.74	NPP
	08/12/15	5504.45	42.34	NPP	33.08	5471.37	NPP
	05/19/15	5504.45	42.34	NPP	32.81	5471.64	NPP
	04/27/15	5504.45	42.34	NPP	32.78	5471.67	NPP
	03/05/15	5504.45	42.34	NPP	32.75	5471.70	NPP
	12/11/14	5504.45	42.34	NPP	32.98	5471.47	NPP
	07/29/14	5504.45	42.34	NPP	33.05	5471.40	NPP
	08/05/13	5504.45	42.34	NPP	33.01	5471.44	NPP
	04/24/13	5504.45	42.34	NPP	32.60	5471.85	NPP
*SW5-0206	08/01/18	5514.34	52.25	NPP	34.26	5480.08	NPP
	04/17/18	5514.34	52.27	NPP	33.85	5480.49	NPP
	08/24/17	5514.34	52.24	NPP	34.04	5480.30	NPP
	04/17/17	5514.34	52.24	NPP	33.29	5481.05	NPP
	08/15/16	5514.34	52.24	NPP	34.03	5480.31	NPP
	04/15/16	5514.34	52.24	NPP	33.93	5480.41	NPP
	08/12/15	5514.34	52.24	NPP	34.20	5480.14	NPP
	05/19/15	5514.34	52.24	NPP	33.82	5480.52	NPP
	04/27/15	5514.34	52.24	NPP	33.73	5480.61	NPP
	03/05/15	5514.34	52.24	NPP	33.78	5480.56	NPP
	12/11/14	5514.34	52.24	NPP	33.75	5480.59	NPP
	07/29/14	5514.34	52.24	NPP	33.75	5480.59	NPP
	08/05/13	5514.34	52.24	NPP	34.93	5479.41	NPP
	04/24/13	5514.34	52.24	NPP	34.27	5480.07	NPP

TABLE 1
Fluid Level Measurements Summary
2018 Groundwater Remediation and Monitoring Annual Report

Well ID	Date	Measuring Point Elevation *(ft amsl)*	Total Well Depth *(ft below TOC)*	Depth To Product *(ft below TOC)*	Depth To Water *(ft below TOC)*	Corrected Groundwater Elevation *(ft amsl)*	SPH Thickness *(ft)*
*SW6-0206	08/01/18	5519.72	47.43	NPP	39.75	5479.97	NPP
	04/17/18	5519.72	47.44	NPP	38.52	5481.20	NPP
	08/24/17	5519.72	47.43	NPP	40.92	5478.80	NPP
	04/17/17	5519.72	47.41	NPP	39.06	5480.66	NPP
	08/15/16	5519.72	47.41	NPP	NWP	NWP	NPP
	04/15/16	5519.72	47.41	NPP	39.40	5480.32	NPP
	08/12/15	5519.72	47.41	NPP	41.65	5478.07	NPP
	05/19/15	5519.72	47.41	NPP	40.88	5478.84	NPP
	04/27/15	5519.72	47.41	NPP	40.74	5478.98	NPP
	03/05/15	5519.72	47.41	NPP	40.23	5479.49	NPP
	12/11/14	5519.72	47.41	NPP	40.96	5478.76	NPP
	07/29/14	5519.72	47.41	NPP	41.55	5478.17	NPP
	08/05/13	5519.72	47.41	NPP	42.00	5477.72	NPP
	04/24/13	5519.72	47.41	NPP	40.91	5478.81	NPP
*SW7-0206	08/01/18	5517.63	32.08	NPP	20.95	5496.68	NPP
	04/17/18	5517.63	32.07	NPP	20.56	5497.07	NPP
	08/24/17	5517.63	32.00	NPP	20.71	5496.92	NPP
	04/17/17	5517.63	32.95	NPP	20.83	5496.80	NPP
	08/15/16	5517.63	32.95	NPP	20.76	5496.87	NPP
	04/15/16	5517.63	32.95	NPP	20.48	5497.15	NPP
	08/12/15	5517.63	32.95	NPP	20.84	5496.79	NPP
	05/19/15	5517.63	32.95	NPP	20.67	5496.96	NPP
	04/27/15	5517.63	32.95	NPP	20.73	5496.90	NPP
	03/05/15	5517.63	32.95	NPP	20.39	5497.24	NPP
	12/11/14	5517.63	32.95	NPP	20.00	5497.63	NPP
	07/29/14	5517.63	32.95	NPP	20.82	5496.81	NPP
	04/02/14	5517.63	32.95	NPP	20.15	5497.48	NPP
	08/05/13	5517.63	32.95	NPP	20.80	5496.83	NPP
	04/24/13	5517.63	32.95	NPP	20.67	5496.96	NPP

Notes:

*SW = Wells sampled during significant rain events only
ft = feet
amsl = above mean seal level
NPP = No Product Present
NWP = No Water Present
SPH = Separate Phase Hydrocarbon
NM = Not Measured

TABLE 2
Groundwater Field Parameter Summary
2018 Groundwater Remediation and Monitoring Annual Report

Location ID	Date	Electrical Conductivity *(uS/cm)*	Total Dissolved Solids *(mg/l)*	Dissolved Oxygen *(mg/l)*	Oxidation Reduction Potential *(mV)*	pH	Temperature *(^{o}F)*
Terminal Wells							
MW-04	08/10/18	ns	ns	ns	ns	ns	ns
	08/24/17	ns	ns	ns	ns	ns	ns
	04/21/17	ns	ns	ns	ns	ns	ns
	08/23/16	2438	1.556	5.15	-104.6	6.91	63.84
	08/24/15	2706	1759	2.23	-110.7	7.05	63.56
	08/25/14	3133	2037	2.53	-131.2	7.07	65.06
	04/12/14	ns	ns	ns	ns	ns	ns
	8/7/2013	1309	852	2.44	-92.1	7.41	68.66
	04/24/13	ns	ns	ns	ns	ns	ns
MW-08	04/01/18	well is not scheduled to be sampled					
	08/24/17	ns	ns	ns	ns	ns	ns
	04/21/17	2514	1.633	4.14	43.2	7.68	57.78
	08/22/16	2149	1.398	2.72	107.2	8.04	59.41
	04/20/16	ns	ns	ns	ns	ns	ns
	08/18/15	ns	ns	ns	ns	ns	ns
	04/20/15	ns	ns	ns	ns	ns	ns
	08/25/14	ns	ns	ns	ns	ns	ns
	04/12/14	2505	1.6272	4.89	205.9	4.73	59.06
	8/8/2013	2067	1346	3.33	94.9	5.91	58.58
	04/24/13	2292	1	34.64	387.3	3.74	56.00
MW-20	08/01/18	ns	ns	ns	ns	ns	ns
	04/18/18	ns	ns	ns	ns	ns	ns
	08/24/17	ns	ns	ns	ns	ns	ns
	04/21/17	ns	ns	ns	ns	ns	ns
	08/17/16	ns	ns	ns	ns	ns	ns
	04/15/16	ns	ns	ns	ns	ns	ns
MW-21	08/13/18	3933	2554	0.59	-68.3	7.01	61.10
	08/24/17	ns	ns	ns	ns	ns	ns
	04/21/17	ns	ns	ns	ns	ns	ns
	08/23/16	4165	2.704	1.83	52.8	7.32	61.16
	04/20/16	ns	ns	ns	ns	ns	ns
	08/24/15	ns	ns	ns	ns	ns	ns
	04/20/15	ns	ns	ns	ns	ns	ns
	08/25/14	ns	ns	ns	ns	ns	ns
	04/12/14	ns	ns	ns	ns	ns	ns
	8/8/2013	ns	ns	ns	ns	ns	ns
	04/24/13	ns	ns	ns	ns	ns	ns
MW-29	08/08/18	1840	1202	2.29	200.0	7.07	62.60
	08/24/17	2305	1638	1.80	71.6	7.09	63.95
	04/21/17	ns	ns	ns	ns	ns	ns
	08/23/16	1021	663	4.63	56.0	7.52	68.73
	04/20/16	ns	ns	ns	ns	ns	ns
	08/24/15	961	624	1.81	-16.0	7.49	61.70
	04/20/15	ns	ns	ns	ns	ns	ns
	08/25/14	1162	754	2.44	-48.3	7.10	63.32
	04/12/14	ns	ns	ns	ns	ns	ns
	8/8/2013	1396	906	1.74	60.0	7.08	61.52
	04/24/13	ns	ns	ns	ns	ns	ns

TABLE 2
Groundwater Field Parameter Summary
2018 Groundwater Remediation and Monitoring Annual Report

Location ID	Date	Electrical Conductivity *(uS/cm)*	Total Dissolved Solids *(mg/l)*	Dissolved Oxygen *(mg/l)*	Oxidation Reduction Potential *(mV)*	pH	Temperature *(^{o}F)*
MW-30	08/10/18	ns	ns	ns	ns	ns	ns
	04/18/18	ns	ns	ns	ns	ns	ns
	08/24/17	ns	ns	ns	ns	ns	ns
	04/21/17	3338	2168	5.17	-61.4	7.28	53.78
	08/23/16	2757	1784	4.05	-247.5	7.08	62.52
	04/21/16	3582	2329	2.19	-260.5	7.75	64.46
	08/24/15	3009	1957	1.79	-236.3	7.19	62.18
	04/20/15	ns	ns	ns	ns	ns	ns
	08/25/14	3218	2093	3.01	-211.8	6.82	64.46
	04/12/14	ns	ns	ns	ns	ns	ns
	8/8/2013	2666	1733	1.54	-93.3	6.96	61.94
	04/24/13	2178	1	27.80	-34.5	7.00	61.00
MW-31	08/07/18	2797	1820	1.09	-143.8	7.08	65.40
	08/25/17	2647	1722	1.49	-63.1	7.25	62.60
	04/21/17	ns	ns	ns	ns	ns	ns
	08/22/16	3048	1983	2.11	7.8	8.10	63.37
	04/20/16	ns	ns	ns	ns	ns	ns
	08/24/15	ns	ns	ns	ns	ns	ns
	04/20/15	ns	ns	ns	ns	ns	ns
	08/25/14	2996	1948	2.97	-159.1	6.94	63.80
	04/12/14	ns	ns	ns	ns	ns	ns
	8/8/2013	1776	1155	4.79	-120.7	7.15	63.92
	04/24/13	ns	ns	ns	ns	ns	ns
MW-40	08/10/18	ns	ns	ns	ns	ns	ns
	08/24/17	ns	ns	ns	ns	ns	ns
	04/21/17	ns	ns	ns	ns	ns	ns
	08/17/16	ns	ns	ns	ns	ns	ns
	04/20/16	ns	ns	ns	ns	ns	ns
	08/24/15	ns	ns	ns	ns	ns	ns
	04/20/15	ns	ns	ns	ns	ns	ns
	08/25/14	ns	ns	ns	ns	ns	ns
	04/12/14	ns	ns	ns	ns	ns	ns
	8/8/2013	ns	ns	ns	ns	ns	ns
	04/24/13	ns	ns	ns	ns	ns	ns
MW-44	08/07/18	6072	3945	2.08	134.4	7.04	63.30
	08/24/17	2919	1974	2.00	-6.0	7.10	63.53
	04/21/17	ns	ns	ns	ns	ns	ns
	08/23/16	3460	2.253	5.87	-15.8	7.30	61.32
	04/20/16	ns	ns	ns	ns	ns	ns
	08/24/15	5750	3740	1.93	-97.8	7.26	61.28
	04/20/15	ns	ns	ns	ns	ns	ns
	08/25/14	5662	3679	3.09	54.1	6.86	61.16
	04/12/14	ns	ns	ns	ns	ns	ns
	8/8/2013	5484	3564	3.60	-4.3	7.07	60.98
	04/24/13	ns	ns	ns	ns	ns	ns

TABLE 2
Groundwater Field Parameter Summary
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Location ID	Date	Electrical Conductivity *(uS/cm)*	Total Dissolved Solids *(mg/l)*	Dissolved Oxygen *(mg/l)*	Oxidation Reduction Potential *(mV)*	pH	Temperature *(^{o}F)*
MW-52	08/08/18	5589	3581	1.33	187.2	6.77	61.90
	04/18/18	4916	3198	2.33	141.0	6.99	58.60
	08/24/17	4891	3180	2.10	180.0	6.88	62.00
	04/21/17	4912	3193	3.87	120.6	7.30	58.60
	08/22/16	5336	3469.000	2.81	109.6	7.63	60.04
	08/17/15	4172	2713	1.92	62.7	7.02	59.24
	08/19/14	4849	3153	3.37	64.2	6.49	60.50
	08/14/13	4471	2908	2.69	5.2	6.78	59.30
	08/15/12	3518	2286	2.60	4.7	6.61	64.70
	08/22/11	4139	3255	3.12	201.0	6.90	60.70
	08/13/10	3602	2801	0.63	291.0	7.07	62.20
RW-01	08/09/18	ns	ns	ns	ns	ns	ns
	08/24/17	ns	ns	ns	ns	ns	ns
	04/21/17	ns	ns	ns	ns	ns	ns
	08/17/16	ns	ns	ns	ns	ns	ns
	04/20/16	ns	ns	ns	ns	ns	ns
	08/24/15	ns	ns	ns	ns	ns	ns
	04/20/15	ns	ns	ns	ns	ns	ns
	08/25/14	ns	ns	ns	ns	ns	ns
	04/12/14	ns	ns	ns	ns	ns	ns
	8/8/2013	ns	ns	ns	ns	ns	ns
	04/24/13	ns	ns	ns	ns	ns	ns
RW-09	08/01/18	ns	ns	ns	ns	ns	ns
	08/24/17	ns	ns	ns	ns	ns	ns
	04/21/17	ns	ns	ns	ns	ns	ns
	08/17/16	ns	ns	ns	ns	ns	ns
	04/20/16	ns	ns	ns	ns	ns	ns
	08/24/15	ns	ns	ns	ns	ns	ns
	04/20/15	ns	ns	ns	ns	ns	ns
	08/25/14	ns	ns	ns	ns	ns	ns
	04/12/14	ns	ns	ns	ns	ns	ns
	8/8/2013	ns	ns	ns	ns	ns	ns
	04/24/13	ns	ns	ns	ns	ns	ns
RW-15	08/10/18	ns	ns	ns	ns	ns	ns
	08/24/17	ns	ns	ns	ns	ns	ns
	04/21/17	ns	ns	ns	ns	ns	ns
	08/23/16	2472	1.601	6.48	-123.8	7.67	61.15
	04/20/16	ns	ns	ns	ns	ns	ns
	08/24/15	ns	ns	ns	ns	ns	ns
	04/20/15	ns	ns	ns	ns	ns	ns
	08/25/14	3458	2249	3.65	-111.1	6.84	61.94
	04/12/14	ns	ns	ns	ns	ns	ns
	8/8/2013	2213	1439	1.33	-115.1	6.94	62.24
	04/24/13	ns	ns	ns	ns	ns	ns

TABLE 2
Groundwater Field Parameter Summary
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Location ID	Date	Electrical Conductivity *(uS/cm)*	Total Dissolved Solids *(mg/l)*	Dissolved Oxygen *(mg/l)*	Oxidation Reduction Potential *(mV)*	pH	Temperature *(^{o}F)*
RW-18	08/10/18	ns	ns	ns	ns	ns	ns
	08/24/17	ns	ns	ns	ns	ns	ns
	04/21/17	ns	ns	ns	ns	ns	ns
	08/23/16	3666	2.383	0.66	4.6	7.49	63.02
	04/20/16	ns	ns	ns	ns	ns	ns
	08/24/15	ns	ns	ns	ns	ns	ns
	04/20/15	ns	ns	ns	ns	ns	ns
	08/25/14	ns	ns	ns	ns	ns	ns
	04/12/14	ns	ns	ns	ns	ns	ns
	8/8/2013	ns	ns	ns	ns	ns	ns
	04/24/13	ns	ns	ns	ns	ns	ns
RW-23	08/01/18	ns	ns	ns	ns	ns	ns
	08/24/17	ns	ns	ns	ns	ns	ns
	04/21/17	ns	ns	ns	ns	ns	ns
	08/17/16	ns	ns	ns	ns	ns	ns
	04/20/16	ns	ns	ns	ns	ns	ns
	08/24/15	ns	ns	ns	ns	ns	ns
	04/20/15	ns	ns	ns	ns	ns	ns
	08/25/14	ns	ns	ns	ns	ns	ns
	04/12/14	ns	ns	ns	ns	ns	ns
	8/8/2013	ns	ns	ns	ns	ns	ns
	04/24/13	ns	ns	ns	ns	ns	ns
RW-28	08/01/18	ns	ns	ns	ns	ns	ns
	08/24/17	ns	ns	ns	ns	ns	ns
	04/21/17	ns	ns	ns	ns	ns	ns
	08/17/16	ns	ns	ns	ns	ns	ns
	04/20/16	ns	ns	ns	ns	ns	ns
RW-42	08/10/18	ns	ns	ns	ns	ns	ns
	08/24/17	ns	ns	ns	ns	ns	ns
	04/21/17	ns	ns	ns	ns	ns	ns
	08/24/16	2325	1.511	5.07	-228.7	7.60	64.02
	04/20/16	ns	ns	ns	ns	ns	ns
	08/24/15	ns	ns	ns	ns	ns	ns
	04/20/15	ns	ns	ns	ns	ns	ns
	08/25/14	ns	ns	ns	ns	ns	ns
	04/12/14	ns	ns	ns	ns	ns	ns
	08/08/13	ns	ns	ns	ns	ns	ns
	04/24/13	ns	ns	ns	ns	ns	ns
RW-43	08/01/18	ns	ns	ns	ns	ns	ns
	08/24/17	ns	ns	ns	ns	ns	ns
	04/21/17	ns	ns	ns	ns	ns	ns
	08/24/16	2904	1888	2.10	-151.1	9.50	67.91
	04/20/16	ns	ns	ns	ns	ns	ns
	08/24/15	ns	ns	ns	ns	ns	ns
	04/20/15	ns	ns	ns	ns	ns	ns
	08/25/14	ns	ns	ns	ns	ns	ns
	04/12/14	ns	ns	ns	ns	ns	ns
	08/08/13	ns	ns	ns	ns	ns	ns
	04/24/13	ns	ns	ns	ns	ns	ns

TABLE 2
Groundwater Field Parameter Summary
2018 Groundwater Remediation and Monitoring Annual Report

Location ID	Date	Electrical Conductivity *(uS/cm)*	Total Dissolved Solids *(mg/l)*	Dissolved Oxygen *(mg/l)*	Oxidation Reduction Potential *(mV)*	pH	Temperature *(^{o}F)*
Cross-Gradient Wells							
MW-01	08/06/18	872	592	3.40	168.0	7.11	60.70
	04/18/18	796	520	2.91	102.7	7.19	53.20
	08/25/17	765	496	2.08	126.1	7.35	64.57
	04/20/17	827	538	3.01	233.4	7.99	57.65
	08/19/16	685	444	3.81	57.4	8.09	62.83
	04/21/16	863	561	3.57	32.3	8.41	56.24
	08/18/15	852	555	2.10	47.4	7.74	63.74
	04/20/15	992	646	4.80	86.9	7.62	55.40
	08/20/14	800	520	3.35	-2.2	7.11	63.38
	04/12/14	843	546	3.37	95.1	7.02	54.14
	08/13/13	717	466	4.13	61.6	7.42	61.58
	04/24/13	725	470	3.02	153.4	7.12	53.00
MW-13	08/06/18	4038	2620	0.90	170.6	7.07	62.30
	04/18/18	3556	2314	1.61	129.0	7.11	61.10
	08/25/17	3528	2294	1.81	114.7	7.10	62.03
	04/20/17	3561	2314	1.86	195.6	7.45	63.41
	08/19/16	3560	2314	2.30	84.7	7.84	62.51
	04/21/16	3698	2404	1.66	0.0	7.46	63.61
	08/18/15	3986	2591	1.99	28.8	7.28	65.12
	04/20/15	4588	2981	3.17	80.6	7.19	61.70
	08/20/14	4004	2602	3.43	54.6	6.90	64.28
	04/12/14	3932	2557	2.43	103.8	6.91	60.86
	08/13/13	3621	2353	2.52	98.7	7.03	63.08
	04/24/13	3340	2170	4.27	99.0	7.10	60.00
MW-26	08/02/18	ns	ns	ns	ns	ns	ns
	08/28/17	ns	ns	ns	ns	ns	ns
	04/20/17	ns	ns	ns	ns	ns	ns
	08/17/16	ns	ns	ns	ns	ns	ns
	04/21/16	ns	ns	ns	ns	ns	ns
	08/18/15	ns	ns	ns	ns	ns	ns
	04/20/15	ns	ns	ns	ns	ns	ns
	08/20/14	ns	ns	ns	ns	ns	ns
	04/12/14	ns	ns	ns	ns	ns	ns
	08/13/13	ns	ns	ns	ns	ns	ns
	04/24/13	ns	ns	ns	ns	ns	ns
MW-27	08/06/18	8295	5395	1.55	262.3	7.03	65.70
	08/28/17	5587	3633	1.28	-49.2	7.05	63.10
	04/21/16	ns	ns	ns	ns	ns	ns
	08/19/16	5598	3640	2.30	-122.5	7.79	60.80
	04/21/16	ns	ns	ns	ns	ns	ns
	08/18/15	ns	ns	ns	ns	ns	ns
	04/20/15	ns	ns	ns	ns	ns	ns
	08/20/14	6950	4518	3.55	21.8	6.71	61.94
	04/12/14	ns	ns	ns	ns	ns	ns
	08/13/13	ns	ns	ns	ns	ns	ns
	04/24/13	ns	ns	ns	ns	ns	ns

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Location ID	Date	Electrical Conductivity *(uS/cm)*	Total Dissolved Solids *(mg/l)*	Dissolved Oxygen *(mg/l)*	Oxidation Reduction Potential *(mV)*	pH	Temperature *(^{o}F)*
MW-32	08/06/18	5818	3777	6.98	232.8	7.64	60.00
	08/28/17	4694	3055	7.20	144.6	7.44	64.10
	04/21/16	ns	ns	ns	ns	ns	ns
	08/19/16	5094	3309	6.86	77.7	8.32	58.73
	04/21/16	ns	ns	ns	ns	ns	ns
	08/18/15	5171	3363	8.00	41.5	7.71	60.50
	04/20/15	ns	ns	ns	ns	ns	ns
	08/20/14	5047	3280	10.08	50.9	7.32	60.20
	04/12/14	ns	ns	ns	ns	ns	ns
	08/13/13	4833	3142	8.73	87.2	7.55	58.88
	04/24/13	ns	ns	ns	ns	ns	ns
MW-33	08/06/18	5539	3601	2.55	2461.0	7.52	65.50
	04/18/18	5003	3243	3.32	145.0	7.58	59.50
	08/28/17	4947	3211	4.20	146.4	7.24	65.10
	04/20/17	5288	3439	5.64	180.0	7.91	60.19
	08/19/16	5280	3429	6.11	70.1	8.49	60.62
	04/22/16	ns	ns	ns	ns	ns	ns
	08/18/15	5594	3633	4.84	42.7	7.45	62.96
	04/20/15	6078	3950	7.37	76.4	7.76	60.08
	08/20/14	5097	3313	8.81	48.8	7.38	62.42
	04/12/14	5040	3276	10.24	88.2	7.69	59.36
	08/13/13	5621	3655	5.39	90.1	7.13	60.56
	04/24/13	4990	3240	34.33	32.6	7.75	58.00
Downgradient Wells							
MW-11	08/06/18	3014	1956	3.69	-62.6	7.05	61.70
	08/29/17	2847	1850	1.48	-74.17	6.74	65.03
	04/20/16	ns	ns	ns	ns	ns	ns
	08/18/16	2203	1432	1.77	-61.3	7.66	64.99
	04/22/16	ns	ns	ns	ns	ns	ns
	08/19/15	2221	1443	2.28	-99.3	7.06	62.84
	04/20/15	ns	ns	ns	ns	ns	ns
	08/21/14	2098	1365	3.79	-120.7	6.63	66.14
	04/12/14	ns	ns	ns	ns	ns	ns
	08/12/13	2558	1664	9.08	-82.4	6.84	64.70
	04/24/13	ns	ns	ns	ns	ns	ns
MW-12	08/06/18	459.3	298	1.17	226.1	7.24	65.50
	04/18/18	1183	773	4.60	84.4	7.44	54.40
	08/28/17	405	2639	3.48	124.9	7.28	69.30
	04/20/17	633	411	4.26	151.3	7.99	53.78
	08/18/16	402	261	2.55	42.2	9.49	65.93
	04/22/16	653	425	5.62	49.5	8.33	55.28
	08/19/15	763	496	3.25	32.7	7.65	65.72
	04/20/15	691	449	6.54	84.8	7.67	51.74
	08/21/14	572	371	2.73	-30.2	7.15	68.18
	04/12/14	826	540	6.83	44.3	7.76	51.44
	08/12/13	569	370	4.98	24.7	7.45	63.68
	04/24/13	1089	710	43.92	172.4	7.47	49.00

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Location ID	Date	Electrical Conductivity *(uS/cm)*	Total Dissolved Solids *(mg/l)*	Dissolved Oxygen *(mg/l)*	Oxidation Reduction Potential *(mV)*	pH	Temperature *(^{o}F)*
MW-34	08/06/18	3240	2041	2.95	-35.1	7.11	63.90
	08/29/17	2853	1854	1.81	-84.3	7.03	63.13
	04/20/16	ns	ns	ns	ns	ns	ns
	08/18/16	2789	1814	2.05	-77.5	7.88	60.58
	04/22/16	ns	ns	ns	ns	ns	ns
	08/19/15	2289	1489	1.54	-110.8	7.26	60.80
	04/20/15	ns	ns	ns	ns	ns	ns
	08/21/14	1574	1023	2.40	-97.4	6.95	61.88
	04/12/14	ns	ns	ns	ns	ns	ns
	08/12/13	2270	1476	1.94	-89.3	7.03	62.12
	04/24/13	ns	ns	ns	ns	ns	ns
MW-35	08/06/18	2714	1762	1.16	-50.7	7.11	62.00
	04/18/18	2100	1365	1.19	-78.7	7.12	58.60
	08/29/17	2480	1610	1.55	-91.3	7.10	62.13
	04/20/17	2059	1337	1.97	-16.5	7.64	59.99
	08/18/16	2331	1515	1.97	-86.7	8.01	59.90
	04/22/16	2001	1300	1.69	-106.9	7.64	59.60
	08/19/15	2116	1374	1.30	-103.4	7.28	60.32
	04/20/15	2054	1335	2.41	-70.2	7.37	58.40
	08/21/14	2140	1391	4.82	-106.3	7.05	61.16
	04/12/14	2157	1404	2.33	-73.7	6.97	58.16
	08/12/13	1955	1270	2.82	-92.4	7.03	61.22
	04/24/13	2193	1430	35.10	-43.0	6.98	57.00
MW-37	08/06/18	2717	1762	2.25	-50.4	7.35	63.90
	04/18/18	2200	1450	2.14	-63.2	7.59	58.90
	08/29/17	2855	1859	2.40	-106.7	7.36	63.25
	04/20/17	2296	1490	3.42	8.1	7.64	58.91
	08/18/16	2518	1635	3.31	-67.1	8.12	59.90
	04/22/16	ns	ns	ns	ns	ns	ns
	08/19/15	2417	1571	3.62	-118.1	7.61	60.50
	04/20/15	2730	1772	2.98	22.1	7.58	60.20
	08/21/14	2248	1460	4.60	-105.6	7.43	60.80
	04/12/14	2476	1608	3.83	-61.8	7.30	59.00
	08/12/13	2596	1686	5.09	-116.5	7.50	60.56
	04/24/13	1628	1060	35.95	-46.7	7.49	57.00
MW-38	08/06/18	1922	1248	2.20	-54.2	7.19	62.50
	04/18/18	1589	1034	1.37	-104.0	7.29	58.50
	08/29/17	1610	1047	2.00	-95.0	7.18	64.80
	04/20/17	1560	1014	2.37	34.9	8.06	59.48
	08/18/16	1085	705	3.11	-46.5	8.42	60.26
	04/22/16	ns	ns	ns	ns	ns	ns
	08/19/15	1171	761	2.01	-124.7	7.55	59.00
	04/20/15	1395	906	3.13	10.1	7.76	59.48
	08/21/14	1237	804	2.97	-112.6	7.47	60.32
	04/12/14	1537	999	3.73	-100.9	7.29	58.58
	08/12/13	1332	865	4.61	-122.2	7.24	61.28
	04/24/13	1656	1070	34.56	-48.0	7.28	56.00

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RCRA Investigation Wells							
MW-50	08/23/17	ns	ns	ns	ns	ns	ns
	08/23/16	590	0.383	4.99	-123.3	8.38	61.06
	08/17/15	ns	ns	ns	ns	ns	ns
	08/19/14	ns	ns	ns	ns	ns	ns
	08/14/13	544	353	1.73	55.0	7.44	60.98
	08/15/12	558	348	10.37	148.4	7.21	62.20
	08/22/11	650	453	6.12	183.0	6.70	59.50
	08/13/10	612	425	0.66	248.0	7.12	61.40
MW-51	08/03/18	652	423	1.57	214.1	7.25	60.80
	08/23/17	729	429	4.09	172.0	7.32	62.90
	08/23/16	1180	732	5.92	-38.6	7.67	62.12
	08/17/15	723	470	2.55	70.2	7.31	58.76
	08/19/14	779	507	3.06	25.6	7.07	62.18
	08/14/13	441	287	2.17	69.0	7.35	61.34
	08/15/12	557	362	2.58	116.8	7.57	62.90
	08/22/11	509	351	4.80	181.0	6.90	61.10
	08/13/10	664	459	0.52	273.0	7.12	63.10
MW-53	08/03/18	5438	3536	1.38	229.9	7.25	61.50
	08/23/17	5204	3395	1.43	189.4	7.28	60.40
	08/24/16	4393	2868	4.99	27.5	7.40	59.49
	08/17/15	5470	3556	2.31	96.0	7.14	59.78
	08/19/14	5333	3467	3.23	59.7	6.58	60.50
	08/14/13	4603	2990	3.05	48.3	7.15	59.72
	08/15/12	5477	3562	3.55	38.0	7.27	61.90
	08/22/11	4574	3658	3.63	215.0	6.90	59.60
	08/13/10	4288	3394	0.59	242.0	7.14	61.60
MW-54	08/09/18	ns	ns	ns	ns	ns	ns
	08/24/17	ns	ns	ns	ns	ns	ns
	08/17/16	ns	ns	ns	ns	ns	ns
MW-55	08/10/18	ns	ns	ns	ns	ns	ns
	08/24/17	ns	ns	ns	ns	ns	ns
	08/17/16	ns	ns	ns	ns	ns	ns
	08/17/15	ns	ns	ns	ns	ns	ns
	08/19/14	ns	ns	ns	ns	ns	ns
	08/14/13	ns	ns	ns	ns	ns	ns
	08/15/12	ns	ns	ns	ns	ns	ns
	08/22/11	3001	2284	1.72	198.0	7.00	60.60
	08/13/10	3160	2440	1.28	277.0	6.85	61.10
MW-56	08/01/18	ns	ns	ns	ns	ns	ns
	08/24/17	ns	ns	ns	ns	ns	ns
	08/23/16	3032	1972	1.47	68.4	7.36	68.40
	08/17/15	ns	ns	ns	ns	ns	ns
	08/19/14	ns	ns	ns	ns	ns	ns
	08/14/13	ns	ns	ns	ns	ns	ns
	08/15/12	ns	ns	ns	ns	ns	ns
	08/22/11	ns	ns	ns	ns	ns	ns
	08/13/10	ns	ns	ns	ns	ns	ns
	08/17/15	ns	ns	ns	ns	ns	ns

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Location ID	Date	Electrical Conductivity *(uS/cm)*	Total Dissolved Solids *(mg/l)*	Dissolved Oxygen *(mg/l)*	Oxidation Reduction Potential *(mV)*	pH	Temperature *(^{o}F)*
MW-57	08/01/18	ns	ns	ns	ns	ns	ns
	08/24/17	ns	ns	ns	ns	ns	ns
	08/24/16	3066	1994	2.99	-149.0	7.42	65.61
	08/17/15	ns	ns	ns	ns	ns	ns
	08/19/14	ns	ns	ns	ns	ns	ns
	08/14/13	ns	ns	ns	ns	ns	ns
	08/15/12	ns	ns	ns	ns	ns	ns
	08/22/11	ns	ns	ns	ns	ns	ns
	08/13/10	ns	ns	ns	ns	ns	ns
	08/17/15	ns	ns	ns	ns	ns	ns
MW-58	08/10/18	ns	ns	ns	ns	ns	ns
	08/24/17	ns	ns	ns	ns	ns	ns
	08/17/16	ns	ns	ns	ns	ns	ns
	08/17/15	ns	ns	ns	ns	ns	ns
	08/19/14	ns	ns	ns	ns	ns	ns
	08/14/13	ns	ns	ns	ns	ns	ns
	08/15/12	ns	ns	ns	ns	ns	ns
	08/22/11	ns	ns	ns	ns	ns	ns
	08/13/10	2562	1928	1.68	279.0	6.95	65.30
MW-59	08/03/18	3000	1956	1.10	-59.7	6.92	64.00
	08/22/17	2649	1720	1.32	-74.5	6.99	63.50
	08/22/16	3241	2106	2.34	70.3	7.83	62.15
	08/17/15	3381	220	1.30	-112.3	7.16	62.48
	08/19/14	3488	2266	2.75	-121.2	6.90	62.90
	08/14/13	2876	1869	1.79	-91.1	7.09	63.95
	08/15/12	2867	1863	1.60	-85.9	7.10	63.10
	08/25/11	2423	1812	2.12	221.0	6.80	62.00
	08/13/10	2067	1523	0.61	287.0	6.90	62.40
MW-60	08/07/18	ns	ns	ns	ns	ns	ns
	08/22/17	4074	2653	3.41	169.5	7.15	64.50
	08/17/16	ns	ns	ns	ns	ns	ns
	08/17/15	ns	ns	ns	ns	ns	ns
	08/19/14	ns	ns	ns	ns	ns	ns
	08/14/13	ns	ns	ns	ns	ns	ns
	08/15/12	ns	ns	ns	ns	ns	ns
	08/25/11	3551	2743	1.78	200.0	7.00	62.60
	08/13/10	2567	1939	0.68	284.0	6.88	61.50
MW-61	08/02/18	ns	ns	ns	ns	ns	ns
	08/24/17	ns	ns	ns	ns	ns	ns
	08/17/16	ns	ns	ns	ns	ns	ns
MW-62	08/07/18	7891	5129	2.81	79.9	7.13	64.30
	08/23/17	7036	4569	2.06	50.8	7.00	62.90
	08/22/16	7905	5139	2.18	120.3	8.00	62.06
	08/17/15	7273	473	2.03	48.1	7.05	61.46
	08/19/14	7172	4663	6.36	44.5	6.87	63.02
	08/14/13	7051	4583	4.54	38.3	7.07	61.76
	08/15/12	7450	4843	4.75	125.4	6.95	61.40
	08/23/11	6247	5203	50' cord -didn't reach	189.0	7.00	60.50
	08/13/10	6458	5330	50' cord -didn't reach	297.0	6.93	62.40

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MW-63	08/08/18	4005	2605	6.99	154.5	6.99	65.20
	08/22/17	3530	2310	1.20	112.1	25.88	65.60
	08/17/15	4931	320	0.80	57.8	6.84	64.64
	08/19/14	5282	3432	3.24	30.5	6.60	66.92
	08/14/13	5899	3835	1.39	62.1	6.83	65.39
	08/15/12	5374	3479	1.47	137.6	6.91	65.40
	08/24/11	3416	2651	1.71	238.0	6.60	63.90
	08/13/10	4764	3809	0.44	222.0	7.06	68.30
MW-64	08/08/18	6353	4128	5.94	1592.0	7.13	61.60
	08/22/17	3946	3866	5.29	154.6	6.95	65.77
	08/22/16	6658	4329	6.29	131.2	7.83	62.11
	08/17/15	6310	410	6.16	68.3	7.04	63.38
	08/19/14	6249	4060	9.15	67.1	6.94	64.52
	08/14/13	6049	3933	6.49	60.9	7.03	64.28
	08/15/12	6501	4186	4.90	121.2	7.12	65.40
	08/24/11	4989	4026	4.22	235.0	6.70	61.50
	08/13/10	5302	4279	4.59	251.0	7.06	65.50
MW-65	08/07/18	3172	4898	2.25	-80.4	7.03	68.00
	08/22/17	4861	3172	1.06	-64.9	7.05	65.90
	08/22/16	5228	3398	1.83	-21.8	7.75	63.32
	08/17/15	4861	316	1.83	-182.3	7.10	63.38
	08/19/14	4299	2795	3.57	-114.7	6.89	64.16
	08/14/13	4707	3059	1.80	-97.6	7.04	64.10
	08/15/12	5341	3458	1.09	-93.5	7.09	63.90
	08/22/11	2866	2189	0.55	169.0	7.10	63.00
	08/13/10	2787	2103	0.41	245.0	7.05	65.80
MW-66	08/02/18	ns	ns	ns	ns	ns	ns
	08/24/17	ns	ns	ns	ns	ns	ns
	08/17/16	ns	ns	ns	ns	ns	ns
MW-67	08/03/18	1977	1287	1.37	250.0	7.12	60.90
	08/23/17	1359	1040	1.60	143.8	7.17	63.13
	08/24/16	1078	714	5.87	5.4	7.52	59.79
	08/17/15	1320	860	2.71	73.0	7.24	59.48
	08/19/14	1008	654	3.00	70.4	6.87	60.14
	08/14/13	876	570	2.39	59.7	7.12	59.60
	08/15/12	1309	849	2.48	221.9	6.96	59.70
	08/22/11	1017	712	1.17	170.0	7.00	58.70
MW-68	08/03/18	1431	930	1.53	208.0	7.03	60.90
	08/23/17	1190	762	2.10	174.9	7.06	52.67
	08/24/16	1210	785	5.45	29.0	7.71	62.18
	08/17/15	1257	819	2.36	69.8	7.30	62.42
	08/19/14	1135	737	3.56	52.4	6.97	63.32
	08/14/13	1053	685	3.31	84.5	7.19	61.04
	08/15/12	1114	724	7.85	197.6	6.82	61.20
	08/22/11	1150	809	0.91	218.0	7.00	60.90
MW-69	08/01/18	ns	ns	ns	ns	ns	ns
	08/24/17	ns	ns	ns	ns	ns	ns
	08/17/16	ns	ns	ns	ns	ns	ns

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MW-70	08/07/18	5598	3647	2.61	-24.6	6.92	66.20
	08/23/17	5387	3516	1.88	-69.6	6.79	62.60
	08/17/16	ns	ns	ns	ns	ns	ns
	08/17/15	6258	407	3.21	-49.5	6.89	60.68
	08/19/14	6088	3956	6.13	-65.3	6.81	63.44
North Boundary Barrier Wells							
CW 0+60	08/09/18	1451	940	0.79	-57.2	6.76	67.3
	04/18/18	1123	728	1.57	-50.3	6.75	55.4
	08/28/17	886	576	1.46	-66.17	6.83	67.03
	04/27/17	911	593	3.47	-56.2	6.99	53.92
	08/17/16	878	570	2.84	47.78	6.91	70.55
	04/19/16	571	371	1.84	-63.41	7.17	54.99
	08/25/15	914	592	1.34	-94.9	7.04	68.54
	04/20/15	733	477	2.83	-80.2	7.54	58.58
	08/27/14	750	488	2.41	-121.1	6.70	69.44
	04/12/14	926	0.6023	6.30	-63.1	6.74	53.54
	8/7/2013	823	535	2.12	-73.6	6.88	66.62
	04/24/13	1098	70	60.05	17.8	6.82	50.00
CW 25+95	08/09/18	2815	1833	0.94	-216.9	7.40	67.10
	04/18/18	1679	1092	1.04	-81.3	7.61	56.10
	08/28/17	1989	1294	0.80	-254.4	7.20	69.60
	04/28/17	1759	1125	4.08	-211.4	7.43	53.95
	08/17/16	1511	982	1.35	44.3	7.25	68.40
	04/21/16	1721	1177	0.68	-222.0	7.87	62.24
	08/26/15	np	np	np	np	np	np
	04/20/15	1547	1008	1.95	-193.1	7.54	59.30
	04/12/14	1920	1.2480	13.42	-70.4	7.46	57.20
	04/24/13	1246	810	42.38	-118.2	7.44	53.00
OW 0+60	08/01/18	ns	ns	ns	ns	ns	ns
	04/18/18	ns	ns	ns	ns	ns	ns
	08/28/17	ns	ns	ns	ns	ns	ns
	04/27/17	np	np	np	np	np	np
	08/17/16	1208	785	1.15	22.9	7.55	70.00
	04/19/16	ns	ns	ns	ns	ns	ns
	08/25/15	1014	659	1.03	-135.1	6.96	68.78
	04/20/15	ns	ns	ns	ns	ns	ns
	08/27/14	1056	687	2.00	-58.4	6.59	69.14
	04/12/14	ns	ns	ns	ns	ns	ns
	8/7/2013	ns	ns	ns	ns	ns	ns
	04/24/13	ns	ns	ns	ns	ns	ns
OW 1+50	08/01/18	ns	ns	ns	ns	ns	ns
	04/18/18	ns	ns	ns	ns	ns	ns
	08/28/17	ns	ns	ns	ns	ns	ns
	04/27/17	np	np	np	np	np	np
	08/17/16	1225	797	1.70	-96.7	7.40	70.41
	04/19/16	758	493	1.65	-87.9	6.63	57.11
	08/25/15	ns	ns	ns	ns	ns	ns
	04/20/15	ns	ns	ns	ns	ns	ns
	08/27/14	ns	ns	ns	ns	ns	ns
	04/12/14	ns	ns	ns	ns	ns	ns
	8/7/2013	ns	ns	ns	ns	ns	ns
	04/24/13	ns	ns	ns	ns	ns	ns

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OW 3+85	08/09/18	ns	ns	ns	ns	ns	ns
	04/19/18	2800	1846	1.42	-111.7	7.20	56.90
	08/28/17	ns	ns	ns	ns	ns	ns
	04/27/17	2355	1532	1.10	-18.7	7.41	13.05
	08/17/16	2776	1804	1.33	-215.3	7.09	67.70
	04/19/16	2471	1606	1.84	-74.55	6.92	55.67
	08/25/15	2522	1638	0.86	-263.9	7.15	67.16
	04/20/15	ns	ns	ns	ns	ns	ns
	08/27/14	ns	ns	ns	ns	ns	ns
	04/12/14	3030	1967	4.18	-143.6	6.93	54.74
	8/7/2013	ns	ns	ns	ns	ns	ns
	04/24/13	3021	1960	64.23	-112.5	7.15	52.00
OW 5+50	08/01/18	ns	ns	ns	ns	ns	ns
	04/18/18	ns	ns	ns	ns	ns	ns
	08/28/17	ns	ns	ns	ns	ns	ns
	04/27/17	np	np	np	np	np	np
	08/17/16	ns	ns	ns	ns	ns	ns
	04/15/16	ns	ns	ns	ns	ns	ns
	08/25/15	ns	ns	ns	ns	ns	ns
	04/20/15	ns	ns	ns	ns	ns	ns
	08/27/14	ns	ns	ns	ns	ns	ns
	04/12/14	ns	ns	ns	ns	ns	ns
	8/7/2013	ns	ns	ns	ns	ns	ns
	04/24/13	ns	ns	ns	ns	ns	ns
OW 6+70	08/01/18	ns	ns	ns	ns	ns	ns
	04/18/18	ns	ns	ns	ns	ns	ns
	08/28/17	ns	ns	ns	ns	ns	ns
	04/17/17	ns	ns	ns	ns	ns	ns
	08/17/16	ns	ns	ns	ns	ns	ns
	04/15/16	ns	ns	ns	ns	ns	ns
OW 8+10	08/09/18	ns	ns	ns	ns	ns	ns
	04/19/18	ns	ns	ns	ns	ns	ns
	08/28/17	3663	2381	1.99	129.0	6.89	68.03
	04/27/17	4183	2719	3.16	137.0	7.83	55.94
	08/17/16	ns	ns	ns	ns	ns	ns
	04/15/16	ns	ns	ns	ns	ns	ns
OW 11+15	08/09/18	ns	ns	ns	ns	ns	ns
	04/19/18	2233	1443	0.67	-85.1	7.09	59.80
	08/28/17	ns	ns	ns	ns	ns	ns
	04/27/17	2399	1558	2.78	67.6	7.56	55.99
	08/17/16	2171	1414	0.78	152.9	6.65	68.23
	04/19/16	1284	834	3.49	52.2	7.68	57.66
	08/25/15	2452	1593	0.86	-208.4	6.98	66.38
	04/20/15	2672	1738	1.34	-99.6	7.16	58.52
	08/27/14	2157	1402	1.73	-80.8	6.60	66.08
	04/12/14	ns	ns	ns	ns	ns	ns
	8/7/2013	ns	ns	ns	ns	ns	ns
	04/24/13	ns	ns	ns	ns	ns	ns

TABLE 2
Groundwater Field Parameter Summary
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Location ID	Date	Electrical Conductivity *(uS/cm)*	Total Dissolved Solids *(mg/l)*	Dissolved Oxygen *(mg/l)*	Oxidation Reduction Potential *(mV)*	pH	Temperature *(^{o}F)*
OW 14+10	08/01/18	ns	ns	ns	ns	ns	ns
	04/19/18	ns	ns	ns	ns	ns	ns
	08/28/17	ns	ns	ns	ns	ns	ns
	04/17/17	ns	ns	ns	ns	ns	ns
	08/17/16	ns	ns	ns	ns	ns	ns
	04/15/16	ns	ns	ns	ns	ns	ns
	08/25/15	ns	ns	ns	ns	ns	ns
	04/20/15	ns	ns	ns	ns	ns	ns
	08/27/14	ns	ns	ns	ns	ns	ns
	04/12/14	ns	ns	ns	ns	ns	ns
	8/7/2013	ns	ns	ns	ns	ns	ns
	04/24/13	ns	ns	ns	ns	ns	ns
OW 16+60	08/09/18	ns	ns	ns	ns	ns	ns
	04/19/18	4102	2665	1.02	-122.0	7.29	61.80
	08/28/17	ns	ns	ns	ns	ns	ns
	04/27/17	3481	2262	3.01	-26.6	7.32	57.43
	08/17/16	3749	2438	1.43	-249.4	7.77	69.32
	04/19/16	2973	2334	2.80	-116.2	7.52	59.62
	08/25/15	3936	2557	0.77	-219.3	7.16	68.84
	04/20/15	4057	2635	1.65	-211.1	7.24	60.98
	08/27/14	3239	2106	1.55	-172.9	6.83	68.72
	04/12/14	1529	0.9945	4.24	-149.9	6.96	59.42
	8/7/2013	2497	1623	1.07	-74.8	6.91	67.04
	04/24/13	2770	1800	48.22	-13.1	7.01	56.00
OW 19+50	08/01/18	ns	ns	ns	ns	ns	ns
	04/18/18	ns	ns	ns	ns	ns	ns
	08/28/17	ns	ns	ns	ns	ns	ns
	04/27/17	np	np	np	np	np	np
	08/17/16	ns	ns	ns	ns	ns	ns
	04/15/16	ns	ns	ns	ns	ns	ns
	08/25/15	ns	ns	ns	ns	ns	ns
	08/27/14	ns	ns	ns	ns	ns	ns
	04/12/14	ns	ns	ns	ns	ns	ns
	8/7/2013	ns	ns	ns	ns	ns	ns
	04/24/13	ns	ns	ns	ns	ns	ns
OW 22+00	08/09/18	ns	ns	ns	ns	ns	ns
	04/19/18	3451	2243	2.43	114.5	7.15	57.40
	08/28/17	2840	1846	3.21	179.6	7.08	70.00
	04/28/17	3264	1875	7.90	123.8	6.28	54.37
	08/17/16	1913	1242	6.99	185.7	7.40	72.55
	04/19/16	2205	1434	6.71	15.0	8.01	57.38
	08/25/15	3048	1983	3.28	18.1	7.41	67.88
	04/20/15	3102	2017	4.57	24.8	7.56	57.62
	08/27/14	3213	2089	3.42	3.0	6.87	67.28
	04/12/14	2444	1.5882	10.62	21.9	7.27	54.32
	08/27/14	3213	2089	3.42	3.0	6.87	67.28
	04/24/13	3056	1990	57.44	115.6	7.19	51.00

TABLE 2
Groundwater Field Parameter Summary
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Location ID	Date	Electrical Conductivity *(uS/cm)*	Total Dissolved Solids *(mg/l)*	Dissolved Oxygen *(mg/l)*	Oxidation Reduction Potential *(mV)*	pH	Temperature *(^{o}F)*
OW 23+10	08/09/18	2111	1372	1.20	207.8	7.32	70.10
	04/19/18	1939	1255	3.03	116.2	7.53	61.30
	08/28/17	ns	ns	ns	ns	ns	ns
	04/28/17	1860	1200	7.34	70.7	7.18	56.04
	08/17/16	1589	1036	1.89	-61.8	8.28	70.16
	04/19/16	ns	ns	ns	ns	ns	ns
	08/25/15	1676	1090	1.57	-83.5	7.36	68.78
	04/20/15	1985	1289	2.22	-102.5	7.50	58.76
	08/27/14	1681	1092	2.20	-125.4	7.05	67.82
	04/12/14	1517	0.9858	8.70	-39.4	7.36	57.92
	8/7/2013	2442	1588	5.11	43.3	7.08	65.42
	04/24/13	1498	1	46.47	83.8	7.11	55.00
OW 23+90	08/09/18	ns	ns	ns	ns	ns	ns
	04/18/18	ns	ns	ns	ns	ns	ns
	08/28/17	ns	ns	ns	ns	ns	ns
	04/28/17	np	np	np	np	np	np
	08/17/16	ns	ns	ns	ns	ns	ns
	04/19/16	ns	ns	ns	ns	ns	ns
	08/25/15	1396	908	3.50	-10.3	7.53	67.34
	04/20/15	1263	821	6.56	-1.9	7.74	59.36
	08/27/14	1522	990	2.53	-40.7	7.26	66.38
	04/12/14	1269	0.8255	13.05	22.3	7.58	59.18
	8/7/2013	1036	674	5.11	4.3	7.50	66.20
	04/24/13	1047	1	40.99	147.3	7.39	55.00
OW 25+70	08/09/18	2487	1612	1.98	26.0	7.12	69.90
	04/19/18	1354	877	2.00	-51.7	7.39	57.90
	08/28/17	2205	1432	1.76	-45.0	7.19	71.07
	04/28/17	2318	1340	6.99	-20.4	7.18	55.32
	08/17/16	1431	930	1.72	-73.8	8.08	69.59
	04/21/16	1947	1265	2.22	-72.8	8.24	57.56
	08/25/15	1600	1040	1.62	-113.4	7.33	69.32
	04/20/15	1529	995	2.08	-110.0	7.32	56.96
	08/27/14	1531	997	2.21	-114.7	7.22	69.08
	04/12/14	1748	1137	6.29	-87.5	7.35	55.70
	8/7/2013	1309	852	2.44	-92.1	7.41	68.66
	04/24/13	1335	870	42.40	16.5	7.33	53.00
San Juan River Bluff							
Outfall No. 2	08/10/18	650	423	5.80	179.4	7.51	63.60
	04/20/18	820	619	6.52	181.2	7.45	61.10
	08/30/17	1111	722	6.76	180.0	7.41	70.00
	04/21/17	785	507	6.66	180.7	7.77	58.64
	08/17/16	ns	ns	ns	ns	ns	ns
	05/18/16	306	1989	6.78	94.9	6.25	55.22
	04/22/16	ns	ns	ns	ns	ns	ns
	08/26/15	ns	ns	ns	ns	ns	ns
	04/21/15	1064	693	9.80	4.4	7.98	51.80
	08/26/14	463	301	6.52	28.1	7.20	61.52
	04/12/14	742	481	7.53	88.6	7.36	48.92
	08/06/13	782	507	6.48	57.1	7.51	63.68
	04/24/13	520	340	31.59	151.4	7.38	49.00

TABLE 2
Groundwater Field Parameter Summary
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Location ID	Date	Electrical Conductivity *(uS/cm)*	Total Dissolved Solids *(mg/l)*	Dissolved Oxygen *(mg/l)*	Oxidation Reduction Potential *(mV)*	pH	Temperature *(^{o}F)*
**Outfall No. 3	08/09/18	380	247	4.21	226.1	7.38	68.20
	04/20/18	437	277	5.29	190.9	7.25	55.90
	08/30/17	467	284	5.94	170.7	7.17	61.90
	04/21/17	820	533	5.77	144.7	7.90	56.30
	08/19/16	297	193	9.33	38.0	8.79	61.16
	05/18/16	306	1989	8.67	96.4	6.84	51.98
	04/22/16	ns	ns	ns	ns	ns	ns
	08/26/15	307	199	7.84	23.7	7.87	60.02
	04/21/15	422	275	10.48	59.2	7.95	53.66
	08/26/14	307	200	10.63	55.3	7.84	56.72
	04/12/14	933	607	8.49	76.9	7.42	52.58
	08/06/13	354	230	7.55	87.0	7.53	60.98
	04/24/13	622	400	28.88	120.5	7.27	53.00
**Seep 1	08/30/17	ns	ns	ns	ns	ns	ns
	04/21/17	3245	2106	5.43	238.1	7.63	57.20
	08/19/16	ns	ns	ns	ns	ns	ns
	04/22/16	ns	ns	ns	ns	ns	ns
	08/26/15	ns	ns	ns	ns	ns	ns
	04/21/15	5072	3296	4.99	49.7	6.54	53.60
	08/26/14	3939	2559	5.62	51.4	7.40	61.04
	04/12/14	3507	2279	6.01	49.3	7.56	49.88
	08/06/13	2472	1606	132.62	48.5	7.72	67.04
	04/24/13	3982	2590	90.94	228.5	7.36	46.00
**Seep 2	08/30/17	ns	ns	ns	ns	ns	ns
	04/21/17	ns	ns	ns	ns	ns	ns
	08/19/16	ns	ns	ns	ns	ns	ns
	04/22/16	ns	ns	ns	ns	ns	ns
	08/26/15	ns	ns	ns	ns	ns	ns
	04/21/15	ns	ns	ns	ns	ns	ns
	08/26/14	ns	ns	ns	ns	ns	ns
	04/12/14	ns	ns	ns	ns	ns	ns
	08/06/13	ns	ns	ns	ns	ns	ns
	04/24/13	ns	ns	ns	ns	ns	ns
	04/24/13	ns	ns	ns	ns	ns	ns
	03/18/12	ns	ns	ns	ns	ns	ns
**Seep 3	08/30/17	ns	ns	ns	ns	ns	ns
	04/21/17	ns	ns	ns	ns	ns	ns
	08/19/16	ns	ns	ns	ns	ns	ns
	04/22/16	ns	ns	ns	ns	ns	ns
	08/26/15	ns	ns	ns	ns	ns	ns
	04/21/15	ns	ns	ns	ns	ns	ns
	08/26/14	ns	ns	ns	ns	ns	ns
	04/12/14	ns	ns	ns	ns	ns	ns
	08/06/13	ns	ns	ns	ns	ns	ns
	04/24/13	4506	2930	99.98	217.0	7.76	44.00

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Location ID	Date	Electrical Conductivity *(uS/cm)*	Total Dissolved Solids *(mg/l)*	Dissolved Oxygen *(mg/l)*	Oxidation Reduction Potential *(mV)*	pH	Temperature *(^{o}F)*
**Seep 4	08/19/16	Seep no longer exists					
	04/22/16	ns	ns	ns	ns	ns	ns
	08/26/15	ns	ns	ns	ns	ns	ns
	04/21/15	ns	ns	ns	ns	ns	ns
	08/26/14	ns	ns	ns	ns	ns	ns
	04/12/14	ns	ns	ns	ns	ns	ns
	08/06/13	ns	ns	ns	ns	ns	ns
	04/24/13	ns	ns	ns	ns	ns	ns
	08/07/12	ns	ns	ns	ns	ns	ns
	03/18/12	ns	ns	ns	ns	ns	ns
**Seep 5	08/30/17	ns	ns	ns	ns	ns	ns
	04/21/17	ns	ns	ns	ns	ns	ns
	08/19/16	ns	ns	ns	ns	ns	ns
**Seep 6	08/19/16	Seep no longer exists					
	04/22/16	ns	ns	ns	ns	ns	ns
	08/26/15	ns	ns	ns	ns	ns	ns
	04/21/15	ns	ns	ns	ns	ns	ns
	08/26/14	ns	ns	ns	ns	ns	ns
	04/12/14	8810	5727	13.46	105.2	7.24	44.84
	08/06/13	28663	18631	90.40	153.6	6.68	66.26
	04/24/13	9510	6180	129.16	219.0	7.07	42.00
	08/07/12	ns	ns	ns	ns	ns	ns
	03/18/12	7291	6851	12.60	121.6	7.61	48.02
**Seep 7	08/19/16	Seep no longer exists					
	04/22/16	ns	ns	ns	ns	ns	ns
	08/26/15	ns	ns	ns	ns	ns	ns
	04/21/15	ns	ns	ns	ns	ns	ns
	08/26/14	ns	ns	ns	ns	ns	ns
	04/12/14	ns	ns	ns	ns	ns	ns
	08/06/13	ns	ns	ns	ns	ns	ns
	04/24/13	ns	ns	ns	ns	ns	ns
	08/07/12	ns	ns	ns	ns	ns	ns
	03/18/12	ns	ns	ns	ns	ns	ns
**Seep 8	08/19/16	Seep no longer exists					
	04/22/16	ns	ns	ns	ns	ns	ns
	08/26/15	ns	ns	ns	ns	ns	ns
	04/21/15	ns	ns	ns	ns	ns	ns
	08/26/14	ns	ns	ns	ns	ns	ns
	04/12/14	ns	ns	ns	ns	ns	ns
	08/06/13	ns	ns	ns	ns	ns	ns
	04/24/13	ns	ns	ns	ns	ns	ns
	08/07/12	ns	ns	ns	ns	ns	ns
	03/18/12	ns	ns	ns	ns	ns	ns

TABLE 2
Groundwater Field Parameter Summary
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Location ID	Date	Electrical Conductivity *(uS/cm)*	Total Dissolved Solids *(mg/l)*	Dissolved Oxygen *(mg/l)*	Oxidation Reduction Potential *(mV)*	pH	Temperature *(^{o}F)*
**Seep 9	08/19/16	Seep no longer exists					
	04/22/16	ns	ns	ns	ns	ns	ns
	08/26/15	ns	ns	ns	ns	ns	ns
	04/21/15	ns	ns	ns	ns	ns	ns
	08/26/14	ns	ns	ns	ns	ns	ns
	04/12/14	5271	3.4255	12.90	43.9	7.73	43.10
	08/06/13	ns	ns	ns	ns	ns	ns
	04/24/13	5644	3670	136.90	214.3	7.35	35.00
	08/07/12	ns	ns	ns	ns	ns	ns
	03/18/12	3004	2841	7.62	139.4	7.64	47.48
**Upstream	08/02/18	454	294	8.85	173.7	7.60	68.50
	04/20/18	360	235	9.70	181.1	8.39	59.90
	08/30/17	192	125	12.16	170.0	8.26	66.10
	04/21/17	382	248	9.21	182.9	8.69	55.22
	08/19/16	290	189	8.90	22.6	8.94	64.04
	04/22/16	ns	ns	ns	ns	ns	ns
	08/26/15	169	110	9.28	23.6	7.98	57.74
	04/22/15	540	351	13.08	34.2	8.16	58.64
	08/26/14	ns	ns	ns	ns	ns	ns
	04/12/14	357	0.2318	12.74	45.3	8.14	45.38
	08/06/13	ns	ns	ns	ns	ns	ns
	04/24/13	370	240	21.89	168.2	8.20	49.00
**Downstream	08/02/18	302	196	8.22	244.9	7.38	65.60
	04/20/18	319	200	7.98	181.1	7.92	61.10
	08/30/17	325	211	6.31	173.6	8.13	69.10
	04/21/17	437	284	8.34	263.4	8.85	61.52
	08/19/16	290	189	8.76	20.5	8.90	63.86
	04/22/16	ns	ns	ns	ns	ns	ns
	08/26/15	315	205	9.81	14.7	8.13	57.20
	04/22/15	536	348	12.39	35.7	8.16	59.72
	08/26/14	ns	ns	ns	ns	ns	ns
	04/12/14	429	0.2791	16.35	82.1	7.67	45.14
	08/06/13	ns	ns	ns	ns	ns	ns
	04/24/13	419	270	20.80	193.9	8.20	51.00
**North of MW-45	08/02/18	314	205	8.97	211.4	7.87	65.00
	04/20/18	320	210	8.25	201.5	8.03	60.10
	08/30/17	335	218	7.86	182.7	8.27	72.70
	04/21/17	314	204	7.77	230.9	8.49	59.72
	08/19/16	293	191	9.40	37.8	9.67	60.08
	04/22/16	ns	ns	ns	ns	ns	ns
	08/26/15	ns	ns	ns	ns	ns	ns
	04/22/15	498	324	12.93	33.4	8.03	60.08
	08/26/14	ns	ns	ns	ns	ns	ns
	04/12/14	411	0.2671	13.48	83.8	8.05	45.14
	08/06/13	ns	ns	ns	ns	ns	ns
	04/24/13	360	230	20.40	214.3	8.39	50.00

TABLE 2
Groundwater Field Parameter Summary
2018 Groundwater Remediation and Monitoring Annual Report

Location ID	Date	Electrical Conductivity *(uS/cm)*	Total Dissolved Solids *(mg/l)*	Dissolved Oxygen *(mg/l)*	Oxidation Reduction Potential *(mV)*	pH	Temperature *(^{o}F)*
**North of MW-46	08/02/18	309	202	8.77	213.2	7.29	67.60
	04/20/18	340	219	7.95	207.5	8.45	62.30
	08/30/17	330	215	7.74	191.7	8.20	69.10
	04/21/17	490	319	8.74	269.6	8.66	60.62
	08/19/16	296	192	8.75	45.1	9.02	60.98
	04/22/16	ns	ns	ns	ns	ns	ns
	08/26/15	ns	ns	ns	ns	ns	ns
	04/22/15	500	325	13.71	20.3	8.24	60.26
	08/26/14	ns	ns	ns	ns	ns	ns
	04/12/14	405	0.2633	12.30	90.4	8.12	44.96
	08/06/13	ns	ns	ns	ns	ns	ns
	04/24/13	368	240	20.90	213.5	8.40	51.00
Background Wells							
**MW-03	08/01/18	ns	ns	ns	ns	ns	ns
	04/16/18	ns	ns	ns	ns	ns	ns
	08/30/17	ns	ns	ns	ns	ns	ns
	04/18/17	ns	ns	ns	ns	ns	ns
	08/17/16	ns	ns	ns	ns	ns	ns
	04/22/16	ns	ns	ns	ns	ns	ns
**MW-05	08/02/18	ns	ns	ns	ns	ns	ns
	04/16/18	ns	ns	ns	ns	ns	ns
	08/30/17	ns	ns	ns	ns	ns	ns
	04/18/17	ns	ns	ns	ns	ns	ns
	08/17/16	ns	ns	ns	ns	ns	ns
	04/22/16	ns	ns	ns	ns	ns	ns
**MW-06	08/02/18	ns	ns	ns	ns	ns	ns
	04/16/18	ns	ns	ns	ns	ns	ns
	08/30/17	ns	ns	ns	ns	ns	ns
	04/18/17	ns	ns	ns	ns	ns	ns
	08/17/16	ns	ns	ns	ns	ns	ns
	04/22/16	ns	ns	ns	ns	ns	ns

Notes:
ns = no sample
np = no purge parameters, low water volume
* = Field result was confirmed with field notes.
** = Discrete sample reading

TABLE 3
Terminal Wells Analytical Summary
2018 Groundwater Remediation and Monitoring Annual Report

	Screening Levels	Source	**RW-1			MW-4				[1] MW-8		**RW-9			RW-15				**RW-18		
			Aug-18	Aug-17	Aug-16	Aug-18	Aug-17	Aug-16	Aug-15	Apr-17	Aug-13	Aug-18	Aug-17	Aug-16	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16
Volatile Organic Compounds (ug/L)																					
1,1,1,2-Tetrachloroethane	5.74	(4)	---	---	---	---	---	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	< 10	< 20	---	---	---
1,1,1-Trichloroethane	60	(3)	---	---	---	---	---	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	< 10	< 20	---	---	---
1,1,2,2-Tetrachloroethane	10	(3)	---	---	---	---	---	< 2.0	< 2.0	---	< 2.0	---	---	---	---	---	< 200	< 40	---	---	---
1,1,2-Trichloroethane	5	(2)	---	---	---	---	---	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	< 10	< 20	---	---	---
1,1-Dichloroethane	25	(3)	---	---	---	---	---	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	< 10	< 20	---	---	---
1,1-Dichloroethene	5	(3)	---	---	---	---	---	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	< 10	< 20	---	---	---
1,1-Dichloropropene	-		---	---	---	---	---	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	< 10	< 20	---	---	---
1,2,3-Trichlorobenzene	-		---	---	---	---	---	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	< 100	< 20	---	---	---
1,2,3-Trichloropropane	0.01	(4)	---	---	---	---	---	< 2.0	< 2.0	---	< 2.0	---	---	---	---	---	< 200	< 40	---	---	---
1,2,4-Trichlorobenzene	70	(2)	---	---	---	---	---	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	< 100	< 20	---	---	---
1,2,4-Trimethylbenzene	15	(1)	---	---	---	---	---	1.7	4.1	---	8.0	---	---	---	---	---	2100	650	---	---	---
1,2-Dibromo-3-chloropropane	0.2	(2)	---	---	---	---	---	< 2.0	< 2.0	---	< 2.0	---	---	---	---	---	< 200	< 40	---	---	---
1,2-Dibromoethane (EDB)	0.05	(2)	---	---	---	---	---	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	< 10	< 20	---	---	---
1,2-Dichlorobenzene	600	(2)	---	---	---	---	---	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	< 100	< 20	---	---	---
1,2-Dichloroethane (EDC)	5	(2)	---	---	---	---	---	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	< 10	< 20	---	---	---
1,2-Dichloropropane	5	(2)	---	---	---	---	---	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	< 10	< 20	---	---	---
1,3,5-Trimethylbenzene	12	(1)	---	---	---	---	---	< 1.0	< 1.0	---	2.0	---	---	---	---	---	200	92	---	---	---
1,3-Dichlorobenzene	-		---	---	---	---	---	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	< 100	< 20	---	---	---
1,3-Dichloropropane	370	(1)	---	---	---	---	---	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	< 10	< 20	---	---	---
1,4-Dichlorobenzene	75	(2)	---	---	---	---	---	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	< 100	< 20	---	---	---
1-Methylnaphthalene	11	(5)	---	---	---	---	---	22	21	---	< 4.0	---	---	---	---	---	< 400	< 80	---	---	---
2,2-Dichloropropane	-		---	---	---	---	---	< 2.0	< 2.0	---	< 2.0	---	---	---	---	---	< 20	< 40	---	---	---
2-Butanone	5560	(4)	---	---	---	---	---	< 10	< 10	---	< 10	---	---	---	---	---	< 100	< 200	---	---	---
2-Chlorotoluene	240	(1)	---	---	---	---	---	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	< 100	< 20	---	---	---
2-Hexanone	-		---	---	---	---	---	< 10	< 10	---	< 10	---	---	---	---	---	< 100	< 200	---	---	---
2-Methylnaphthalene	36	(1)	---	---	---	---	---	35	37	---	< 4.0	---	---	---	---	---	< 400	95	---	---	---
4-Chlorotoluene	250	(1)	---	---	---	---	---	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	< 100	< 20	---	---	---
4-Isopropyltoluene	-		---	---	---	---	---	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	< 100	< 20	---	---	---
4-Methyl-2-pentanone	-		---	---	---	---	---	< 10	< 10	---	< 10	---	---	---	---	---	< 100	< 200	---	---	---
Acetone	14100	(4)	---	---	---	---	---	< 10	< 10	---	< 10	---	---	---	---	---	< 100	< 200	---	---	---
Benzene	5	(2)	---	---	---	---	---	37	210	< 1.0	< 1.0	---	---	---	---	---	1800	1200	---	---	---
Bromobenzene	62	(1)	---	---	---	---	---	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	< 100	< 20	---	---	---
Bromodichloromethane	1.34	(4)	---	---	---	---	---	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	< 10	< 20	---	---	---
Bromoform	33	(5)	---	---	---	---	---	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	< 100	< 20	---	---	---
Bromomethane	7.54	(4)	---	---	---	---	---	< 3.0	< 3.0	---	< 3.0	---	---	---	---	---	< 30	< 60	---	---	---
Carbon disulfide	810	(4)	---	---	---	---	---	< 10	< 10	---	< 10	---	---	---	---	---	< 100	< 200	---	---	---
Carbon Tetrachloride	5	(2)	---	---	---	---	---	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	< 10	< 20	---	---	---
Chlorobenzene	100	(2)	---	---	---	---	---	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	< 10	< 20	---	---	---
Chloroethane	20900	(4)	---	---	---	---	---	< 2.0	< 2.0	---	< 2.0	---	---	---	---	---	< 20	< 40	---	---	---
Chloroform	100	(3)	---	---	---	---	---	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	< 10	< 20	---	---	---
Chloromethane	20.3	(4)	---	---	---	---	---	< 3.0	< 3.0	---	< 3.0	---	---	---	---	---	< 30	< 60	---	---	---
cis-1,2-DCE	70	(2)	---	---	---	---	---	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	< 10	< 20	---	---	---
cis-1,3-Dichloropropene	4.7	(4)	---	---	---	---	---	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	< 10	< 20	---	---	---
Dibromochloromethane	1.68	(4)	---	---	---	---	---	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	< 10	< 20	---	---	---
Dibromomethane	8.3	(1)	---	---	---	---	---	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	< 10	< 20	---	---	---
Dichlorodifluoromethane	197	(4)	---	---	---	---	---	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	< 10	< 20	---	---	---
Ethylbenzene	700	(2)	---	---	---	---	---	7	17	< 1.0	1.2	---	---	---	---	---	2400	610	---	---	---

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.	Screening Levels	Source	**RW-1			MW-4				[1] MW-8		**RW-9			RW-15				**RW-18		
			Aug-18	Aug-17	Aug-16	Aug-18	Aug-17	Aug-16	Aug-15	Apr-17	Aug-13	Aug-18	Aug-17	Aug-16	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16
Hexachlorobutadiene	1.39	(4)	---	---	---	---	---	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	< 100	< 20	---	---	---
Isopropylbenzene	447	(4)	---	---	---	---	---	**40**	**49**	---	< 1.0	---	---	---	---	---	**100**	**23**	---	---	---
Methyl tert-butyl ether (MTBE)	143	(4)	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	---	---	---	---	---	< 10	**110**	---	---	---
Methylene Chloride	5	(2)	---	---	---	---	---	< 3.0	< 3.0	---	< 3.0	---	---	---	---	---	< 30	< 60	---	---	---
Naphthalene	1.65	(4)	---	---	---	---	---	**71**	**78**	---	< 2.0	---	---	---	---	---	**500**	**170**	---	---	---
n-Butylbenzene	-		---	---	---	---	---	< 3.0	< 3.0	---	< 3.0	---	---	---	---	---	< 300	< 60	---	---	---
n-Propylbenzene	-		---	---	---	---	---	**33**	**39**	---	**1.2**	---	---	---	---	---	**350**	**59**	---	---	---
sec-Butylbenzene	-		---	---	---	---	---	**5.7**	**7.7**	---	< 1.0	---	---	---	---	---	< 100	< 20	---	---	---
Styrene	100	(2)	---	---	---	---	---	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	< 10	< 20	---	---	---
tert-Butylbenzene	-		---	---	---	---	---	**1.2**	**1.2**	---	< 1.0	---	---	---	---	---	< 100	< 20	---	---	---
Tetrachloroethene (PCE)	5	(2)	---	---	---	---	---	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	< 10	< 20	---	---	---
Toluene	750	(3)	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	---	---	---	---	---	**18**	**740**	---	---	---
trans-1,2-DCE	100	(2)	---	---	---	---	---	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	< 10	< 20	---	---	---
trans-1,3-Dichloropropene	4.71	(4)	---	---	---	---	---	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	< 10	< 20	---	---	---
Trichloroethene (TCE)	5	(2)	---	---	---	---	---	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	< 10	< 20	---	---	---
Trichlorofluoromethane	1136	(4)	---	---	---	---	---	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	< 10	< 20	---	---	---
Vinyl chloride	1	(3)	---	---	---	---	---	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	< 10	< 20	---	---	---
Xylenes, Total	620	(3)	---	---	---	---	---	**11**	**11**	< 1.5	**3.6**	---	---	---	---	---	**1300**	**1000**	---	---	---
Semi-Volatile Organic Compounds (ug/L):																					
1,2,4-Trichlorobenzene	70	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2-Dichlorobenzene	600	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,3-Dichlorobenzene	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,4-Dichlorobenzene	75	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1-Methylnaphthalene	11	(5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,4,5-Trichlorophenol	1170	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,4,6-Trichlorophenol	11.9	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,4-Dichlorophenol	45.3	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,4-Dimethylphenol	354	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,4-Dinitrophenol	38.7	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,4-Dinitrotoluene	2.37	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,6-Dinitrotoluene	0.485	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Chloronaphthalene	733	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Chlorophenol	91	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Methylnaphthalene	36	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Methylphenol	930	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Nitroaniline	190	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Nitrophenol	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
3,3´-Dichlorobenzidine	1.25	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
3+4-Methylphenol	930	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
3-Nitroaniline	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4,6-Dinitro-2-methylphenol	1.52	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Bromophenyl phenyl ether	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Chloro-3-methylphenol	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Chloroaniline	3.7	(5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Chlorophenyl phenyl ether	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Nitroaniline	38	(5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Nitrophenol	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Acenaphthene	535	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Acenaphthylene	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

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.	Screening Levels	Source	**RW-1			MW-4				[1] MW-8		**RW-9			RW-15				**RW-18		
			Aug-18	Aug-17	Aug-16	Aug-18	Aug-17	Aug-16	Aug-15	Apr-17	Aug-13	Aug-18	Aug-17	Aug-16	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16
Aniline	130	(5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Anthracene	1720	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Azobenzene	1.2	(5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo(a)anthracene	0.12	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo(a)pyrene	0.2	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo(b)fluoranthene	0.343	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo(g,h,i)perylene	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo(k)fluoranthene	3.43	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzoic acid	75000	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzyl alcohol	2000	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bis(2-chloroethoxy)methane	59	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bis(2-chloroethyl)ether	0.137	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bis(2-chloroisopropyl)ether	9.81	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bis(2-ethylhexyl)phthalate	6	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Butyl benzyl phthalate	160	(5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Carbazole	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chrysene	34.3	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dibenz(a,h)anthracene	0.0343	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dibenzofuran	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diethyl phthalate	14800	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dimethyl phthalate	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Di-n-butyl phthalate	885	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Di-n-octyl phthalate	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Fluoranthene	802	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Fluorene	288	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hexachlorobenzene	0.0976	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hexachlorobutadiene	1.387	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hexachlorocyclopentadiene	50	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hexachloroethane	3.28	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	0.343	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Isophorone	781	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Naphthalene	1.65	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Nitrobenzene	1.4	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
N-Nitrosodimethylamine	0.0017	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
N-Nitrosodi-n-propylamine	0.11	(5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
N-Nitrosodiphenylamine	0.0049	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pentachlorophenol	170	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Phenanthrene	1	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Phenol	5760	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pyrene	117	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pyridine	20	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
General Chemistry (mg/L):																					
Fluoride	1.6	(3)	---	---	---	---	---	< 0.50	**0.29**	**0.67**	**0.67**	---	---	---	---	---	< 0.50	< 0.50	---	---	---
Chloride	250	(3)	---	---	---	---	---	**270**	**250**	**120**	**120**	---	---	---	---	---	**330**	**480**	---	---	---
Nitrite	1	(2)	---	---	---	---	---	< 0.50	< 0.10	**0.88**	**0.88**	---	---	---	---	---	< 0.50	< 0.50	---	---	---
Bromide	-		---	---	---	---	---	**4.6**	< 0.10	**0.86**	**0.86**	---	---	---	---	---	**8.5**	**6.3**	---	---	---
Nitrate	10	(3)	---	---	---	---	---	< 0.50	**0.74**	**13**	**13**	---	---	---	---	---	< 0.50	< 0.50	---	---	---
Phosphorus	-		---	---	---	---	---	< 2.5	< 0.50	< 2.5	< 2.5	---	---	---	---	---	< 2.5	< 2.5	---	---	---
Sulfate	600	(3)	---	---	---	---	---	< 2.5	**1**	**990**	**990**	---	---	---	---	---	**19**	< 2.5	---	---	---
Carbon Dioxide (CO_2)	-		---	---	---	---	---	**1200**	**1100**	**61**	**61**	---	---	---	---	---	**1200**	**1200**	---	---	---
Alkalinity ($CaCO_3$)	-		---	---	---	---	---	**1176**	**1148**	**31**	**31**	---	---	---	---	---	**1248**	**1221**	---	---	---
Bicarbonate ($CaCO_3$)	-		---	---	---	---	---	**1176**	**1148**	**31**	**31**	---	---	---	---	---	**1248**	**1221**	---	---	---

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	Screening Levels	Source	**RW-1			MW-4				[1] MW-8		**RW-9			RW-15				**RW-18		
			Aug-18	Aug-17	Aug-16	Aug-18	Aug-17	Aug-16	Aug-15	Apr-17	Aug-13	Aug-18	Aug-17	Aug-16	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16
Total Metals (mg/L):																					
Arsenic	0.01	(2)	---	---	---	---	---	< 0.020	< 0.020	< 0.020	< 0.020	---	---	---	---	---	< 0.020	< 0.020	---	---	---
Barium	2.0	(2)	---	---	---	---	---	2.5	2	0.021	0.021	---	---	---	---	---	1.4	1.5	---	---	---
Cadmium	0.005	(2)	---	---	---	---	---	< 0.0020	< 0.0020	< 0.0020	< 0.0020	---	---	---	---	---	< 0.0020	< 0.0020	---	---	---
Chromium	0.05	(3)	---	---	---	---	---	0.071	< 0.0060	0.46	0.46	---	---	---	---	---	< 0.0060	< 0.0060	---	---	---
Lead	0.015	(2)	---	---	---	---	---	0.012	0.005	< 0.0010	< 0.0010	---	---	---	---	---	0.0085	< 0.0050	---	---	---
Selenium	0.05	(3)	---	---	---	---	---	< 0.050	< 0.050	0.084	0.084	---	---	---	---	---	< 0.050	< 0.050	---	---	---
Silver	0.05	(3)	---	---	---	---	---	< 0.0050	< 0.0050	< 0.025	< 0.025	---	---	---	---	---	< 0.0050	< 0.0050	---	---	---
Mercury	0.002	(3)	---	---	---	---	---	< 0.00020	< 0.00020	0.0012	0.0012	---	---	---	---	---	< 0.00020	< 0.00020	---	---	---
Dissolved Metals (mg/L):																					
Arsenic	0.01	(2)	---	---	---	---	---	< 0.020	< 0.020	< 0.0050	< 0.0050	---	---	---	---	---	< 0.020	< 0.020	---	---	---
Barium	1.0	(3)	---	---	---	---	---	2.3	2.3	0.012	0.012	---	---	---	---	---	1.2	1.6	---	---	---
Cadmium	0.005	(2)	---	---	---	---	---	< 0.0020	< 0.0020	< 0.0020	< 0.0020	---	---	---	---	---	< 0.0020	< 0.0020	---	---	---
Calcium	-		---	---	---	---	---	170	170	140	140	---	---	---	---	---	150	170	---	---	---
Chromium	0.05	(3)	---	---	---	---	---	0.011	< 0.0060	0.019	0.019	---	---	---	---	---	< 0.0060	< 0.0060	---	---	---
Copper	1	(3)	---	---	---	---	---	0.16	< 0.0060	0.0076	0.0076	---	---	---	---	---	0.0098	< 0.0060	---	---	---
Iron	1	(3)	---	---	---	---	---	43	6.2	2.5	2.5	---	---	---	---	---	12	48	---	---	---
Lead	0.015	(2)	---	---	---	---	---	0.014	0.0065	< 0.0010	< 0.0010	---	---	---	---	---	0.0077	< 0.0050	---	---	---
Magnesium	-		---	---	---	---	---	61	66	31	31	---	---	---	---	---	45	49	---	---	---
Manganese	0.2	(3)	---	---	---	---	---	8.6	3.5	2.7	2.7	---	---	---	---	---	3.1	3	---	---	---
Potassium	-		---	---	---	---	---	4.7	4.3	3.1	3.1	---	---	---	---	---	3.7	3.7	---	---	---
Selenium	0.05	(3)	---	---	---	---	---	< 0.050	< 0.050	0.04	0.04	---	---	---	---	---	< 0.050	< 0.050	---	---	---
Silver	0.05	(3)	---	---	---	---	---	< 0.0050	< 0.0050	< 0.0050	< 0.0050	---	---	---	---	---	< 0.0050	< 0.0050	---	---	---
Sodium	-		---	---	---	---	---	380	360	250	250	---	---	---	---	---	560	560	---	---	---
Uranium	0.03	(3)	---	---	---	---	---	< 0.10	< 0.10	0.001	0.001	---	---	---	---	---	< 0.10	< 0.10	---	---	---
Zinc	10	(3)	---	---	---	---	---	0.033	0.024	0.076	0.076	---	---	---	---	---	1.3	0.15	---	---	---
Total Petroleum Hydrocarbons (mg/L):																					
Diesel Range Organics	0.0398	(6)	---	---	---	---	---	1.3	2.1	<0.20	<0.20	---	---	---	---	---	100	20	---	---	---
Gasoline Range Organics	-	-	---	---	---	---	---	6.1	14	0.083	0.083	---	---	---	---	---	29	16	---	---	---
Motor Oil Range Organics	0.0398	(6)	---	---	---	---	---	< 2.5	< 2.5	<2.5	<2.5	---	---	---	---	---	44	12	---	---	---

Notes:
(1) EPA - Regional Screening Levels (June 2017) -Tap Water
(2) EPA - Regional Screening Levels (June 2017) - MCL
(3) NMED WQCC standards - Title 20 Chapter 6, Part 2, - 20.6.2.3101 Standards for Ground Water of 10,000 mg/l TDS Concentration or less
(4) NMED Tap Water Screening Level - Risk Assessment Guidance for Site Investigations and Remediation (March 2017)
(5) EPA Screening Level - Tap Water x 10 for carcinogenic compounds
(6) NMED groundwater screening level for unknown oil

-	= No screening level available
*	= Laboratory analyzed for combined Nitrate (As N) + Nitrite (As N) to meet hold time
---	= Analysis not required and/or well contains separate phase
	= Analytical result exceeds the respective screening level.
1	= 6/27/13 modification on FWGWM Plan to remove MW-8 and replace with MW-52.
**	= Columns hidden when there are 4 or more consecutive years recorded that analysis was not required and/or the well contained separate phase

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.	Screening Levels	Source	**MW-20			**MW-21			**RW-23			**RW-28		MW-29			
			Aug-18	Aug-17	Aug-16	Aug-18	Aug-17	Aug-16	Aug-18	Aug-17	Aug-16	Aug-18	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15
Volatile Organic Compounds (ug/L)																	
1,1,1,2-Tetrachloroethane	5.74	(4)	---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	60	(3)	---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	10	(3)	---	---	---	---	---	---	---	---	---	---	---	< 2.0	< 2.0	< 2.0	< 2.0
1,1,2-Trichloroethane	5	(2)	---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	25	(3)	---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	5	(3)	---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	-		---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	-		---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichloropropane	0.01	(4)	---	---	---	---	---	---	---	---	---	---	---	< 2.0	< 2.0	< 2.0	< 2.0
1,2,4-Trichlorobenzene	70	(2)	---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	15	(1)	---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	0.2	(2)	---	---	---	---	---	---	---	---	---	---	---	< 2.0	< 2.0	< 2.0	< 2.0
1,2-Dibromoethane (EDB)	0.05	(2)	---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	600	(2)	---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane (EDC)	5	(2)	---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	5	(2)	---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	12	(1)	---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	-		---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	370	(1)	---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	75	(2)	---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
1-Methylnaphthalene	11	(5)	---	---	---	---	---	---	---	---	---	---	---	< 4.0	< 4.0	< 4.0	< 4.0
2,2-Dichloropropane	-		---	---	---	---	---	---	---	---	---	---	---	< 2.0	< 2.0	< 2.0	< 2.0
2-Butanone	5560	(4)	---	---	---	---	---	---	---	---	---	---	---	< 10	< 10	< 10	< 10
2-Chlorotoluene	240	(1)	---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone	-		---	---	---	---	---	---	---	---	---	---	---	< 10	< 10	< 10	< 10
2-Methylnaphthalene	36	(1)	---	---	---	---	---	---	---	---	---	---	---	< 4.0	< 4.0	< 4.0	< 4.0
4-Chlorotoluene	250	(1)	---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
4-Isopropyltoluene	-		---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
4-Methyl-2-pentanone	-		---	---	---	---	---	---	---	---	---	---	---	< 10	< 10	< 10	< 10
Acetone	14100	(4)	---	---	---	---	---	---	---	---	---	---	---	< 10	**2.2 J**	< 10	< 10
Benzene	5	(2)	---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	62	(1)	---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	1.34	(4)	---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
Bromoform	33	(5)	---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	7.54	(4)	---	---	---	---	---	---	---	---	---	---	---	< 3.0	< 3.0	< 3.0	< 3.0
Carbon disulfide	810	(4)	---	---	---	---	---	---	---	---	---	---	---	< 10	< 10	< 10	< 10
Carbon Tetrachloride	5	(2)	---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	100	(2)	---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	20900	(4)	---	---	---	---	---	---	---	---	---	---	---	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform	100	(3)	---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane	20.3	(4)	---	---	---	---	---	---	---	---	---	---	---	< 3.0	< 3.0	< 3.0	< 3.0
cis-1,2-DCE	70	(2)	---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,3-Dichloropropene	4.7	(4)	---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	1.68	(4)	---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	8.3	(1)	---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
Dichlorodifluoromethane	197	(4)	---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	700	(2)	---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0

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.	Screening Levels	Source	**MW-20			**MW-21			**RW-23			**RW-28		MW-29			
			Aug-18	Aug-17	Aug-16	Aug-18	Aug-17	Aug-16	Aug-18	Aug-17	Aug-16	Aug-18	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15
Hexachlorobutadiene	1.39	(4)	---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	447	(4)	---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
Methyl tert-butyl ether (MTBE)	143	(4)	---	---	---	---	---	---	---	---	---	---	---	0.67 J	0.56 J	< 1.0	< 1.0
Methylene Chloride	5	(2)	---	---	---	---	---	---	---	---	---	---	---	< 3.0	< 3.0	< 3.0	< 3.0
Naphthalene	1.65	(4)	---	---	---	---	---	---	---	---	---	---	---	< 2.0	< 2.0	< 2.0	< 2.0
n-Butylbenzene	-		---	---	---	---	---	---	---	---	---	---	---	< 3.0	< 3.0	< 3.0	< 3.0
n-Propylbenzene	-		---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
sec-Butylbenzene	-		---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	100	(2)	---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	-		---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene (PCE)	5	(2)	---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	750	(3)	---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-DCE	100	(2)	---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,3-Dichloropropene	4.71	(4)	---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene (TCE)	5	(2)	---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	1136	(4)	---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl chloride	1	(3)	---	---	---	---	---	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0
Xylenes, Total	620	(3)	---	---	---	---	---	---	---	---	---	---	---	< 1.5	< 1.5	< 1.5	< 1.5
Semi-Volatile Organic Compounds (ug/L):																	
1,2,4-Trichlorobenzene	70	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2-Dichlorobenzene	600	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,3-Dichlorobenzene	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,4-Dichlorobenzene	75	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1-Methylnaphthalene	11	(5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,4,5-Trichlorophenol	1170	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,4,6-Trichlorophenol	11.9	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,4-Dichlorophenol	45.3	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,4-Dimethylphenol	354	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,4-Dinitrophenol	38.7	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,4-Dinitrotoluene	2.37	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,6-Dinitrotoluene	0.485	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Chloronaphthalene	733	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Chlorophenol	91	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Methylnaphthalene	36	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Methylphenol	930	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Nitroaniline	190	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Nitrophenol	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
3,3´-Dichlorobenzidine	1.25	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
3+4-Methylphenol	930	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
3-Nitroaniline	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4,6-Dinitro-2-methylphenol	1.52	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Bromophenyl phenyl ether	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Chloro-3-methylphenol	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Chloroaniline	3.7	(5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Chlorophenyl phenyl ether	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Nitroaniline	38	(5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Nitrophenol	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Acenaphthene	535	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Acenaphthylene	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

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.	Screening Levels	Source	**MW-20			**MW-21			**RW-23			**RW-28		MW-29			
			Aug-18	Aug-17	Aug-16	Aug-18	Aug-17	Aug-16	Aug-18	Aug-17	Aug-16	Aug-18	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15
Aniline	130	(5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Anthracene	1720	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Azobenzene	1.2	(5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo(a)anthracene	0.12	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo(a)pyrene	0.2	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo(b)fluoranthene	0.343	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo(g,h,i)perylene	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo(k)fluoranthene	3.43	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzoic acid	75000	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzyl alcohol	2000	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bis(2-chloroethoxy)methane	59	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bis(2-chloroethyl)ether	0.137	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bis(2-chloroisopropyl)ether	9.81	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bis(2-ethylhexyl)phthalate	6	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Butyl benzyl phthalate	160	(5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Carbazole	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chrysene	34.3	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dibenz(a,h)anthracene	0.0343	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dibenzofuran	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diethyl phthalate	14800	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dimethyl phthalate	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Di-n-butyl phthalate	885	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Di-n-octyl phthalate	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Fluoranthene	802	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Fluorene	288	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hexachlorobenzene	0.0976	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hexachlorobutadiene	1.387	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hexachlorocyclopentadiene	50	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hexachloroethane	3.28	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	0.343	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Isophorone	781	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Naphthalene	1.65	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Nitrobenzene	1.4	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
N-Nitrosodimethylamine	0.0017	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
N-Nitrosodi-n-propylamine	0.11	(5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
N-Nitrosodiphenylamine	0.0049	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pentachlorophenol	170	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Phenanthrene	1	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Phenol	5760	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pyrene	117	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pyridine	20	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
General Chemistry (mg/L):																	
Fluoride	1.6	(3)	---	---	---	---	---	---	---	---	---	---	---	<0.50	**0.22**	**0.32**	**0.26**
Chloride	250	(3)	---	---	---	---	---	---	---	---	---	---	---	**110**	**110**	**45**	**33**
Nitrite	1	(2)	---	---	---	---	---	---	---	---	---	---	---	**7.1**	< 0.10	< 0.10	< 0.10
Bromide	-		---	---	---	---	---	---	---	---	---	---	---	**0.87**	**0.98**	**0.38**	**0.34**
Nitrate	10	(3)	---	---	---	---	---	---	---	---	---	---	---	**7.1**	**5.0**	**1.2**	**0.5**
Phosphorus	-		---	---	---	---	---	---	---	---	---	---	---	**1.4 JH**	< 0.50	< 0.50	< 0.50
Sulfate	600	(3)	---	---	---	---	---	---	---	---	---	---	---	**320**	**350**	**180**	**160**
Carbon Dioxide ($CO_{2)}$	-		---	---	---	---	---	---	---	---	---	---	---	**280**	**300**	**260**	**230**
Alkalinity ($CaCO_3$)	-		---	---	---	---	---	---	---	---	---	---	---	**309.2**	**318.6**	**284.2**	**250.8**
Bicarbonate ($CaCO_3$)	-		---	---	---	---	---	---	---	---	---	---	---	**309.2**	**318.6**	**284.2**	**250.8**

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	Screening Levels	Source	**MW-20			**MW-21			**RW-23			**RW-28		MW-29			
			Aug-18	Aug-17	Aug-16	Aug-18	Aug-17	Aug-16	Aug-18	Aug-17	Aug-16	Aug-18	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15
Total Metals (mg/L):																	
Arsenic	0.01	(2)	---	---	---	---	---	---	---	---	---	---	---	**0.0022**	< 0.050	< 0.020	< 0.020
Barium	2.0	(2)	---	---	---	---	---	---	---	---	---	---	---	**0.038**	**0.049**	**0.24**	**0.041**
Cadmium	0.005	(2)	---	---	---	---	---	---	---	---	---	---	---	< 0.0020	< 0.0020	< 0.0020	< 0.0020
Chromium	0.05	(3)	---	---	---	---	---	---	---	---	---	---	---	< 0.0060	< 0.0060	**0.0088**	< 0.0060
Lead	0.015	(2)	---	---	---	---	---	---	---	---	---	---	---	**0.00031 J**	< 0.0050	< 0.0050	< 0.0050
Selenium	0.05	(3)	---	---	---	---	---	---	---	---	---	---	---	**0.0017**	< 0.050	< 0.050	< 0.050
Silver	0.05	(3)	---	---	---	---	---	---	---	---	---	---	---	**0.0036**	< 0.0050	< 0.0050	< 0.0050
Mercury	0.002	(3)	---	---	---	---	---	---	---	---	---	---	---	**0.000085J**	< 0.00020	< 0.00020	< 0.00020
Dissolved Metals (mg/L):																	
Arsenic	0.01	(2)	---	---	---	---	---	---	---	---	---	---	---	< 0.020	< 0.020	< 0.020	< 0.020
Barium	1.0	(3)	---	---	---	---	---	---	---	---	---	---	---	**0.031**	**0.03**	**0.023**	< 0.020
Cadmium	0.005	(2)	---	---	---	---	---	---	---	---	---	---	---	< 0.0020	< 0.0020	< 0.0020	< 0.0020
Calcium	-		---	---	---	---	---	---	---	---	---	---	---	**130**	**130**	**83**	**74**
Chromium	0.05	(3)	---	---	---	---	---	---	---	---	---	---	---	< 0.0060	< 0.0060	< 0.0060	< 0.0060
Copper	1	(3)	---	---	---	---	---	---	---	---	---	---	---	< 0.0060	< 0.0060	< 0.0060	< 0.0060
Iron	1	(3)	---	---	---	---	---	---	---	---	---	---	---	< 0.020	< 0.020	**0.12**	< 0.020
Lead	0.015	(2)	---	---	---	---	---	---	---	---	---	---	---	**0.0053**	< 0.0050	< 0.0050	< 0.0050
Magnesium	-		---	---	---	---	---	---	---	---	---	---	---	**30**	**28**	**18**	**17**
Manganese	0.2	(3)	---	---	---	---	---	---	---	---	---	---	---	**2.6**	**2.7**	**1.4**	**1.3**
Potassium	-		---	---	---	---	---	---	---	---	---	---	---	**2.7**	**2.6**	**2.1**	**2.2**
Selenium	0.05	(3)	---	---	---	---	---	---	---	---	---	---	---	< 0.050	< 0.050	< 0.050	< 0.050
Silver	0.05	(3)	---	---	---	---	---	---	---	---	---	---	---	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Sodium	-		---	---	---	---	---	---	---	---	---	---	---	**190**	**180**	**120**	**99**
Uranium	0.03	(3)	---	---	---	---	---	---	---	---	---	---	---	< 0.10	< 0.10	< 0.10	< 0.10
Zinc	10	(3)	---	---	---	---	---	---	---	---	---	---	---	**0.020**	**0.035**	< 0.020	**0.022**
Total Petroleum Hydrocarbons (mg/L):																	
Diesel Range Organics	0.0398	(6)	---	---	---	---	---	---	---	---	---	---	---	< 0.40	< 0.20	**0.28**	< 0.20
Gasoline Range Organics	-	-	---	---	---	---	---	---	---	---	---	---	---	**0.024 J**	< 0.050	< 0.050	< 0.050
Motor Oil Range Organics	0.0398	(6)	---	---	---	---	---	---	---	---	---	---	---	< 2.5	< 2.5	< 2.5	< 2.5

Notes:
(1) EPA - Regional Screening Levels (June 2017) -Tap Water
(2) EPA - Regional Screening Levels (June 2017) - MCL
(3) NMED WQCC standards - Title 20 Chapter 6, Part 2, - 20.6.2.3101 Standards for Ground Water of 10,000 mg/l TDS Concentration or less
(4) NMED Tap Water Screening Level - Risk Assessment Guidance for Site Investigations and Remediation (March 2017)
(5) EPA Screening Level - Tap Water x 10 for carcinogenic compounds
(6) NMED groundwater screening level for unknown oil

-	= No screening level available
*	= Laboratory analyzed for combined Nitrate (As N) + Nitrite (As N) to meet hold time
---	= Analysis not required and/or well contains separate phase
	= Analytical result exceeds the respective screening level.
1	= 6/27/13 modification on FWGWM Plan to remove MW-8 and replace with MW-52.
**	= Columns hidden when there are 4 or more consecutive years recorded that analysis was not required and/or the well contained separate phase

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	Screening Levels	Source	MW-30							
			Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15
Volatile Organic Compounds (ug/L)										
1,1,1,2-Tetrachloroethane	5.74	(4)	---	---	---	---	< 100	---	< 100	---
1,1,1-Trichloroethane	60	(3)	---	---	---	---	< 100	---	< 100	---
1,1,2,2-Tetrachloroethane	10	(3)	---	---	---	---	< 200	---	< 200	---
1,1,2-Trichloroethane	5	(2)	---	---	---	---	< 100	---	< 100	---
1,1-Dichloroethane	25	(3)	---	---	---	---	< 100	---	< 100	---
1,1-Dichloroethene	5	(3)	---	---	---	---	< 100	---	< 100	---
1,1-Dichloropropene	-		---	---	---	---	< 100	---	< 100	---
1,2,3-Trichlorobenzene	-		---	---	---	---	< 100	---	< 100	---
1,2,3-Trichloropropane	0.01	(4)	---	---	---	---	< 200	---	< 200	---
1,2,4-Trichlorobenzene	70	(2)	---	---	---	---	< 100	---	< 100	---
1,2,4-Trimethylbenzene	15	(1)	---	---	---	---	**4200**	---	**3000**	---
1,2-Dibromo-3-chloropropane	0.2	(2)	---	---	---	---	< 200	---	< 200	---
1,2-Dibromoethane (EDB)	0.05	(2)	---	---	---	---	< 100	---	< 100	---
1,2-Dichlorobenzene	600	(2)	---	---	---	---	< 100	---	< 100	---
1,2-Dichloroethane (EDC)	5	(2)	---	---	---	---	< 100	---	< 100	---
1,2-Dichloropropane	5	(2)	---	---	---	---	< 100	---	< 100	---
1,3,5-Trimethylbenzene	12	(1)	---	---	---	---	**860**	---	**740**	---
1,3-Dichlorobenzene	-		---	---	---	---	< 100	---	< 100	---
1,3-Dichloropropane	370	(1)	---	---	---	---	< 100	---	< 100	---
1,4-Dichlorobenzene	75	(2)	---	---	---	---	< 100	---	< 100	---
1-Methylnaphthalene	11	(5)	---	---	---	---	< 400	---	< 400	---
2,2-Dichloropropane	-		---	---	---	---	< 200	---	< 200	---
2-Butanone	5560	(4)	---	---	---	---	< 1000	---	< 1000	---
2-Chlorotoluene	240	(1)	---	---	---	---	< 100	---	< 100	---
2-Hexanone	-		---	---	---	---	< 1000	---	< 1000	---
2-Methylnaphthalene	36	(1)	---	---	---	---	< 400	---	< 400	---
4-Chlorotoluene	250	(1)	---	---	---	---	< 100	---	< 100	---
4-Isopropyltoluene	-		---	---	---	---	< 100	---	< 100	---
4-Methyl-2-pentanone	-		---	---	---	---	< 1000	---	< 1000	---
Acetone	14100	(4)	---	---	---	---	< 1000	---	< 1000	---
Benzene	5	(2)	---	---	---	**2900**	**2700**	**3000**	**4200**	---
Bromobenzene	62	(1)	---	---	---	---	< 100	---	< 100	---
Bromodichloromethane	1.34	(4)	---	---	---	---	< 100	---	< 100	---
Bromoform	33	(5)	---	---	---	---	< 100	---	< 100	---
Bromomethane	7.54	(4)	---	---	---	---	< 300	---	< 300	---
Carbon disulfide	810	(4)	---	---	---	---	< 1000	---	< 1000	---
Carbon Tetrachloride	5	(2)	---	---	---	---	< 100	---	< 100	---
Chlorobenzene	100	(2)	---	---	---	---	< 100	---	< 100	---
Chloroethane	20900	(4)	---	---	---	---	< 200	---	< 200	---
Chloroform	100	(3)	---	---	---	---	< 100	---	< 100	---
Chloromethane	20.3	(4)	---	---	---	---	< 300	---	< 300	---
cis-1,2-DCE	70	(2)	---	---	---	---	< 100	---	< 100	---
cis-1,3-Dichloropropene	4.7	(4)	---	---	---	---	< 100	---	< 100	---
Dibromochloromethane	1.68	(4)	---	---	---	---	< 100	---	< 100	---
Dibromomethane	8.3	(1)	---	---	---	---	< 100	---	< 100	---
Dichlorodifluoromethane	197	(4)	---	---	---	---	< 100	---	< 100	---
Ethylbenzene	700	(2)	---	---	---	**5700**	**4400**	**4700**	**4000**	---

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.	Screening Levels	Source	MW-30							
			Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15
Hexachlorobutadiene	1.39	(4)	---	---	---	---	< 100	---	< 100	---
Isopropylbenzene	447	(4)	---	---	---	---	**190**	---	**110**	---
Methyl tert-butyl ether (MTBE)	143	(4)	---	---	---	< 100	< 100	< 100	< 100	---
Methylene Chloride	5	(2)	---	---	---	---	< 300	---	< 300	---
Naphthalene	1.65	(4)	---	---	---	---	**700**	---	**600**	---
n-Butylbenzene	-		---	---	---	---	< 300	---	< 300	---
n-Propylbenzene	-		---	---	---	---	**710**	---	**470**	---
sec-Butylbenzene	-		---	---	---	---	< 100	---	< 100	---
Styrene	100	(2)	---	---	---	---	< 100	---	< 100	---
tert-Butylbenzene	-		---	---	---	---	< 100	---	< 100	---
Tetrachloroethene (PCE)	5	(2)	---	---	---	---	< 100	---	< 100	---
Toluene	750	(3)	---	---	---	**1000**	**1800**	**1300**	**13000**	---
trans-1,2-DCE	100	(2)	---	---	---	---	< 100	---	< 100	---
trans-1,3-Dichloropropene	4.71	(4)	---	---	---	---	< 100	---	< 100	---
Trichloroethene (TCE)	5	(2)	---	---	---	---	< 100	---	< 100	---
Trichlorofluoromethane	1136	(4)	---	---	---	---	< 100	---	< 100	---
Vinyl chloride	1	(3)	---	---	---	---	< 100	---	< 100	---
Xylenes, Total	620	(3)	---	---	---	**17000**	**14000**	**13000**	**16000**	---
Semi-Volatile Organic Compounds (ug/L):										
1,2,4-Trichlorobenzene	70	(2)	---	---	---	---	---	---	---	---
1,2-Dichlorobenzene	600	(2)	---	---	---	---	---	---	---	---
1,3-Dichlorobenzene	-		---	---	---	---	---	---	---	---
1,4-Dichlorobenzene	75	(2)	---	---	---	---	---	---	---	---
1-Methylnaphthalene	11	(5)	---	---	---	---	---	---	---	---
2,4,5-Trichlorophenol	1170	(4)	---	---	---	---	---	---	---	---
2,4,6-Trichlorophenol	11.9	(4)	---	---	---	---	---	---	---	---
2,4-Dichlorophenol	45.3	(4)	---	---	---	---	---	---	---	---
2,4-Dimethylphenol	354	(4)	---	---	---	---	---	---	---	---
2,4-Dinitrophenol	38.7	(4)	---	---	---	---	---	---	---	---
2,4-Dinitrotoluene	2.37	(4)	---	---	---	---	---	---	---	---
2,6-Dinitrotoluene	0.485	(4)	---	---	---	---	---	---	---	---
2-Chloronaphthalene	733	(4)	---	---	---	---	---	---	---	---
2-Chlorophenol	91	(4)	---	---	---	---	---	---	---	---
2-Methylnaphthalene	36	(1)	---	---	---	---	---	---	---	---
2-Methylphenol	930	(1)	---	---	---	---	---	---	---	---
2-Nitroaniline	190	(1)	---	---	---	---	---	---	---	---
2-Nitrophenol	-		---	---	---	---	---	---	---	---
3,3´-Dichlorobenzidine	1.25	(4)	---	---	---	---	---	---	---	---
3+4-Methylphenol	930	(1)	---	---	---	---	---	---	---	---
3-Nitroaniline	-		---	---	---	---	---	---	---	---
4,6-Dinitro-2-methylphenol	1.52	(4)	---	---	---	---	---	---	---	---
4-Bromophenyl phenyl ether	-		---	---	---	---	---	---	---	---
4-Chloro-3-methylphenol	-		---	---	---	---	---	---	---	---
4-Chloroaniline	3.7	(5)	---	---	---	---	---	---	---	---
4-Chlorophenyl phenyl ether	-		---	---	---	---	---	---	---	---
4-Nitroaniline	38	(5)	---	---	---	---	---	---	---	---
4-Nitrophenol	-		---	---	---	---	---	---	---	---
Acenaphthene	535	(4)	---	---	---	---	---	---	---	---
Acenaphthylene	-		---	---	---	---	---	---	---	---

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.	Screening Levels	Source	MW-30							
			Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15
Aniline	130	(5)	---	---	---	---	---	---	---	---
Anthracene	1720	(4)	---	---	---	---	---	---	---	---
Azobenzene	1.2	(5)	---	---	---	---	---	---	---	---
Benzo(a)anthracene	0.12	(4)	---	---	---	---	---	---	---	---
Benzo(a)pyrene	0.2	(2)	---	---	---	---	---	---	---	---
Benzo(b)fluoranthene	0.343	(4)	---	---	---	---	---	---	---	---
Benzo(g,h,i)perylene	-		---	---	---	---	---	---	---	---
Benzo(k)fluoranthene	3.43	(4)	---	---	---	---	---	---	---	---
Benzoic acid	75000	(1)	---	---	---	---	---	---	---	---
Benzyl alcohol	2000	(1)	---	---	---	---	---	---	---	---
Bis(2-chloroethoxy)methane	59	(1)	---	---	---	---	---	---	---	---
Bis(2-chloroethyl)ether	0.137	(4)	---	---	---	---	---	---	---	---
Bis(2-chloroisopropyl)ether	9.81	(4)	---	---	---	---	---	---	---	---
Bis(2-ethylhexyl)phthalate	6	(2)	---	---	---	---	---	---	---	---
Butyl benzyl phthalate	160	(5)	---	---	---	---	---	---	---	---
Carbazole	-		---	---	---	---	---	---	---	---
Chrysene	34.3	(4)	---	---	---	---	---	---	---	---
Dibenz(a,h)anthracene	0.0343	(4)	---	---	---	---	---	---	---	---
Dibenzofuran	-		---	---	---	---	---	---	---	---
Diethyl phthalate	14800	(4)	---	---	---	---	---	---	---	---
Dimethyl phthalate	-		---	---	---	---	---	---	---	---
Di-n-butyl phthalate	885	(4)	---	---	---	---	---	---	---	---
Di-n-octyl phthalate	-		---	---	---	---	---	---	---	---
Fluoranthene	802	(4)	---	---	---	---	---	---	---	---
Fluorene	288	(4)	---	---	---	---	---	---	---	---
Hexachlorobenzene	0.0976	(4)	---	---	---	---	---	---	---	---
Hexachlorobutadiene	1.387	(4)	---	---	---	---	---	---	---	---
Hexachlorocyclopentadiene	50	(4)	---	---	---	---	---	---	---	---
Hexachloroethane	3.28	(4)	---	---	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	0.343	(4)	---	---	---	---	---	---	---	---
Isophorone	781	(4)	---	---	---	---	---	---	---	---
Naphthalene	1.65	(4)	---	---	---	---	---	---	---	---
Nitrobenzene	1.4	(4)	---	---	---	---	---	---	---	---
N-Nitrosodimethylamine	0.0017	(4)	---	---	---	---	---	---	---	---
N-Nitrosodi-n-propylamine	0.11	(5)	---	---	---	---	---	---	---	---
N-Nitrosodiphenylamine	0.0049	(4)	---	---	---	---	---	---	---	---
Pentachlorophenol	170	(4)	---	---	---	---	---	---	---	---
Phenanthrene	1	(4)	---	---	---	---	---	---	---	---
Phenol	5760	(4)	---	---	---	---	---	---	---	---
Pyrene	117	(4)	---	---	---	---	---	---	---	---
Pyridine	20	(1)	---	---	---	---	---	---	---	---
General Chemistry (mg/L):										
Fluoride	1.6	(3)	---	---	---	---	< 0.50	---	< 0.10	---
Chloride	250	(3)	---	---	---	---	**230**	---	**230**	---
Nitrite	1	(2)	---	---	---	---	< 0.50	---	< 2.0	---
Bromide	-		---	---	---	---	**3.8**	---	< 0.10	---
Nitrate	10	(3)	---	---	---	---	< 0.50	---	**1**	---
Phosphorus	-		---	---	---	---	< 2.5	---	< 0.50	---
Sulfate	600	(3)	---	---	---	---	**69**	---	**36**	---
Carbon Dioxide ($CO_{2)}$	-		---	---	---	---	**1300**	---	**1400**	---
Alkalinity ($CaCO_3$)	-		---	---	---	---	**1403**	---	**1493**	---
Bicarbonate ($CaCO_3$)	-		---	---	---	---	**1403**	---	**1493**	---

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	Screening Levels	Source	MW-30							
			Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15
Total Metals (mg/L):										
Arsenic	0.01	(2)	---	---	---	---	< 0.020	---	< 0.020	---
Barium	2.0	(2)	---	---	---	---	**0.74**	---	**1.1**	---
Cadmium	0.005	(2)	---	---	---	---	< 0.0020	---	< 0.0020	---
Chromium	0.05	(3)	---	---	---	---	**0.01**	---	< 0.0060	---
Lead	0.015	(2)	---	---	---	---	**0.019**	---	< 0.0050	---
Selenium	0.05	(3)	---	---	---	---	< 0.050	---	< 0.050	---
Silver	0.05	(3)	---	---	---	---	< 0.0050	---	< 0.0050	---
Mercury	0.002	(3)	---	---	---	---	< 0.00020	---	< 0.00020	---
Dissolved Metals (mg/L):										
Arsenic	0.01	(2)	---	---	---	---	< 0.020	---	< 0.020	---
Barium	1.0	(3)	---	---	---	---	**0.56**	---	**1**	---
Cadmium	0.005	(2)	---	---	---	---	< 0.0020	---	< 0.0020	---
Calcium	-		---	---	---	---	**150**	---	**160**	---
Chromium	0.05	(3)	---	---	---	---	< 0.0060	---	< 0.0060	---
Copper	1	(3)	---	---	---	---	< 0.0060	---	< 0.0060	---
Iron	1	(3)	---	---	---	---	**7.4**	---	**1.5**	---
Lead	0.015	(2)	---	---	---	---	**0.0066**	---	**0.0074**	---
Magnesium	-		---	---	---	---	**36**	---	**52**	---
Manganese	0.2	(3)	---	---	---	---	**1.2**	---	**2.9**	---
Potassium	-		---	---	---	---	**3.3**	---	**3.5**	---
Selenium	0.05	(3)	---	---	---	---	< 0.050	---	< 0.050	---
Silver	0.05	(3)	---	---	---	---	< 0.0050	---	< 0.0050	---
Sodium	-		---	---	---	---	**590**	---	**560**	---
Uranium	0.03	(3)	---	---	---	---	< 0.10	---	< 0.10	---
Zinc	10	(3)	---	---	---	---	**0.031**	---	**0.034**	---
Total Petroleum Hydrocarbons (mg/L):										
Diesel Range Organics	0.0398	(6)	---	---	---	---	**71**	---	**7.7**	---
Gasoline Range Organics	-	-	---	---	---	---	**100**	---	**120**	---
Motor Oil Range Organics	0.0398	(6)	---	---	---	---	< 25	---	< 2.5	---

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.	Screening Levels	Source	MW-31				MW-40				RW-42			RW-43				MW-44			
			Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15
Volatile Organic Compounds (ug/L)																					
1,1,1,2-Tetrachloroethane	5.74	(4)	< 10	< 10	< 10	< 20	---	---	< 50	---	---	---	< 10	---	---	< 50	---	< 1.0	< 1.0	< 1.0	< 2.0
1,1,1-Trichloroethane	60	(3)	< 10	< 10	< 10	< 20	---	---	< 50	---	---	---	< 10	---	---	< 50	---	< 1.0	< 1.0	< 1.0	< 2.0
1,1,2,2-Tetrachloroethane	10	(3)	< 20	< 20	< 20	< 40	---	---	< 100	---	---	---	< 20	---	---	< 100	---	< 2.0	< 2.0	< 2.0	< 4.0
1,1,2-Trichloroethane	5	(2)	< 10	< 10	< 10	< 20	---	---	< 50	---	---	---	< 10	---	---	< 50	---	< 1.0	< 1.0	< 1.0	< 2.0
1,1-Dichloroethane	25	(3)	< 10	< 10	< 10	< 20	---	---	< 50	---	---	---	< 10	---	---	< 50	---	< 1.0	< 1.0	< 1.0	< 2.0
1,1-Dichloroethene	5	(3)	< 10	< 10	< 10	< 20	---	---	< 50	---	---	---	< 10	---	---	< 50	---	< 1.0	< 1.0	< 1.0	< 2.0
1,1-Dichloropropene	-		< 10	< 10	< 10	< 20	---	---	< 50	---	---	---	< 10	---	---	< 50	---	< 1.0	< 1.0	< 1.0	< 2.0
1,2,3-Trichlorobenzene	-		< 10	< 10	< 10	< 20	---	---	< 50	---	---	---	< 10	---	---	< 50	---	< 1.0	< 1.0	< 1.0	< 2.0
1,2,3-Trichloropropane	0.01	(4)	< 20	< 20	< 20	< 40	---	---	< 100	---	---	---	< 20	---	---	< 100	---	< 2.0	< 2.0	< 2.0	< 4.0
1,2,4-Trichlorobenzene	70	(2)	< 10	< 10	< 10	< 20	---	---	< 50	---	---	---	< 10	---	---	< 50	---	< 1.0	< 1.0	< 1.0	< 2.0
1,2,4-Trimethylbenzene	15	(1)	**940**	**230**	**600**	**1700**	---	---	< 50	---	---	---	**120**	---	---	**770**	---	< 1.0	< 1.0	**1.1**	< 2.0
1,2-Dibromo-3-chloropropane	0.2	(2)	< 20	< 20	< 20	< 40	---	---	< 100	---	---	---	< 20	---	---	< 100	---	< 2.0	< 2.0	< 2.0	< 4.0
1,2-Dibromoethane (EDB)	0.05	(2)	< 10	< 10	< 10	< 20	---	---	< 50	---	---	---	< 10	---	---	< 50	---	< 1.0	< 1.0	< 1.0	< 2.0
1,2-Dichlorobenzene	600	(2)	< 10	< 10	< 10	< 20	---	---	< 50	---	---	---	< 10	---	---	< 50	---	< 1.0	< 1.0	< 1.0	< 2.0
1,2-Dichloroethane (EDC)	5	(2)	< 10	< 10	< 10	< 20	---	---	< 50	---	---	---	< 10	---	---	< 50	---	< 1.0	< 1.0	< 1.0	< 2.0
1,2-Dichloropropane	5	(2)	< 10	< 10	< 10	< 20	---	---	< 50	---	---	---	< 10	---	---	< 50	---	< 1.0	< 1.0	< 1.0	< 2.0
1,3,5-Trimethylbenzene	12	(1)	**24**	**1.4 J**	< 10	**82**	---	---	< 50	---	---	---	**13**	---	---	**180**	---	< 1.0	< 1.0	< 1.0	< 2.0
1,3-Dichlorobenzene	-		< 10	< 10	< 10	< 20	---	---	< 50	---	---	---	< 10	---	---	< 50	---	< 1.0	< 1.0	< 1.0	< 2.0
1,3-Dichloropropane	370	(1)	< 10	< 10	< 10	< 20	---	---	< 50	---	---	---	< 10	---	---	< 50	---	< 1.0	< 1.0	< 1.0	< 2.0
1,4-Dichlorobenzene	75	(2)	< 10	< 10	< 10	< 20	---	---	< 50	---	---	---	< 10	---	---	< 50	---	< 1.0	< 1.0	< 1.0	< 2.0
1-Methylnaphthalene	11	(5)	**45**	**19 J**	**41**	< 80	---	---	< 200	---	---	---	**160**	---	---	< 200	---	< 1.0	< 1.0	< 4.0	< 8.0
2,2-Dichloropropane	-		< 20	< 20	< 20	< 40	---	---	< 100	---	---	---	< 20	---	---	< 100	---	< 1.0	< 1.0	< 2.0	< 4.0
2-Butanone	5560	(4)	< 100	< 100	< 100	< 200	---	---	< 500	---	---	---	< 100	---	---	< 500	---	< 10	< 10	< 10	< 20
2-Chlorotoluene	240	(1)	< 10	< 10	< 10	< 20	---	---	< 50	---	---	---	< 10	---	---	< 50	---	< 10	< 10	< 1.0	< 2.0
2-Hexanone	-		< 100	< 100	< 100	< 200	---	---	< 500	---	---	---	< 100	---	---	< 500	---	< 1.0	< 1.0	< 10	< 20
2-Methylnaphthalene	36	(1)	**45**	**12**	< 40	**96**	---	---	< 200	---	---	---	**220**	---	---	< 200	---	< 1.0	< 1.0	< 4.0	< 8.0
4-Chlorotoluene	250	(1)	< 10	**12 J**	< 10	< 20	---	---	< 50	---	---	---	< 10	---	---	< 50	---	< 1.0	< 1.0	< 1.0	< 2.0
4-Isopropyltoluene	-		**3.1 J**	< 10	< 10	< 20	---	---	< 50	---	---	---	< 10	---	---	< 50	---	< 1.0	< 1.0	< 1.0	< 2.0
4-Methyl-2-pentanone	-		< 100	< 100	< 100	< 200	---	---	< 500	---	---	---	< 100	---	---	< 500	---	< 3.0	< 3.0	< 10	< 20
Acetone	14100	(4)	< 100	< 100	< 100	< 200	---	---	< 500	---	---	---	< 100	---	---	< 500	---	< 10	< 10	< 10	< 20
Benzene	5	(2)	**1500**	**320**	**270**	**3900**	---	---	< 50	---	---	---	**6300**	---	---	**2600**	---	< 1.0	< 1.0	< 1.0	< 2.0
Bromobenzene	62	(1)	< 10	< 10	< 10	< 20	---	---	< 50	---	---	---	< 10	---	---	< 50	---	< 1.0	< 1.0	< 1.0	< 2.0
Bromodichloromethane	1.34	(4)	< 10	< 10	< 10	< 20	---	---	< 50	---	---	---	< 10	---	---	< 50	---	< 2.0	< 2.0	< 1.0	< 2.0
Bromoform	33	(5)	< 10	< 10	< 10	< 20	---	---	< 50	---	---	---	< 10	---	---	< 50	---	< 1.0	< 1.0	< 1.0	< 2.0
Bromomethane	7.54	(4)	< 30	< 30	< 30	< 60	---	---	< 150	---	---	---	< 30	---	---	< 150	---	< 3.0	< 3.0	< 3.0	< 6.0
Carbon disulfide	810	(4)	< 100	< 100	< 100	< 200	---	---	< 500	---	---	---	< 100	---	---	< 500	---	< 1.0	< 1.0	< 10	< 20
Carbon Tetrachloride	5	(2)	< 10	< 10	< 10	< 20	---	---	< 50	---	---	---	< 10	---	---	< 50	---	< 1.0	< 1.0	< 1.0	< 2.0
Chlorobenzene	100	(2)	< 10	< 10	< 10	< 20	---	---	< 50	---	---	---	< 10	---	---	< 50	---	< 1.0	< 1.0	< 1.0	< 2.0
Chloroethane	20900	(4)	< 20	< 20	< 20	< 40	---	---	< 100	---	---	---	< 20	---	---	< 100	---	< 1.0	< 1.0	< 2.0	< 4.0
Chloroform	100	(3)	< 10	< 10	< 10	< 20	---	---	< 50	---	---	---	< 10	---	---	< 50	---	< 1.0	< 1.0	< 1.0	< 2.0
Chloromethane	20.3	(4)	< 30	< 30	< 30	< 60	---	---	< 150	---	---	---	< 30	---	---	< 150	---	< 1.0	< 1.0	< 3.0	< 6.0
cis-1,2-DCE	70	(2)	< 10	< 10	< 10	< 20	---	---	< 50	---	---	---	< 10	---	---	< 50	---	< 1.0	< 1.0	< 1.0	< 2.0
cis-1,3-Dichloropropene	4.7	(4)	< 10	< 10	< 10	< 20	---	---	< 50	---	---	---	< 10	---	---	< 50	---	< 1.0	< 1.0	< 1.0	< 2.0
Dibromochloromethane	1.68	(4)	< 10	< 10	< 10	< 20	---	---	< 50	---	---	---	< 10	---	---	< 50	---	< 1.0	< 1.0	< 1.0	< 2.0
Dibromomethane	8.3	(1)	< 10	< 10	< 10	< 20	---	---	< 50	---	---	---	< 10	---	---	< 50	---	< 3.0	< 3.0	< 1.0	< 2.0
Dichlorodifluoromethane	197	(4)	< 10	< 10	< 10	< 20	---	---	< 50	---	---	---	< 10	---	---	< 50	---	< 3.0	< 3.0	< 1.0	< 2.0
Ethylbenzene	700	(2)	**820**	**170**	**240**	**1600**	---	---	< 50	---	---	---	**160**	---	---	**320**	---	< 1.0	< 1.0	< 1.0	< 2.0

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.	Screening Levels	Source	MW-31				MW-40				RW-42			RW-43				MW-44			
			Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15
Hexachlorobutadiene	1.39	(4)	< 10	< 10	< 10	< 20	---	---	< 50	---	---	---	< 10	---	---	< 50	---	< 2.0	< 2.0	< 1.0	< 2.0
Isopropylbenzene	447	(4)	63	27	37	100	---	---	55	---	---	---	65	---	---	89	---	< 1.0	< 1.0	< 1.0	< 2.0
Methyl tert-butyl ether (MTBE)	143	(4)	< 10	< 10	< 10	< 20	---	---	< 50	---	---	---	14	---	---	670	---	1.1	0.98J	< 1.0	< 2.0
Methylene Chloride	5	(2)	< 30	< 30	< 30	< 60	---	---	< 150	---	---	---	< 30	---	---	< 150	---	< 1.0	< 1.0	< 3.0	< 6.0
Naphthalene	1.65	(4)	160	50	74	210	---	---	110	---	---	---	300	---	---	370	---	< 1.0	< 1.0	< 2.0	< 4.0
n-Butylbenzene	-		16 J	4.2 J	< 30	< 60	---	---	< 150	---	---	---	< 30	---	---	< 150	---	< 1.0	< 1.0	< 3.0	< 6.0
n-Propylbenzene	-		210	68	130	290	---	---	63	---	---	---	110	---	---	84	---	< 1.0	< 1.0	< 1.0	< 2.0
sec-Butylbenzene	-		26	11	24	42	---	---	< 50	---	---	---	17	---	---	< 50	---	< 1.0	< 1.0	< 1.0	< 2.0
Styrene	100	(2)	< 10	< 10	< 10	< 20	---	---	< 50	---	---	---	< 10	---	---	< 50	---	< 1.0	< 1.0	< 1.0	< 2.0
tert-Butylbenzene	-		< 10	< 10	< 10	< 20	---	---	< 50	---	---	---	< 10	---	---	< 50	---	< 1.0	< 1.0	< 1.0	< 2.0
Tetrachloroethene (PCE)	5	(2)	< 10	< 10	< 10	< 20	---	---	< 50	---	---	---	< 10	---	---	< 50	---	< 4.0	< 4.0	< 1.0	< 2.0
Toluene	750	(3)	760	51	< 10	3500	---	---	< 50	---	---	---	< 10	---	---	51	---	< 2.0	< 2.0	< 1.0	< 2.0
trans-1,2-DCE	100	(2)	< 10	< 10	< 10	< 20	---	---	< 50	---	---	---	< 10	---	---	< 50	---	< 10	< 10	< 1.0	< 2.0
trans-1,3-Dichloropropene	4.71	(4)	< 10	< 10	< 10	< 20	---	---	< 50	---	---	---	< 10	---	---	< 50	---	< 1.0	< 1.0	< 1.0	< 2.0
Trichloroethene (TCE)	5	(2)	< 10	< 10	< 10	< 20	---	---	< 50	---	---	---	< 10	---	---	< 50	---	< 10	< 10	< 1.0	< 2.0
Trichlorofluoromethane	1136	(4)	< 10	< 10	< 10	< 20	---	---	< 50	---	---	---	< 10	---	---	< 50	---	< 4.0	< 4.0	< 1.0	< 2.0
Vinyl chloride	1	(3)	< 10	< 10	< 10	< 20	---	---	< 50	---	---	---	< 10	---	---	< 50	---	< 1.0	< 1.0	< 1.0	< 2.0
Xylenes, Total	620	(3)	1400	110	73	3800	---	---	< 75	---	---	---	41	---	---	1100	---	< 1.5	< 1.5	< 1.5	< 3.0
Semi-Volatile Organic Compounds (ug/L):																					
1,2,4-Trichlorobenzene	70	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2-Dichlorobenzene	600	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,3-Dichlorobenzene	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,4-Dichlorobenzene	75	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1-Methylnaphthalene	11	(5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,4,5-Trichlorophenol	1170	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,4,6-Trichlorophenol	11.9	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,4-Dichlorophenol	45.3	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,4-Dimethylphenol	354	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,4-Dinitrophenol	38.7	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,4-Dinitrotoluene	2.37	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,6-Dinitrotoluene	0.485	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Chloronaphthalene	733	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Chlorophenol	91	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Methylnaphthalene	36	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Methylphenol	930	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Nitroaniline	190	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Nitrophenol	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
3,3´-Dichlorobenzidine	1.25	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
3+4-Methylphenol	930	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
3-Nitroaniline	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4,6-Dinitro-2-methylphenol	1.52	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Bromophenyl phenyl ether	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Chloro-3-methylphenol	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Chloroaniline	3.7	(5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Chlorophenyl phenyl ether	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Nitroaniline	38	(5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Nitrophenol	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Acenaphthene	535	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Acenaphthylene	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

TABLE 3
Terminal Wells Analytical Summary
2018 Groundwater Remediation and Monitoring Annual Report

	Screening Levels	Source	MW-31				MW-40				RW-42			RW-43				MW-44			
			Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15
Aniline	130	(5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Anthracene	1720	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Azobenzene	1.2	(5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo(a)anthracene	0.12	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo(a)pyrene	0.2	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo(b)fluoranthene	0.343	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo(g,h,i)perylene	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo(k)fluoranthene	3.43	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzoic acid	75000	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzyl alcohol	2000	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bis(2-chloroethoxy)methane	59	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bis(2-chloroethyl)ether	0.137	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bis(2-chloroisopropyl)ether	9.81	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bis(2-ethylhexyl)phthalate	6	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Butyl benzyl phthalate	160	(5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Carbazole	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chrysene	34.3	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dibenz(a,h)anthracene	0.0343	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dibenzofuran	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diethyl phthalate	14800	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dimethyl phthalate	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Di-n-butyl phthalate	885	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Di-n-octyl phthalate	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Fluoranthene	802	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Fluorene	288	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hexachlorobenzene	0.0976	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hexachlorobutadiene	1.387	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hexachlorocyclopentadiene	50	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hexachloroethane	3.28	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	0.343	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Isophorone	781	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Naphthalene	1.65	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Nitrobenzene	1.4	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
N-Nitrosodimethylamine	0.0017	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
N-Nitrosodi-n-propylamine	0.11	(5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
N-Nitrosodiphenylamine	0.0049	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pentachlorophenol	170	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Phenanthrene	1	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Phenol	5760	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pyrene	117	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pyridine	20	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
General Chemistry (mg/L):																					
Fluoride	1.6	(3)	< 0.10	< 0.10	< 0.10	< 0.10	---	---	< 0.50	---	---	---	**0.62**	---	---	< 0.50	---	< 0.50	< 0.10	**0.6**	< 0.10
Chloride	250	(3)	**170**	**170**	**220**	**200**	---	---	**290**	---	---	---	**260**	---	---	**390**	---	**48**	**46**	**56**	**55**
Nitrite	1	(2)	< 1.0	< 1.0	< 1.0	< 0.10	---	---	< 0.50	---	---	---	< 0.50	---	---	< 0.50	---	**0.079 J**	< 1.0	< 0.10	< 0.10
Bromide	-		**1.7**	**1.7**	< 0.10	< 0.10	---	---	**5**	---	---	---	**4.6**	---	---	**3.9**	---	**0.16**	**0.14**	**0.18**	**0.47**
Nitrate	10	(3)	< 1.0	< 1.0	< 1.0	**0.63**	---	---	< 0.50	---	---	---	< 0.50	---	---	< 0.50	---	**0.050 J**	< 1.0	< 0.10	**0.13**
Phosphorus	-		< 0.50	< 0.50	< 0.50	< 0.50	---	---	< 2.5	---	---	---	**3.4**	---	---	**3.1**	---	< 10	< 10	< 10	< 10
Sulfate	600	(3)	**78**	**78**	**160**	**17**	---	---	< 2.5	---	---	---	< 2.5	---	---	**6.9**	---	**3000**	**3000**	**3000**	**3000**
Carbon Dioxide (CO_2)	-		**1100 H**	**1100**	**1000**	**1100**	---	---	**1200**	---	---	---	**1100**	---	---	**1100**	---	**350**	**350**	**360**	**340**
Alkalinity ($CaCO_3$)	-		**1217**	**1164**	**1115**	**1264**	---	---	**1190**	---	---	---	**1130**	---	---	**1165**	---	**373.5**	**371.8**	**376.3**	**377.6**
Bicarbonate ($CaCO_3$)	-		**1217**	**1164**	**1115**	**1264**	---	---	**1190**	---	---	---	**1130**	---	---	**1165**	---	**373.5**	**371.8**	**376.3**	**377.6**

TABLE 3
Terminal Wells Analytical Summary
2018 Groundwater Remediation and Monitoring Annual Report

	Screening Levels	Source	MW-31				MW-40				RW-42			RW-43				MW-44			
			Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15
Total Metals (mg/L):																					
Arsenic	0.01	(2)	<0.020	0.015J	< 0.020	< 0.020	---	---	< 0.020	---	---	---	0.094	---	---	< 0.020	---	<0.020	0.026	< 0.020	< 0.020
Barium	2.0	(2)	0.90	0.37	0.7	1.4	---	---	2.3	---	---	---	13	---	---	13	---	0.068	0.066	0.17	0.19
Cadmium	0.005	(2)	< 0.0020	< 0.0020	< 0.0020	< 0.0020	---	---	< 0.0020	---	---	---	< 0.0020	---	---	< 0.0020	---	< 0.0020	< 0.0020	< 0.0020	< 0.0020
Chromium	0.05	(3)	< 0.0060	< 0.0060	< 0.0060	< 0.0060	---	---	0.018	---	---	---	0.16	---	---	0.37	---	0.0059	0.0062	0.026	0.029
Lead	0.015	(2)	< 0.0050	< 0.0050	< 0.0050	< 0.0050	---	---	0.0098	---	---	---	0.092	---	---	0.055	---	< 0.0050	< 0.0050	< 0.0050	0.0053
Selenium	0.05	(3)	< 0.050	< 0.050	< 0.050	< 0.050	---	---	< 0.050	---	---	---	< 0.050	---	---	< 0.050	---	< 0.050	< 0.050	< 0.050	< 0.050
Silver	0.05	(3)	0.0033 J	< 0.0050	< 0.0050	< 0.0050	---	---	0.014	---	---	---	< 0.0050	---	---	< 0.0050	---	0.013	< 0.0050	< 0.0050	< 0.0050
Mercury	0.002	(3)	< 0.00020	< 0.00020	< 0.00020	< 0.00020	---	---	< 0.00020	---	---	---	< 0.00020	---	---	< 0.00020	---	0.000085J	< 0.00020	< 0.00020	< 0.00020
Dissolved Metals (mg/L):																					
Arsenic	0.01	(2)	< 0.020	< 0.020	< 0.020	< 0.020	---	---	< 0.020	---	---	---	< 0.020	---	---	< 0.020	---	<0.020	0.034	< 0.020	< 0.020
Barium	1.0	(3)	0.89	0.76	0.58	1.4	---	---	1.8	---	---	---	6.4	---	---	1.1	---	0.01	0.011J	0.02	< 0.020
Cadmium	0.005	(2)	< 0.0020	< 0.0020	< 0.0020	< 0.0020	---	---	< 0.0020	---	---	---	< 0.0020	---	---	< 0.0020	---	< 0.0020	< 0.0020	< 0.0020	< 0.0020
Calcium	-		110	100	110	110	---	---	97	---	---	---	120	---	---	180	---	480	480	480	470
Chromium	0.05	(3)	< 0.0060	< 0.0060	< 0.0060	< 0.0060	---	---	< 0.0060	---	---	---	0.014	---	---	0.27	---	< 0.0060	< 0.0060	< 0.0060	< 0.0060
Copper	1	(3)	< 0.0060	< 0.0060	< 0.0060	< 0.0060	---	---	< 0.0060	---	---	---	< 0.0060	---	---	0.017	---	< 0.0060	< 0.0060	< 0.0060	< 0.0060
Iron	1	(3)	0.097	0.14	1.2	0.26	---	---	4.9	---	---	---	69	---	---	27	---	0.029	0.032	2.9	0.036
Lead	0.015	(2)	< 0.0050	< 0.0050	< 0.0050	< 0.0050	---	---	< 0.0050	---	---	---	0.036	---	---	0.015	---	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Magnesium	-		38	32	38	45	---	---	44	---	---	---	74	---	---	63	---	58	58	59	59
Manganese	0.2	(3)	0.65	0.42	0.4	1.1	---	---	2.3	---	---	---	4	---	---	6.5	---	0.68	0.79	1.2	0.99
Potassium	-		4.0	3.7	4.1	4.4	---	---	3.5	---	---	---	5.4	---	---	14	---	7.2	7.1	7.9	7.9
Selenium	0.05	(3)	< 0.050	< 0.050	< 0.050	< 0.050	---	---	< 0.050	---	---	---	< 0.050	---	---	< 0.050	---	< 0.050	< 0.050	< 0.050	< 0.050
Silver	0.05	(3)	0.0032	< 0.0050	< 0.0050	< 0.0050	---	---	< 0.0050	---	---	---	< 0.0050	---	---	< 0.0050	---	0.014	< 0.0050	< 0.0050	< 0.0050
Sodium	-		480	480	540	500	---	---	440	---	---	---	400	---	---	440	---	850	910	990	960
Uranium	0.03	(3)	< 0.10	< 0.10	< 0.10	< 0.10	---	---	< 0.10	---	---	---	< 0.10	---	---	< 0.10	---	< 0.10	< 0.10	< 0.10	< 0.10
Zinc	10	(3)	< 0.020	0.01J	< 0.020	0.031	---	---	0.031	---	---	---	0.17	---	---	3	---	< 0.020	0.032	0.056	< 0.020
Total Petroleum Hydrocarbons (mg/L):																					
Diesel Range Organics	0.0398	(6)	0.64	0.71	1.1	4.2	---	---	110	---	---	---	85	---	---	1200	---	< 0.40	< 0.20	< 0.20	< 0.20
Gasoline Range Organics	-	-	18	3.1	3.5	45	---	---	4.9	---	---	---	24	---	---	27	---	0.026 J	< 0.050	0.057	< 0.050
Motor Oil Range Organics	0.0398	(6)	< 2.5	< 2.5	< 2.5	< 2.5	---	---	< 25	---	---	---	< 25	---	---	< 250	---	< 2.5	< 2.5	< 2.5	< 2.5

Notes:

(1) EPA - Regional Screening Levels (June 2017) -Tap Water
(2) EPA - Regional Screening Levels (June 2017) - MCL
(3) NMED WQCC standards - Title 20 Chapter 6, Part 2, - 20.6.2.3101 Standards for Ground Water of 10,000 mg/l TDS Concentration or less
(4) NMED Tap Water Screening Level - Risk Assessment Guidance for Site Investigations and Remediation (March 2017)
(5) EPA Screening Level - Tap Water x 10 for carcinogenic compounds
(6) NMED groundwater screening level for unknown oil

-	= No screening level available
*	= Laboratory analyzed for combined Nitrate (As N) + Nitrite (As N) to meet hold time
---	= Analysis not required and/or well contains separate phase
	= Analytical result exceeds the respective screening level.
1	= 6/27/13 modification on FWGWM Plan to remove MW-8 and replace with MW-52.
**	= Columns hidden when there are 4 or more consecutive years recorded that analysis was not required and/or the well contained separate phase

TABLE 4
Cross-Gradient Wells Analytical Summary
2018 Groundwater Remediation and Monitoring Annual Report

	Screening Levels	Source	MW-1								MW-13								**MW-26	
			Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15	Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15	Aug-18	Aug-17
Volatile Organic Compounds (ug/L)																				
1,1,1,2-Tetrachloroethane	5.74	(4)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	---	---
1,1,1-Trichloroethane	60	(3)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	---	---
1,1,2,2-Tetrachloroethane	10	(3)	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	---	---
1,1,2-Trichloroethane	5	(2)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	---	---
1,1-Dichloroethane	25	(3)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	---	---
1,1-Dichloroethene	5	(3)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	---	---
1,1-Dichloropropene	-		< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	---	---
1,2,3-Trichlorobenzene	-		< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	---	---
1,2,3-Trichloropropane	0.01	(4)	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	---	---
1,2,4-Trichlorobenzene	70	(2)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	---	---
1,2,4-Trimethylbenzene	15	(1)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	---	---
1,2-Dibromo-3-chloropropane	0.2	(2)	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	---	---
1,2-Dibromoethane (EDB)	0.05	(2)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	---	---
1,2-Dichlorobenzene	600	(2)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	---	---
1,2-Dichloroethane (EDC)	5	(2)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	---	---
1,2-Dichloropropane	5	(2)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	---	---
1,3,5-Trimethylbenzene	12	(1)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	---	---
1,3-Dichlorobenzene	-		< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	---	---
1,3-Dichloropropane	370	(1)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	---	---
1,4-Dichlorobenzene	75	(2)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	---	---
1-Methylnaphthalene	11	(5)	**0.51 J**	---	< 4.0	---	< 4.0	---	< 4.0	---	< 4.0	---	< 4.0	---	< 4.0	---	< 4.0	---	---	---
2,2-Dichloropropane	-		< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	---	---
2-Butanone	5560	(4)	< 10	---	< 10	---	< 10	---	< 10	---	< 10	---	< 10	---	< 10	---	< 10	---	---	---
2-Chlorotoluene	240	(1)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	---	---
2-Hexanone	-		< 10	---	< 10	---	< 10	---	< 10	---	< 10	---	< 10	---	< 10	---	< 10	---	---	---
2-Methylnaphthalene	36	(1)	**0.75 J**	---	< 4.0	---	< 4.0	---	< 4.0	---	< 4.0	---	< 4.0	---	< 4.0	---	< 4.0	---	---	---
4-Chlorotoluene	250	(1)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	---	---
4-Isopropyltoluene	-		< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	---	---
4-Methyl-2-pentanone	-		< 10	---	< 10	---	< 10	---	< 10	---	< 10	---	< 10	---	< 10	---	< 10	---	---	---
Acetone	14100	(4)	< 10	---	**2.2 J**	---	< 10	---	< 10	---	<10	---	**3.2 J**	---	< 10	---	< 10	---	---	---
Benzene	5	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---
Bromobenzene	62	(1)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	---	---
Bromodichloromethane	1.34	(4)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	---	---
Bromoform	33	(5)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	---	---
Bromomethane	7.54	(4)	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---	---	---
Carbon disulfide	810	(4)	< 10	---	< 10	---	< 10	---	< 10	---	< 10	---	< 10	---	< 10	---	< 10	---	---	---
Carbon Tetrachloride	5	(2)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	---	---
Chlorobenzene	100	(2)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	---	---
Chloroethane	20900	(4)	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	---	---
Chloroform	100	(3)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	---	---
Chloromethane	20.3	(4)	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---	---	---
cis-1,2-DCE	70	(2)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	---	---
cis-1,3-Dichloropropene	4.7	(4)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	---	---
Dibromochloromethane	1.68	(4)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	---	---
Dibromomethane	8.3	(1)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	---	---
Dichlorodifluoromethane	197	(4)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	---	---
Ethylbenzene	700	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---
Hexachlorobutadiene	1.39	(4)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	---	---
Isopropylbenzene	447	(4)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	---	---

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	Screening Levels	Source	MW-1								MW-13								**MW-26	
			Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15	Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15	Aug-18	Aug-17
Methyl tert-butyl ether (MTBE)	143	(4)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.72 J	< 1.0	0.51 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---
Methylene Chloride	5	(2)	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---	---	---
Naphthalene	1.65	(4)	0.59 J	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	---	---
n-Butylbenzene	-		< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---	---	---
n-Propylbenzene	-		< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	---	---
sec-Butylbenzene	-		< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	---	---
Styrene	100	(2)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	---	---
tert-Butylbenzene	-		< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	---	---
Tetrachloroethene (PCE)	5	(2)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	---	---
Toluene	750	(3)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---
trans-1,2-DCE	100	(2)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	---	---
trans-1,3-Dichloropropene	4.71	(4)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	---	---
Trichloroethene (TCE)	5	(2)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	---	---
Trichlorofluoromethane	1136	(4)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	---	---
Vinyl chloride	1	(3)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	---	---
Xylenes, Total	620	(3)	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	---	---
Semi Volatile Organic Compounds (ug/l):																				
1,2,4-Trichlorobenzene	70	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2-Dichlorobenzene	600	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,3-Dichlorobenzene	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,4-Dichlorobenzene	75	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1-Methylnaphthalene	11	(5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,4,5-Trichlorophenol	1170	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,4,6-Trichlorophenol	11.9	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,4-Dichlorophenol	45.3	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,4-Dimethylphenol	354	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,4-Dinitrophenol	38.7	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,4-Dinitrotoluene	2.37	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,6-Dinitrotoluene	0.485	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Chloronaphthalene	733	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Chlorophenol	91	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Methylnaphthalene	36	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Methylphenol	930	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Nitroaniline	190	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Nitrophenol	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
3,3´-Dichlorobenzidine	1.25	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
3+4-Methylphenol	930	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
3-Nitroaniline	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4,6-Dinitro-2-methylphenol	1.52	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Bromophenyl phenyl ether	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Chloro-3-methylphenol	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Chloroaniline	3.7	(5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Chlorophenyl phenyl ether	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Nitroaniline	38	(5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Nitrophenol	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Acenaphthene	535	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Acenaphthylene	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Aniline	130	(5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Anthracene	1720	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Azobenzene	1.2	(5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

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	Screening Levels	Source	MW-1								MW-13								**MW-26	
			Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15	Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15	Aug-18	Aug-17
Benzo(a)anthracene	0.12	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo(a)pyrene	0.2	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo(b)fluoranthene	0.343	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo(g,h,i)perylene	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo(k)fluoranthene	3.43	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzoic acid	75000	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzyl alcohol	2000	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bis(2-chloroethoxy)methane	59	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bis(2-chloroethyl)ether	0.137	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bis(2-chloroisopropyl)ether	9.81	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bis(2-ethylhexyl)phthalate	6	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Butyl benzyl phthalate	160	(5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Carbazole	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chrysene	34.3	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dibenz(a,h)anthracene	0.0343	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dibenzofuran	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diethyl phthalate	14800	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dimethyl phthalate	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Di-n-butyl phthalate	885	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Di-n-octyl phthalate	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Fluoranthene	802	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Fluorene	288	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hexachlorobenzene	0.0976	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hexachlorobutadiene	1.387	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hexachlorocyclopentadiene	50	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hexachloroethane	3.28	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	0.343	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Isophorone	781	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Naphthalene	1.65	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Nitrobenzene	1.4	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
N-Nitrosodimethylamine	0.0017	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
N-Nitrosodi-n-propylamine	0.11	(5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
N-Nitrosodiphenylamine	0.0049	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pentachlorophenol	170	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Phenanthrene	1	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Phenol	5760	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pyrene	117	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pyridine	20	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
General Chemistry (mg/l):																				
Fluoride	1.6	(3)	**0.32**	---	**0.32**	---	**0.45**	---	**0.51**	---	< 0.10	---	< 0.10	---	< 0.10	---	< 0.10	---	---	---
Chloride	250	(3)	**15**	---	**15**	---	**11**	---	**11**	---	**230**	---	**240**	---	**230**	---	**170**	---	---	---
Nitrite	1	(2)	< 1.0	---	< 1.0	---	< 1.0	---	< 0.10	---	**3.5**	---	**2.7**	---	**1.8**	---	**0.16**	---	---	---
Bromide	-		**0.12**	---	**0.12**	---	< 0.10	---	< 0.10	---	**2.9**	---	**2.9**	---	**3**	---	**1.2**	---	---	---
Nitrate	10	(3)	**0.78 J**	---	**0.78 J**	---	< 1.0	---	**0.54**	---	**3.5**	---	**2.7**	---	**1.8**	---	**0.25**	---	---	---
Phosphorus	-		< 0.50	---	< 0.50	---	< 0.50	---	< 0.50	---	< 0.50	---	< 0.50	---	< 0.50	---	< 0.50	---	---	---
Sulfate	600	(3)	**110**	---	**110**	---	**84**	---	**110**	---	**920**	---	**860**	---	**850**	---	**1100**	---	---	---
Carbon Dioxide (CO_2)	-		**320**	---	**280**	---	**240**	---	**230**	---	**890**	---	**950**	---	**950**	---	**890**	---	---	---
Alkalinity ($CaCO_3$)	-		**355.9**	---	**301.8**	---	**266.4**	---	**246.5**	---	**954.5**	---	**958.8**	---	**954.3**	---	**909.4**	---	---	---
Bicarbonate ($CaCO_3$)	-		**355.9**	---	**301.8**	---	**266.4**	---	**246.5**	---	**954.5**	---	**958.8**	---	**954.3**	---	**909.4**	---	---	---

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	Screening Levels	Source	MW-1								MW-13								**MW-26	
			Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15	Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15	Aug-18	Aug-17
Total Metals (mg/l):																				
Arsenic	0.01	(2)	< 0.020	---	< 0.020	---	< 0.020	---	< 0.020	---	< 0.020	---	< 0.020	---	< 0.020	---	< 0.020	---	---	---
Barium	2.0	(2)	**0.13**	---	**0.061**	---	**0.28**	---	**0.031**	---	**0.028**	---	**0.025**	---	**0.052**	---	**0.022**	---	---	---
Cadmium	0.005	(2)	< 0.0020	---	< 0.0020	---	< 0.0020	---	< 0.0020	---	< 0.0020	---	< 0.0020	---	< 0.0020	---	< 0.0020	---	---	---
Chromium	0.05	(3)	< 0.0060	---	< 0.0060	---	< 0.0060	---	< 0.0060	---	**0.017**	---	**0.0027 J**	---	**0.059**	---	< 0.0060	---	---	---
Lead	0.015	(2)	< 0.0050	---	< 0.0050	---	< 0.0050	---	< 0.0050	---	< 0.0050	---	< 0.0050	---	< 0.0050	---	< 0.0050	---	---	---
Selenium	0.05	(3)	< 0.050	---	< 0.050	---	< 0.050	---	< 0.050	---	< 0.050	---	< 0.050	---	< 0.050	---	< 0.050	---	---	---
Silver	0.05	(3)	< 0.0050	---	< 0.0050	---	< 0.0050	---	< 0.0050	---	**0.0079**	---	< 0.0050	---	< 0.0050	---	< 0.0050	---	---	---
Mercury	0.002	(3)	**0.000083 J**	---	**0.000067 J**	---	< 0.00020	---	< 0.00020	---	**0.000074 J**	---	< 0.00020	---	< 0.00020	---	< 0.00020	---	---	---
Dissolved Metals (mg/l):																				
Arsenic	0.01	(2)	<0.020	---	**0.0096 J**	---	< 0.020	---	< 0.020	---	< 0.020	---	**0.013 J**	---	< 0.020	---	< 0.020	---	---	---
Barium	1.0	(3)	**0.036**	---	**0.036**	---	**0.022**	---	**0.031**	---	**0.022**	---	**0.024**	---	**0.022**	---	**0.023**	---	---	---
Cadmium	0.005	(2)	< 0.0020	---	< 0.0020	---	< 0.0020	---	< 0.0020	---	< 0.0020	---	< 0.0020	---	< 0.0020	---	< 0.0020	---	---	---
Calcium	-		**90**	---	**83**	---	**65**	---	**77**	---	**250**	---	**230**	---	**230**	---	**260**	---	---	---
Chromium	0.05	(3)	< 0.0060	---	< 0.0060	---	< 0.0060	---	< 0.0060	---	< 0.0060	---	< 0.0060	---	< 0.0060	---	< 0.0060	---	---	---
Copper	1	(3)	< 0.0060	---	< 0.0060	---	< 0.0060	---	< 0.0060	---	**0.0027**	---	< 0.0060	---	< 0.0060	---	< 0.0060	---	---	---
Iron	1	(3)	**0.030**	---	**0.012 J**	---	**0.22**	---	< 0.020	---	< 0.020	---	< 0.020	---	**0.044**	---	< 0.020	---	---	---
Lead	0.015	(2)	< 0.0050	---	< 0.0050	---	< 0.0050	---	< 0.0050	---	< 0.0050	---	< 0.0050	---	< 0.0050	---	< 0.0050	---	---	---
Magnesium	-		**19**	---	**19**	---	**16**	---	**17**	---	**81**	---	**84**	---	**82**	---	**96**	---	---	---
Manganese	0.2	(3)	**0.037**	---	**0.016**	---	**0.2**	---	**0.037**	---	**1.6**	---	**1.3**	---	**0.95**	---	**0.6**	---	---	---
Potassium	-		**1.9**	---	**2.4**	---	**2.8**	---	**2.2**	---	**3.4**	---	**3.6**	---	**4**	---	**4.1**	---	---	---
Selenium	0.05	(3)	< 0.050	---	< 0.050	---	< 0.050	---	< 0.050	---	<0.25	---	< 0.050	---	< 0.050	---	< 0.050	---	---	---
Silver	0.05	(3)	**0.0024**	---	< 0.0050	---	< 0.0050	---	< 0.0050	---	**0.0051**	---	< 0.0050	---	< 0.0050	---	< 0.0050	---	---	---
Sodium	-		**57**	---	**73**	---	**81**	---	**68**	---	**570**	---	**530**	---	**540**	---	**570**	---	---	---
Uranium	0.03	(3)	< 0.10	---	< 0.10	---	< 0.10	---	< 0.10	---	< 0.10	---	< 0.10	---	< 0.10	---	< 0.10	---	---	---
Zinc	10	(3)	**0.15**	---	**0.031**	---	**0.024**	---	**0.027**	---	**0.040**	---	**0.017 J**	---	< 0.020	---	**0.027**	---	---	---
Total Petroleum Hydrocarbons (mg/l):																				
Diesel Range Organics	0.0398	(6)	< 0.20	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.40	---	< 0.20	---	< 0.20	---	**0.28**	---	---	---
Gasoline Range Organics	-	-	**0.024 J**	< 0.050	< 0.050	< 0.050	< 0.050	---	< 0.050	< 0.050	**0.033 J**	---	<0.050	---	< 0.050	---	< 0.050	---	---	---
Motor Oil Range Organics	0.0398	(6)	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	<2.5	---	<2.5	---	< 2.5	---	< 2.5	---	---	---

Notes:
(1) EPA - Regional Screening Levels (June 2017) -Tap Water
(2) EPA - Regional Screening Levels (June 2017) - MCL
(3) NMED WQCC standards - Title 20 Chapter 6, Part 2, - 20.6.2.3101 Standards for Ground Water of 10,000 mg/l TDS Concentration or less
(4) NMED Tap Water Screening Level - Risk Assessment Guidance for Site Investigations and Remediation (March 2017)
(5) EPA Screening Level - Tap Water x 10 for carcinogenic compounds
(6) NMED groundwater screening level for unknown oil

-	= No screening level available
*	= Laboratory analyzed for combined Nitrate (As N) + Nitrite (As N) to meet hold time
---	= Analysis not required and/or well contains separate phase
	= Analytical result exceeds the respective screening level.
1	= 6/27/13 modification on FWGWM Plan to remove MW-8 and replace with MW-52.
**	= Columns hidden when there are 4 or more consecutive years recorded that analysis was not required and/or the well contained separate phase

TABLE 4
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	Screening Levels	Source	MW-27				MW-32				MW-33							
			Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15
Volatile Organic Compounds (ug/L)																		
1,1,1,2-Tetrachloroethane	5.74	(4)	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	---	< 1.0	---	---	---
1,1,1-Trichloroethane	60	(3)	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	---	< 1.0	---	---	---
1,1,2,2-Tetrachloroethane	10	(3)	< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	---	---	< 2.0	---	< 2.0	---	---	---
1,1,2-Trichloroethane	5	(2)	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	---	< 1.0	---	---	---
1,1-Dichloroethane	25	(3)	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	---	< 1.0	---	---	---
1,1-Dichloroethene	5	(3)	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	---	< 1.0	---	---	---
1,1-Dichloropropene	-		< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	---	< 1.0	---	---	---
1,2,3-Trichlorobenzene	-		< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	---	< 1.0	---	---	---
1,2,3-Trichloropropane	0.01	(4)	< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	---	---	< 2.0	---	< 2.0	---	---	---
1,2,4-Trichlorobenzene	70	(2)	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	---	< 1.0	---	---	---
1,2,4-Trimethylbenzene	15	(1)	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	---	< 1.0	---	---	---
1,2-Dibromo-3-chloropropane	0.2	(2)	< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	---	---	< 2.0	---	< 2.0	---	---	---
1,2-Dibromoethane (EDB)	0.05	(2)	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	---	< 1.0	---	---	---
1,2-Dichlorobenzene	600	(2)	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	---	< 1.0	---	---	---
1,2-Dichloroethane (EDC)	5	(2)	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	---	< 1.0	---	---	---
1,2-Dichloropropane	5	(2)	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	---	< 1.0	---	---	---
1,3,5-Trimethylbenzene	12	(1)	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	---	< 1.0	---	---	---
1,3-Dichlorobenzene	-		< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	---	< 1.0	---	---	---
1,3-Dichloropropane	370	(1)	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	---	< 1.0	---	---	---
1,4-Dichlorobenzene	75	(2)	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	---	< 1.0	---	---	---
1-Methylnaphthalene	11	(5)	< 4.0	< 4.0	< 8.0	< 8.0	< 4.0	< 4.0	< 4.0	< 4.0	---	---	< 4.0	---	< 4.0	---	---	---
2,2-Dichloropropane	-		< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	---	---	< 2.0	---	< 2.0	---	---	---
2-Butanone	5560	(4)	< 10	< 10	< 20	< 20	< 10	< 10	< 10	< 10	---	---	< 10	---	< 10	---	---	---
2-Chlorotoluene	240	(1)	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	---	< 1.0	---	---	---
2-Hexanone	-		< 10	< 10	< 20	< 20	< 10	< 10	< 10	< 10	---	---	< 10	---	< 10	---	---	---
2-Methylnaphthalene	36	(1)	< 4.0	< 4.0	< 8.0	< 8.0	< 4.0	< 4.0	< 4.0	< 4.0	---	---	< 4.0	---	< 4.0	---	---	---
4-Chlorotoluene	250	(1)	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	---	< 1.0	---	---	---
4-Isopropyltoluene	-		< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	---	< 1.0	---	---	---
4-Methyl-2-pentanone	-		< 10	< 10	< 20	< 20	< 10	< 10	< 10	< 10	---	---	< 10	---	< 10	---	---	---
Acetone	14100	(4)	< 10	< 10	< 20	< 20	< 10	< 10	< 10	< 10	---	---	< 10	---	< 10	---	---	---
Benzene	5	(2)	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	<1.0	< 1.0	<1.0	---	<1.0
Bromobenzene	62	(1)	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	---	< 1.0	---	---	---
Bromodichloromethane	1.34	(4)	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	---	< 1.0	---	---	---
Bromoform	33	(5)	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	---	< 1.0	---	---	---
Bromomethane	7.54	(4)	< 3.0	< 3.0	< 6.0	< 6.0	< 3.0	< 3.0	< 3.0	< 3.0	---	---	< 3.0	---	< 3.0	---	---	---
Carbon disulfide	810	(4)	< 10	< 10	< 20	< 20	< 10	< 10	< 10	< 10	---	---	< 10	---	< 10	---	---	---
Carbon Tetrachloride	5	(2)	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	---	< 1.0	---	---	---
Chlorobenzene	100	(2)	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	---	< 1.0	---	---	---
Chloroethane	20900	(4)	< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	---	---	< 2.0	---	< 2.0	---	---	---
Chloroform	100	(3)	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	---	< 1.0	---	---	---
Chloromethane	20.3	(4)	< 3.0	< 3.0	< 6.0	< 6.0	< 3.0	< 3.0	< 3.0	< 3.0	---	---	< 3.0	---	< 3.0	---	---	---
cis-1,2-DCE	70	(2)	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	---	< 1.0	---	---	---
cis-1,3-Dichloropropene	4.7	(4)	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	---	< 1.0	---	---	---
Dibromochloromethane	1.68	(4)	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	---	< 1.0	---	---	---
Dibromomethane	8.3	(1)	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	---	< 1.0	---	---	---
Dichlorodifluoromethane	197	(4)	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	---	< 1.0	---	---	---
Ethylbenzene	700	(2)	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	<1.0	< 1.0	<1.0	---	<1.0
Hexachlorobutadiene	1.39	(4)	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	---	< 1.0	---	---	---
Isopropylbenzene	447	(4)	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	---	< 1.0	---	---	---

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	Screening Levels	Source	MW-27				MW-32				MW-33							
			Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15
Methyl tert-butyl ether (MTBE)	143	(4)	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	<1.0	< 1.0	<1.0	---	<1.0
Methylene Chloride	5	(2)	< 3.0	< 3.0	< 6.0	< 6.0	< 3.0	< 3.0	< 3.0	< 3.0	---	---	< 3.0	---	< 3.0	---	---	---
Naphthalene	1.65	(4)	< 2.0	< 2.0	< 4.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	---	---	< 2.0	---	< 2.0	---	---	---
n-Butylbenzene	-		< 3.0	< 3.0	< 6.0	< 6.0	< 3.0	< 3.0	< 3.0	< 3.0	---	---	< 3.0	---	< 3.0	---	---	---
n-Propylbenzene	-		< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	---	< 1.0	---	---	---
sec-Butylbenzene	-		< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	---	< 1.0	---	---	---
Styrene	100	(2)	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	---	< 1.0	---	---	---
tert-Butylbenzene	-		< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	---	< 1.0	---	---	---
Tetrachloroethene (PCE)	5	(2)	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	---	< 1.0	---	---	---
Toluene	750	(3)	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	<1.0	< 1.0	<1.0	---	<1.0
trans-1,2-DCE	100	(2)	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	---	< 1.0	---	---	---
trans-1,3-Dichloropropene	4.71	(4)	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	---	< 1.0	---	---	---
Trichloroethene (TCE)	5	(2)	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	---	< 1.0	---	---	---
Trichlorofluoromethane	1136	(4)	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	---	< 1.0	---	---	---
Vinyl chloride	1	(3)	< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 1.0	---	< 1.0	---	---	---
Xylenes, Total	620	(3)	< 1.5	< 1.5	< 3.0	< 3.0	< 1.5	< 1.5	< 1.5	< 1.5	---	---	< 1.5	<1.5	< 1.5	<1.5	---	<1.5
Semi Volatile Organic Compounds (ug/l):																		
1,2,4-Trichlorobenzene	70	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2-Dichlorobenzene	600	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,3-Dichlorobenzene	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,4-Dichlorobenzene	75	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1-Methylnaphthalene	11	(5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,4,5-Trichlorophenol	1170	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,4,6-Trichlorophenol	11.9	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,4-Dichlorophenol	45.3	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,4-Dimethylphenol	354	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,4-Dinitrophenol	38.7	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,4-Dinitrotoluene	2.37	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,6-Dinitrotoluene	0.485	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Chloronaphthalene	733	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Chlorophenol	91	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Methylnaphthalene	36	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Methylphenol	930	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Nitroaniline	190	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Nitrophenol	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
3,3´-Dichlorobenzidine	1.25	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
3+4-Methylphenol	930	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
3-Nitroaniline	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4,6-Dinitro-2-methylphenol	1.52	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Bromophenyl phenyl ether	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Chloro-3-methylphenol	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Chloroaniline	3.7	(5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Chlorophenyl phenyl ether	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Nitroaniline	38	(5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Nitrophenol	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Acenaphthene	535	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Acenaphthylene	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Aniline	130	(5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Anthracene	1720	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Azobenzene	1.2	(5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

TABLE 4
Cross-Gradient Wells Analytical Summary
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	Screening Levels	Source	MW-27				MW-32				MW-33							
			Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15
Benzo(a)anthracene	0.12	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo(a)pyrene	0.2	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo(b)fluoranthene	0.343	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo(g,h,i)perylene	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo(k)fluoranthene	3.43	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzoic acid	75000	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzyl alcohol	2000	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bis(2-chloroethoxy)methane	59	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bis(2-chloroethyl)ether	0.137	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bis(2-chloroisopropyl)ether	9.81	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bis(2-ethylhexyl)phthalate	6	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Butyl benzyl phthalate	160	(5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Carbazole	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chrysene	34.3	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dibenz(a,h)anthracene	0.0343	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dibenzofuran	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diethyl phthalate	14800	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dimethyl phthalate	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Di-n-butyl phthalate	885	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Di-n-octyl phthalate	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Fluoranthene	802	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Fluorene	288	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hexachlorobenzene	0.0976	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hexachlorobutadiene	1.387	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hexachlorocyclopentadiene	50	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hexachloroethane	3.28	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	0.343	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Isophorone	781	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Naphthalene	1.65	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Nitrobenzene	1.4	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
N-Nitrosodimethylamine	0.0017	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
N-Nitrosodi-n-propylamine	0.11	(5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
N-Nitrosodiphenylamine	0.0049	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pentachlorophenol	170	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Phenanthrene	1	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Phenol	5760	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pyrene	117	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pyridine	20	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
General Chemistry (mg/l):																		
Fluoride	1.6	(3)	<2.0	< 0.50	< 0.50	< 0.50	< 0.10	< 0.10	< 0.10	< 0.10	---	---	LW	---	**0.51**	---	---	---
Chloride	250	(3)	**870**	**440**	**360**	**450**	**680**	**630**	**630**	**530**	---	---	LW	---	**250**	---	---	---
Nitrite	1	(2)	<1.0	< 0.50	< 1.0	< 0.50	**43**	< 2.0	**40**	< 2.0	---	---	LW	---	**40**	---	---	---
Bromide	-		**8.4**	**4.7**	**3.2**	**4.4**	**4.3**	**5.8**	**4.4**	**4.5**	---	---	LW	---	**1.4**	---	---	---
Nitrate	10	(3)	<1.0	< 0.50	< 1.0	< 0.50	**43**	**47**	**40**	**55**	---	---	LW	---	**40**	---	---	---
Phosphorus	-		<10 H	< 2.5	< 10	< 2.5	<10 H	< 0.50	< 10	< 10	---	---	LW	---	< 10	---	---	---
Sulfate	600	(3)	**3100**	**2800**	**2700**	**2200**	**1600**	**1600**	**1600**	**1400**	---	---	LW	---	**2500**	---	---	---
Carbon Dioxide (CO_2)	-		**260**	**380**	**400**	**490**	**170 H**	**170**	**170**	**180**	---	---	LW	---	**110**	---	---	---
Alkalinity ($CaCO_3$)	-		**264**	**395.6**	**408.9**	**527.8**	**180.7**	**188.4**	**186.9**	**201.7**	---	---	LW	---	**125.5**	---	---	---
Bicarbonate ($CaCO_3$)	-		**264**	**395.6**	**408.9**	**527.8**	**180.7**	**188.4**	**186.9**	**201.7**	---	---	LW	---	**125.5**	---	---	---

TABLE 4
Cross-Gradient Wells Analytical Summary
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	Screening Levels	Source	MW-27				MW-32				MW-33							
			Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15
Total Metals (mg/l):																		
Arsenic	0.01	(2)	<0.020	< 0.20	< 0.020	< 0.020	< 0.020	< 0.20	< 0.020	< 0.020	---	---	LW	---	< 0.020	---	---	---
Barium	2.0	(2)	**0.066**	**0.073**	**0.17**	**0.068**	<0.020	**0.019**	**0.033**	< 0.020	---	---	LW	---	**0.021**	---	---	---
Cadmium	0.005	(2)	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	---	---	LW	---	< 0.0020	---	---	---
Chromium	0.05	(3)	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	---	---	LW	---	< 0.0060	---	---	---
Lead	0.015	(2)	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	---	---	LW	---	< 0.0050	---	---	---
Selenium	0.05	(3)	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	---	---	LW	---	**0.063**	---	---	---
Silver	0.05	(3)	**0.022**	< 0.0050	< 0.0050	< 0.0050	**0.011**	< 0.0050	< 0.0050	< 0.0050	---	---	LW	---	< 0.0050	---	---	---
Mercury	0.002	(3)	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	---	---	LW	---	< 0.00020	---	---	---
Dissolved Metals (mg/l):																		
Arsenic	0.01	(2)	<0.020	**0.023**	< 0.020	< 0.020	< 0.020	**0.012 J**	< 0.020	< 0.020	---	---	LW	---	< 0.020	---	---	---
Barium	1.0	(3)	**0.050**	**0.034**	**0.044**	**0.054**	< 0.020	**0.018 J**	< 0.020	< 0.020	---	---	LW	---	< 0.020	---	---	---
Cadmium	0.005	(2)	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	---	---	LW	---	< 0.0020	---	---	---
Calcium	-		**740**	**690**	**550**	**590**	**320**	**340**	**340**	**310**	---	---	LW	---	**480**	---	---	---
Chromium	0.05	(3)	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	---	---	LW	---	< 0.0060	---	---	---
Copper	1	(3)	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	---	---	LW	---	< 0.0060	---	---	---
Iron	1	(3)	**0.89**	**1.3**	**0.74**	**0.13**	<0.020	**0.0052 J**	< 0.020	< 0.020	---	---	LW	---	< 0.020	---	---	---
Lead	0.015	(2)	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	---	---	LW	---	< 0.0050	---	---	---
Magnesium	-		**110**	**99**	**92**	**93**	**47**	**48**	**50**	**45**	---	---	LW	---	**69**	---	---	---
Manganese	0.2	(3)	**0.75**	**2.1**	**2.7**	**6**	<0.0020	**0.00085 J**	< 0.0020	< 0.0020	---	---	LW	---	< 0.0020	---	---	---
Potassium	-		**3.7**	**4.0**	**5.3**	**5.8**	**3.4**	**3.6**	**4**	**3.9**	---	---	LW	---	**5.5**	---	---	---
Selenium	0.05	(3)	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	---	---	LW	---	**0.097**	---	---	---
Silver	0.05	(3)	0.018	< 0.0050	< 0.0050	< 0.0050	**0.0082**	**0.0039 J**	< 0.0050	< 0.0050	---	---	LW	---	< 0.0050	---	---	---
Sodium	-		**890**	**800**	**720**	**730**	**770**	**800**	**810**	**750**	---	---	LW	---	**820**	---	---	---
Uranium	0.03	(3)	< 0.10	< 0.10	< 0.10	< 0.10	< 10	< 0.10	< 0.10	< 0.10	---	---	LW	---	< 0.10	---	---	---
Zinc	10	(3)	<0.020	**0.014 J**	< 0.020	< 0.020	< 0.020	**0.025**	< 0.020	**0.023**	---	---	LW	---	< 0.020	---	---	---
Total Petroleum Hydrocarbons (mg/l):																		
Diesel Range Organics	0.0398	(6)	**3.2**	**3.2**	**2.2**	**3.9**	< 0.40	< 0.20	< 0.20	**0.28**	---	---	< 0.20	< 0.20	< 0.20	<0.20	---	<0.20
Gasoline Range Organics	-	-	< 0.050	< 0.050	**0.2**	**0.25**	< 0.050	< 0.050	< 0.050	**0.19**	---	---	< 0.050	< 0.050	< 0.050	< 0.050	---	< 0.050
Motor Oil Range Organics	0.0398	(6)	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	---	---	< 2.5	< 2.5	< 2.5	< 2.5	---	< 2.5

Notes:
(1) EPA - Regional Screening Levels (June 2017) -Tap Water
(2) EPA - Regional Screening Levels (June 2017) - MCL
(3) NMED WQCC standards - Title 20 Chapter 6, Part 2, - 20.6.2.3101 Standards for Ground Water of 10,000 mg/l TDS Concentration or less
(4) NMED Tap Water Screening Level - Risk Assessment Guidance for Site Investigations and Remediation (March 2017)
(5) EPA Screening Level - Tap Water x 10 for carcinogenic compounds
(6) NMED groundwater screening level for unknown oil

TABLE 5
Downgradient Wells Analytical Summary
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	Screening Levels	Source	MW-11				MW-12								MW-34			
			Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15	Aug-18	Aug-17	Aug-16	Aug-15
Volatile Organic Compounds (ug/L)																		
1,1,1,2-Tetrachloroethane	5.74	(4)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	60	(3)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	10	(3)	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	< 2.0	< 2.0	< 2.0
1,1,2-Trichloroethane	5	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	25	(3)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	5	(3)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	-		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	-		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichloropropane	0.01	(4)	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	< 2.0	< 2.0	< 2.0
1,2,4-Trichlorobenzene	70	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	15	(1)	**67**	**97**	**120**	**390**	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	0.2	(2)	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	< 2.0	< 2.0	< 2.0
1,2-Dibromoethane (EDB)	0.05	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	600	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane (EDC)	5	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	5	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	12	(1)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	-		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	370	(1)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	75	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0
1-Methylnaphthalene	11	(5)	**15**	**15**	**17**	**16**	< 4.0	---	< 4.0	---	< 4.0	---	< 4.0	---	< 4.0	< 4.0	< 4.0	< 4.0
2,2-Dichloropropane	-		< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	< 2.0	< 2.0	< 2.0
2-Butanone	5560	(4)	< 10	< 10	< 10	< 10	< 10	---	< 10	---	< 10	---	< 10	---	< 10	< 10	< 10	< 10
2-Chlorotoluene	240	(1)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone	-		< 10	< 10	< 10	< 10	< 10	---	< 10	---	< 10	---	< 10	---	< 10	< 10	< 10	< 10
2-Methylnaphthalene	36	(1)	**25**	**17**	**23**	**18**	< 4.0	---	< 4.0	---	< 4.0	---	< 4.0	---	**0.28 J**	< 4.0	< 4.0	< 4.0
4-Chlorotoluene	250	(1)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0
4-Isopropyltoluene	-		**1.9**	**1.6**	**3.5**	**5**	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0
4-Methyl-2-pentanone	-		< 10	< 10	< 10	< 10	< 10	---	< 10	---	< 10	---	< 10	---	< 10	< 10	< 10	< 10
Acetone	14100	(4)	< 10	< 10	**19**	< 10	< 10	---	< 10	---	< 10	---	< 10	---	**8.0 J**	< 10	< 10	< 10
Benzene	5	(2)	**66**	**29**	**9.9**	**14**	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	62	(1)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	1.34	(4)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0
Bromoform	33	(5)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	7.54	(4)	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	< 3.0	< 3.0	< 3.0
Carbon disulfide	810	(4)	< 10	< 10	< 10	< 10	< 10	---	< 10	---	< 10	---	< 10	---	< 10	< 10	< 10	< 10
Carbon Tetrachloride	5	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	100	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	20900	(4)	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform	100	(3)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane	20.3	(4)	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	< 3.0	< 3.0	< 3.0
cis-1,2-DCE	70	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,3-Dichloropropene	4.7	(4)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	1.68	(4)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	8.3	(1)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0
Dichlorodifluoromethane	197	(4)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	700	(2)	**0.68 J**	**0.5 J**	< 1.0	**1**	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	1.39	(4)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	447	(4)	**63**	**58**	**59**	**62**	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	**3.8**	**3.8**	**2.6**	**4.6**

TABLE 5
Downgradient Wells Analytical Summary
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	Screening Levels	Source	MW-11				MW-12								MW-34			
			Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15	Aug-18	Aug-17	Aug-16	Aug-15
Methyl tert-butyl ether (MTBE)	143	(4)	1.3	2.4	2.5	2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.57 J	0.48 J	< 1.0	< 1.0
Methylene Chloride	5	(2)	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	< 3.0	< 3.0	< 3.0
Naphthalene	1.65	(4)	98	80	70	71	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	< 2.0	< 2.0	< 2.0
n-Butylbenzene	-		2.1 J	1.9 J	< 3.0	< 3.0	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	0.24 J	< 3.0	< 3.0
n-Propylbenzene	-		70	63	64	54	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	<1.0	2.4	1.5	2.8
sec-Butylbenzene	-		9.1	7.8	12	12	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	0.40 J	1.9	2.6	4.5
Styrene	100	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	-		2	1.9	2.4	2.5	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	1.7	1.6	1.7	1.7
Tetrachloroethene (PCE)	5	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	750	(3)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-DCE	100	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,3-Dichloropropene	4.71	(4)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene (TCE)	5	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	1136	(4)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl chloride	1	(3)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0
Xylenes, Total	620	(3)	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	<1.5	< 1.5	<1.5	< 1.5	<1.5	< 1.5	<1.5	< 1.5	< 1.5	< 1.5	< 1.5
Semi-Volatile Organic Compounds (ug/L):																		
1,2,4-Trichlorobenzene	70	(2)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
1,2-Dichlorobenzene	600	(2)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
1,3-Dichlorobenzene	-		<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
1,4-Dichlorobenzene	75	(2)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
1-Methylnaphthalene	11	(5)	<50	---	25	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
2,4,5-Trichlorophenol	1170	(4)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
2,4,6-Trichlorophenol	11.9	(4)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
2,4-Dichlorophenol	45.3	(4)	<100	---	< 20	---	< 20	---	---	---	< 20	---	---	---	---	---	---	---
2,4-Dimethylphenol	354	(4)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
2,4-Dinitrophenol	38.7	(4)	<100	---	< 20	---	< 20	---	---	---	< 20	---	---	---	---	---	---	---
2,4-Dinitrotoluene	2.37	(4)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
2,6-Dinitrotoluene	0.485	(4)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
2-Chloronaphthalene	733	(4)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
2-Chlorophenol	91	(4)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
2-Methylnaphthalene	36	(1)	<50	---	11	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
2-Methylphenol	930	(1)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
2-Nitroaniline	190	(1)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
2-Nitrophenol	-		<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
3,3´-Dichlorobenzidine	1.25	(4)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
3+4-Methylphenol	930	(1)	<50	---	17	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
3-Nitroaniline	-		<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
4,6-Dinitro-2-methylphenol	1.52	(4)	<100	---	< 20	---	< 20	---	---	---	< 20	---	---	---	---	---	---	---
4-Bromophenyl phenyl ether	-		<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
4-Chloro-3-methylphenol	-		<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
4-Chloroaniline	3.7	(5)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
4-Chlorophenyl phenyl ether	-		<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
4-Nitroaniline	38	(5)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
4-Nitrophenol	-		<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
Acenaphthene	535	(4)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
Acenaphthylene	-		<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
Aniline	130	(5)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
Anthracene	1720	(4)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---

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	Screening Levels	Source	MW-11				MW-12								MW-34			
			Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15	Aug-18	Aug-17	Aug-16	Aug-15
Azobenzene	1.2	(5)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
Benzo(a)anthracene	0.12	(4)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
Benzo(a)pyrene	0.2	(2)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
Benzo(b)fluoranthene	0.343	(4)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
Benzo(g,h,i)perylene	-		<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
Benzo(k)fluoranthene	3.43	(4)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
Benzoic acid	75000	(1)	<100	---	< 20	---	< 20	---	---	---	< 20	---	---	---	---	---	---	---
Benzyl alcohol	2000	(1)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
Bis(2-chloroethoxy)methane	59	(1)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
Bis(2-chloroethyl)ether	0.137	(4)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
Bis(2-chloroisopropyl)ether	9.81	(4)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
Bis(2-ethylhexyl)phthalate	6	(2)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
Butyl benzyl phthalate	160	(5)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
Carbazole	-		<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
Chrysene	34.3	(4)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
Dibenz(a,h)anthracene	0.0343	(4)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
Dibenzofuran	-		<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
Diethyl phthalate	14800	(4)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
Dimethyl phthalate	-		<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
Di-n-butyl phthalate	885	(4)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
Di-n-octyl phthalate	-		<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
Fluoranthene	802	(4)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
Fluorene	288	(4)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
Hexachlorobenzene	0.0976	(4)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
Hexachlorobutadiene	1.387	(4)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
Hexachlorocyclopentadiene	50	(4)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
Hexachloroethane	3.28	(4)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	0.343	(4)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
Isophorone	781	(4)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
Naphthalene	1.65	(4)	**61**	---	**43**	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
Nitrobenzene	1.4	(4)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
N-Nitrosodimethylamine	0.0017	(4)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
N-Nitrosodi-n-propylamine	0.11	(5)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
N-Nitrosodiphenylamine	0.0049	(4)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
Pentachlorophenol	170	(4)	<100	---	< 20	---	< 20	---	---	---	< 20	---	---	---	---	---	---	---
Phenanthrene	1	(4)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
Phenol	5760	(4)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
Pyrene	117	(4)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
Pyridine	20	(1)	<50	---	< 10	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---
General Chemistry (mg/L):																		
Fluoride	1.6	(3)	**0.28 J**	**0.37 J**	**0.41**	**0.35**	**0.31**	---	**0.33**	---	**0.45**	---	**0.63**	---	**0.55**	**0.54**	**0.38**	**0.56**
Chloride	250	(3)	**220**	**210**	**120**	**78**	**3.5**	---	**3.4**	---	**4.7**	---	**4**	---	**240**	**240**	**260**	**190**
Nitrite	1	(2)	<1.0	< 0.50	< 1.0	< 0.10	<1.0	---	< 0.10	---	< 1.0	---	< 0.10	---	< 1.0	< 0.50	< 1.0	< 0.10
Bromide	-		**3.5**	**3.2**	**0.92**	**0.15**	<0.10	---	**0.041 J**	---	< 0.10	---	< 0.10	---	**3.5**	**3.5**	**2.2**	**0.7**
Nitrate	10	(3)	<1.0	< 0.50	< 1.0	**0.15**	<1.0	---	**0.030 J**	---	< 1.0	---	**0.11**	---	< 1.0	< 0.50	< 1.0	**0.27**
Phosphorus	-		< 2.5	< 2.5	**2.8**	< 0.50	< 0.50 H	---	< 0.50	---	< 0.50	---	< 0.50	---	< 2.5	< 2.5	< 2.5	< 0.50
Sulfate	600	(3)	**2.2 J**	**1.3 J**	**7.6**	**5.7**	**45**	---	**44**	---	**48**	---	**79**	---	**30**	**3.6**	**340**	**23**
Carbon Dioxide (CO_2)	-		**900**	**1100**	**1000**	**1000**	**140**	---	**140**	---	**130**	---	**130**	---	**870 H**	**1000**	**930**	**820**
Alkalinity ($CaCO_3$)	-		**1006**	**1140**	**1082**	**1038**	**155.4**	---	**155.6**	---	**149**	---	**148.4**	---	**970**	**1088**	**979**	**876**
Bicarbonate ($CaCO_3$)	-		**1006**	**1140**	**1082**	**1038**	**155.4**	---	**155.6**	---	**149**	---	**148.4**	---	**970**	**1088**	**979**	**876**

TABLE 5
Downgradient Wells Analytical Summary
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	Screening Levels	Source	MW-11				MW-12								MW-34			
			Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15	Aug-18	Aug-17	Aug-16	Aug-15
Total Metals (mg/L):																		
Arsenic	0.01	(2)	<0.020	**0.026**	**0.047**	**0.035**	< 0.020	---	< 0.020	---	< 0.020	---	< 0.020	---	**0.015**	**0.032**	< 0.020	< 0.020
Barium	2.0	(2)	**0.75**	**0.75**	**0.96**	**0.92**	**0.064**	---	**0.043**	---	**0.36**	---	**0.13**	---	**0.42**	**0.93**	**0.56**	**0.78**
Cadmium	0.005	(2)	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	---	< 0.0020	---	< 0.0020	---	< 0.0020	---	< 0.0020	< 0.0020	< 0.0020	< 0.0020
Chromium	0.05	(3)	< 0.0060	< 0.0060	< 0.0060	< 0.0060	**0.14**	---	**0.015**	---	**0.058**	---	**0.34**	---	< 0.0060	< 0.0060	< 0.0060	< 0.0060
Lead	0.015	(2)	< 0.0050	< 0.0050	**0.028**	**0.0075**	< 0.0050	---	< 0.0050	---	**0.019**	---	**0.0064**	---	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Selenium	0.05	(3)	< 0.050	< 0.0050	< 0.050	< 0.050	< 0.050	---	< 0.050	---	< 0.050	---	< 0.050	---	< 0.050	< 0.0050	< 0.050	< 0.050
Silver	0.05	(3)	**0.0040 J**	< 0.050	< 0.0050	< 0.0050	< 0.0050	---	< 0.0050	---	< 0.0050	---	< 0.0050	---	**0.0035 J**	< 0.050	< 0.0050	< 0.0050
Mercury	0.002	(3)	**0.000087 J**	< 0.00020	< 0.00020	< 0.00020	< 0.00020	---	< 0.00020	---	< 0.00020	---	< 0.00020	---	**0.000092 J**	< 0.00020	< 0.00020	< 0.00020
Dissolved Metals (mg/L):																		
Arsenic	0.01	(2)	**0.021**	**0.017 J**	**0.033**	< 0.020	< 0.020	---	< 0.020	---	< 0.020	---	< 0.020	---	< 0.020	< 0.020	< 0.020	< 0.020
Barium	1.0	(3)	**0.74**	**0.7**	**0.86**	**0.85**	**0.038**	---	**0.044**	---	**0.27**	---	**0.047**	---	**0.38**	**0.91**	**0.4**	**0.73**
Cadmium	0.005	(2)	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	---	< 0.0020	---	< 0.0020	---	< 0.0020	---	< 0.0020	< 0.0020	< 0.0020	< 0.0020
Calcium	-		**120**	**130**	**87**	**96**	**42**	---	**46**	---	**58**	---	**48**	---	**120**	**120**	**150**	**93**
Chromium	0.05	(3)	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	---	< 0.0060	---	**0.089**	---	< 0.0060	---	< 0.0060	< 0.0060	< 0.0060	< 0.0060
Copper	1	(3)	< 0.0060	< 0.0060	**0.015**	< 0.0060	< 0.0060	---	< 0.0060	---	**0.023**	---	< 0.0060	---	< 0.0060	< 0.0060	< 0.0060	< 0.0060
Iron	1	(3)	**1.9**	**4.2**	**18**	**9.6**	< 0.020	---	< 0.020	---	**9.2**	---	< 0.020	---	**3**	**3.2**	**4.5**	**2.8**
Lead	0.015	(2)	< 0.0050	< 0.0050	**0.027**	**0.006**	< 0.0050	---	< 0.0050	---	**0.032**	---	< 0.0050	---	< 0.0050	< 0.0050	< 0.0050	**0.005**
Magnesium	-		**27**	**27**	**21**	**22**	**6.5**	---	**6.9**	---	**11**	---	**6.9**	---	**23**	**20**	**30**	**16**
Manganese	0.2	(3)	**2**	**2.1**	**1.8**	**1.5**	**0.0077**	---	**0.0066**	---	**2.1**	---	**0.03**	---	**3.8**	**3.7**	**3.6**	**3.2**
Potassium	-		**1.8**	**1.7**	**2.8**	**1.5**	<1.0	---	**0.58 J**	---	**1.6**	---	< 1.0	---	**1.2**	**1.1**	**2.1**	**1.3**
Selenium	0.05	(3)	<0.050	**0.043 J**	< 0.050	< 0.050	< 0.050	---	< 0.050	---	< 0.050	---	< 0.050	---	< 0.050	< 0.050	< 0.050	< 0.050
Silver	0.05	(3)	**0.0031 J**	< 0.0050	< 0.0050	< 0.0050	< 0.0050	---	< 0.0050	---	< 0.0050	---	< 0.0050	---	0.0027	< 0.0050	< 0.0050	< 0.0050
Sodium	-		**440**	**440**	**410**	**390**	**31**	---	**30**	---	**32**	---	**31**	---	**440**	**440**	**490**	**380**
Uranium	0.03	(3)	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	---	< 0.10	---	< 0.10	---	< 0.10	---	< 0.10	< 0.10	< 0.10	< 0.10
Zinc	10	(3)	<0.020	**0.093**	**0.063**	< 0.020	<0.020	---	**0.047**	---	**0.1**	---	< 0.020	---	**0.046**	**0.041**	< 0.020	< 0.020
Total Petroleum Hydrocarbons (mg/L):																		
Diesel Range Organics	0.0398	(6)	**0.45**	**1.4**	**1.8**	**1.5**	< 0.40	<0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	**0.4**	**1.1**	**0.89**	**0.56**
Gasoline Range Organics	-	-	**1.3**	**0.98**	**1.4**	**2.4**	< 0.050	<0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	**1.2**	**1.1**	**0.87**	**1.3**
Motor Oil Range Organics	0.0398	(6)	<2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5

Notes:
(1) EPA - Regional Screening Levels (June 2017) -Tap Water
(2) EPA - Regional Screening Levels (June 2017) - MCL
(3) NMED WQCC standards - Title 20 Chapter 6, Part 2, - 20.6.2.3101 Standards for Ground Water of 10,000 mg/l TDS Concentration or less
(4) NMED Tap Water Screening Level - Risk Assessment Guidance for Site Investigations and Remediation (March 2017)
(5) EPA Screening Level - Tap Water x 10 for carcinogenic compounds
(6) NMED groundwater screening level for unknown oil

-	= No screening level available
*	= Laboratory analyzed for combined Nitrate (As N) + Nitrite (As N) to meet hold time
---	= Analysis not required and/or well contains separate phase
	= Analytical result exceeds the respective screening level.
1	= 6/27/13 modification on FWGWM Plan to remove MW-8 and replace with MW-52.
**	= Columns hidden when there are 4 or more consecutive years recorded that analysis was not required and/or the well contained separate phase

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	Screening Levels	Source	MW-35								MW-37							
			Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15	Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15
Volatile Organic Compounds (ug/L)																		
1,1,1,2-Tetrachloroethane	5.74	(4)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
1,1,1-Trichloroethane	60	(3)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
1,1,2,2-Tetrachloroethane	10	(3)	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---
1,1,2-Trichloroethane	5	(2)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
1,1-Dichloroethane	25	(3)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
1,1-Dichloroethene	5	(3)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
1,1-Dichloropropene	-		< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
1,2,3-Trichlorobenzene	-		< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
1,2,3-Trichloropropane	0.01	(4)	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---
1,2,4-Trichlorobenzene	70	(2)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
1,2,4-Trimethylbenzene	15	(1)	< 1.0	---	**0.77 J**	---	**25**	---	**19**	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
1,2-Dibromo-3-chloropropane	0.2	(2)	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---
1,2-Dibromoethane (EDB)	0.05	(2)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
1,2-Dichlorobenzene	600	(2)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
1,2-Dichloroethane (EDC)	5	(2)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
1,2-Dichloropropane	5	(2)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
1,3,5-Trimethylbenzene	12	(1)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
1,3-Dichlorobenzene	-		< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
1,3-Dichloropropane	370	(1)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
1,4-Dichlorobenzene	75	(2)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
1-Methylnaphthalene	11	(5)	< 4.0	---	< 4.0	---	< 4.0	---	< 4.0	---	< 4.0	---	< 4.0	---	< 4.0	---	< 4.0	---
2,2-Dichloropropane	-		< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---
2-Butanone	5560	(4)	< 10	---	< 10	---	< 10	---	< 10	---	< 10	---	< 10	---	< 10	---	< 10	---
2-Chlorotoluene	240	(1)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
2-Hexanone	-		< 10	---	< 10	---	< 10	---	< 10	---	< 10	---	< 10	---	< 10	---	< 10	---
2-Methylnaphthalene	36	(1)	< 4.0	---	< 4.0	---	< 4.0	---	< 4.0	---	< 4.0	---	< 4.0	---	< 4.0	---	< 4.0	---
4-Chlorotoluene	250	(1)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
4-Isopropyltoluene	-		< 1.0	---	< 1.0	---	**1.1**	---	**1.1**	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
4-Methyl-2-pentanone	-		< 10	---	< 10	---	< 10	---	< 10	---	< 10	---	< 10	---	< 10	---	< 10	---
Acetone	14100	(4)	**11**	---	< 10	---	< 10	---	< 10	---	< 10	---	**1.0 J**	---	< 10	---	< 10	---
Benzene	5	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	62	(1)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
Bromodichloromethane	1.34	(4)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
Bromoform	33	(5)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
Bromomethane	7.54	(4)	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---
Carbon disulfide	810	(4)	< 10	---	< 10	---	< 10	---	< 10	---	< 10	---	< 10	---	< 10	---	< 10	---
Carbon Tetrachloride	5	(2)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
Chlorobenzene	100	(2)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
Chloroethane	20900	(4)	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---
Chloroform	100	(3)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
Chloromethane	20.3	(4)	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---
cis-1,2-DCE	70	(2)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
cis-1,3-Dichloropropene	4.7	(4)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
Dibromochloromethane	1.68	(4)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
Dibromomethane	8.3	(1)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
Dichlorodifluoromethane	197	(4)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
Ethylbenzene	700	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	1.39	(4)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
Isopropylbenzene	447	(4)	< 1.0	---	**2.3**	---	**4.7**	---	**1.5**	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---

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	Screening Levels	Source	MW-35								MW-37							
			Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15	Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15
Methyl tert-butyl ether (MTBE)	143	(4)	< 1.0	< 1.0	**0.6 J**	**0.0012**	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methylene Chloride	5	(2)	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---
Naphthalene	1.65	(4)	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---
n-Butylbenzene	-		< 3.0	---	**0.15 J**	---	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---
n-Propylbenzene	-		< 1.0	---	**1.8**	---	**4.1**	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
sec-Butylbenzene	-		< 1.0	---	**1.3**	---	**3.6**	---	**1.1**	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
Styrene	100	(2)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
tert-Butylbenzene	-		< 1.0	---	**1.4**	---	**1.9**	---	< 1.0	---	< 1.0	---	**0.14 J**	---	< 1.0	---	< 1.0	---
Tetrachloroethene (PCE)	5	(2)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
Toluene	750	(3)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-DCE	100	(2)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
trans-1,3-Dichloropropene	4.71	(4)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
Trichloroethene (TCE)	5	(2)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
Trichlorofluoromethane	1136	(4)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
Vinyl chloride	1	(3)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
Xylenes, Total	620	(3)	< 1.5	<1.5	< 1.5	<1.5	< 1.5	<1.5	< 1.5	<1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Semi-Volatile Organic Compounds (ug/L):																		
1,2,4-Trichlorobenzene	70	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,2-Dichlorobenzene	600	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,3-Dichlorobenzene	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1,4-Dichlorobenzene	75	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1-Methylnaphthalene	11	(5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,4,5-Trichlorophenol	1170	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,4,6-Trichlorophenol	11.9	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,4-Dichlorophenol	45.3	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,4-Dimethylphenol	354	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,4-Dinitrophenol	38.7	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,4-Dinitrotoluene	2.37	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2,6-Dinitrotoluene	0.485	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Chloronaphthalene	733	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Chlorophenol	91	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Methylnaphthalene	36	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Methylphenol	930	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Nitroaniline	190	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2-Nitrophenol	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
3,3´-Dichlorobenzidine	1.25	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
3+4-Methylphenol	930	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
3-Nitroaniline	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4,6-Dinitro-2-methylphenol	1.52	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Bromophenyl phenyl ether	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Chloro-3-methylphenol	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Chloroaniline	3.7	(5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Chlorophenyl phenyl ether	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Nitroaniline	38	(5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4-Nitrophenol	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Acenaphthene	535	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Acenaphthylene	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Aniline	130	(5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Anthracene	1720	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

TABLE 5
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	Screening Levels	Source	MW-35								MW-37							
			Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15	Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15
Azobenzene	1.2	(5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo(a)anthracene	0.12	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo(a)pyrene	0.2	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo(b)fluoranthene	0.343	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo(g,h,i)perylene	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzo(k)fluoranthene	3.43	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzoic acid	75000	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzyl alcohol	2000	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bis(2-chloroethoxy)methane	59	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bis(2-chloroethyl)ether	0.137	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bis(2-chloroisopropyl)ether	9.81	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Bis(2-ethylhexyl)phthalate	6	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Butyl benzyl phthalate	160	(5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Carbazole	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chrysene	34.3	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dibenz(a,h)anthracene	0.0343	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dibenzofuran	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diethyl phthalate	14800	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dimethyl phthalate	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Di-n-butyl phthalate	885	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Di-n-octyl phthalate	-		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Fluoranthene	802	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Fluorene	288	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hexachlorobenzene	0.0976	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hexachlorobutadiene	1.387	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hexachlorocyclopentadiene	50	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hexachloroethane	3.28	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	0.343	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Isophorone	781	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Naphthalene	1.65	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Nitrobenzene	1.4	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
N-Nitrosodimethylamine	0.0017	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
N-Nitrosodi-n-propylamine	0.11	(5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
N-Nitrosodiphenylamine	0.0049	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pentachlorophenol	170	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Phenanthrene	1	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Phenol	5760	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pyrene	117	(4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pyridine	20	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
General Chemistry (mg/L):																		
Fluoride	1.6	(3)	<0.50	---	**0.46**	---	**0.47**	---	**0.55**	---	**0.44**	---	**0.45**	---	**0.6**	---	**0.59**	---
Chloride	250	(3)	**210**	---	**220**	---	**240**	---	**180**	---	**180**	---	**150**	---	**220**	---	**220**	---
Nitrite	1	(2)	<1.0	---	< 0.10	---	< 1.0	---	< 0.10	---	<1.0	---	**0.25 J**	---	< 1.0	---	< 0.10	---
Bromide	-		**2.8**	---	**0.71**	---	**2.2**	---	**0.74**	---	**2.6**	---	**2.5**	---	**2.9**	---	**1.2**	---
Nitrate	10	(3)	<1.0	---	**0.022 J**	---	< 1.0	---	**0.25**	---	<1.0	---	**0.25 J**	---	< 1.0	---	< 0.10	---
Phosphorus	-		<2.5 H	---	< 0.50	---	< 0.50	---	< 0.50	---	<0.50 H	---	< 2.5	---	< 0.50	---	< 0.50	---
Sulfate	600	(3)	**16**	---	**1.5**	---	**14**	---	**11**	---	**420**	---	**720**	---	**270**	---	**110**	---
Carbon Dioxide (CO_2)	-		**940 H**	---	**830**	---	**850**	---	**790**	---	**640 H**	---	**450**	---	**690**	---	**770**	---
Alkalinity ($CaCO_3$)	-		**1004**	---	**905.4**	---	**905**	---	**845**	---	**703**	---	**503.5**	---	**766.7**	---	**855.5**	---
Bicarbonate ($CaCO_3$)	-		**1004**	---	**905.4**	---	**905**	---	**845**	---	**703**	---	**503.5**	---	**766.7**	---	**855.5**	---

TABLE 5
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	Screening Levels	Source	MW-35								MW-37							
			Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15	Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15
Total Metals (mg/L):																		
Arsenic	0.01	(2)	<0.020	---	**0.076**	---	**0.047**	---	**0.11**	---	<0.020	---	**0.019 J**	---	< 0.020	---	< 0.020	---
Barium	2.0	(2)	**0.94**	---	**0.92**	---	**1.3**	---	**1.6**	---	**0.10**	---	**0.49**	---	**0.27**	---	**0.42**	---
Cadmium	0.005	(2)	< 0.0020	---	< 0.0020	---	< 0.0020	---	< 0.0020	---	< 0.0020	---	< 0.0020	---	< 0.0020	---	< 0.0020	---
Chromium	0.05	(3)	<0.0060	---	**0.016**	---	< 0.0060	---	< 0.0060	---	<0.0060	---	**0.022**	---	< 0.0060	---	< 0.0060	---
Lead	0.015	(2)	<0.0050	---	**0.005 J**	---	**0.0098**	---	< 0.0050	---	< 0.0050	---	< 0.0050	---	**0.0068**	---	< 0.0050	---
Selenium	0.05	(3)	< 0.050	---	< 0.050	---	< 0.050	---	< 0.050	---	< 0.050	---	< 0.050	---	< 0.050	---	< 0.050	---
Silver	0.05	(3)	< 0.0050	---	< 0.0050	---	< 0.0050	---	< 0.0050	---	< 0.0050	---	< 0.0050	---	< 0.0050	---	< 0.0050	---
Mercury	0.002	(3)	<0.00020	---	**0.000044 J**	---	< 0.00020	---	< 0.00020	---	< 0.00020	---	< 0.00020	---	< 0.00020	---	< 0.00020	---
Dissolved Metals (mg/L):																		
Arsenic	0.01	(2)	< 0.020	---	**0.036**	---	**0.038**	---	**0.038**	---	< 0.020	---	< 0.020	---	< 0.020	---	< 0.020	---
Barium	1.0	(3)	**0.79**	---	**0.57**	---	**0.82**	---	**1.6**	---	**0.079**	---	**0.11**	---	**0.22**	---	**0.4**	---
Cadmium	0.005	(2)	< 0.0020	---	< 0.0020	---	< 0.0020	---	< 0.0020	---	< 0.0020	---	< 0.0020	---	< 0.0020	---	< 0.0020	---
Calcium	-		**120**	---	**120**	---	**120**	---	**110**	---	**120**	---	**110**	---	**86**	---	**92**	---
Chromium	0.05	(3)	< 0.0060	---	< 0.0060	---	< 0.0060	---	< 0.0060	---	< 0.0060	---	< 0.0060	---	< 0.0060	---	< 0.0060	---
Copper	1	(3)	< 0.0060	---	< 0.0060	---	< 0.0060	---	< 0.0060	---	< 0.0060	---	< 0.0060	---	< 0.0060	---	< 0.0060	---
Iron	1	(3)	**0.13**	---	**1.7**	---	**3.4**	---	**0.1**	---	**0.20**	---	**0.13**	---	**1.6**	---	< 0.020	---
Lead	0.015	(2)	< 0.0050	---	< 0.0050	---	< 0.0050	---	< 0.0050	---	< 0.0050	---	< 0.0050	---	< 0.0050	---	< 0.0050	---
Magnesium	-		**22**	---	**21**	---	**21**	---	**21**	---	**21**	---	**21**	---	**19**	---	**21**	---
Manganese	0.2	(3)	**1.9**	---	**1.8**	---	**2.5**	---	**2.4**	---	**1.1**	---	**0.89**	---	**0.96**	---	**1**	---
Potassium	-		**2.9**	---	**2.9**	---	**2.8**	---	**2.5**	---	**2.7**	---	**2.7**	---	**2.9**	---	**2.8**	---
Selenium	0.05	(3)	< 0.050	---	< 0.050	---	< 0.050	---	< 0.050	---	< 0.050	---	< 0.050	---	< 0.050	---	< 0.050	---
Silver	0.05	(3)	< 0.0050	---	< 0.0050	---	< 0.0050	---	< 0.0050	---	< 0.0050	---	< 0.0050	---	< 0.0050	---	< 0.0050	---
Sodium	-		**380**	---	**370**	---	**380**	---	**340**	---	**430**	---	**460**	---	**460**	---	**420**	---
Uranium	0.03	(3)	< 0.10	---	< 0.10	---	< 0.10	---	< 0.10	---	< 0.10	---	< 0.10	---	< 0.10	---	< 0.10	---
Zinc	10	(3)	<0.020	---	**0.037**	---	< 0.020	---	**0.023**	---	<0.020	---	**0.018 J**	---	< 0.020	---	< 0.020	---
Total Petroleum Hydrocarbons (mg/L):																		
Diesel Range Organics	0.0398	(6)	<0.40	---	**0.5**	**0.44**	**0.62**	**0.55**	**0.38**	**0.55**	< 0.40	<0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	**0.45**
Gasoline Range Organics	-	-	**0.30**	---	**0.34**	**0.81**	**0.52**	**0.25**	**0.54**	**0.25**	< 0.050	<0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Motor Oil Range Organics	0.0398	(6)	< 2.5	---	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	<2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5

Notes:
(1) EPA - Regional Screening Levels (June 2017) -Tap Water
(2) EPA - Regional Screening Levels (June 2017) - MCL
(3) NMED WQCC standards - Title 20 Chapter 6, Part 2, - 20.6.2.3101 Standards for Ground Water of 10,000 mg/l TDS Concentration or less
(4) NMED Tap Water Screening Level - Risk Assessment Guidance for Site Investigations and Remediation (March 2017)
(5) EPA Screening Level - Tap Water x 10 for carcinogenic compounds
(6) NMED groundwater screening level for unknown oil
= No screening level available
= Laboratory analyzed for combined Nitrate (As N) + Nitrite (As N) to meet hold time
= Analysis not required and/or well contains separate phase
= Analytical result exceeds the respective screening level.
= 6/27/13 modification on FWGWM Plan to remove MW-8 and replace with MW-52.
= Columns hidden when there are 4 or more consecutive years recorded that analysis was not required and/or the well contained separate phase

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	Screening Levels	Source	MW-38							
			Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15
Volatile Organic Compounds (ug/L)										
1,1,1,2-Tetrachloroethane	5.74	(4)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
1,1,1-Trichloroethane	60	(3)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
1,1,2,2-Tetrachloroethane	10	(3)	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---
1,1,2-Trichloroethane	5	(2)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
1,1-Dichloroethane	25	(3)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
1,1-Dichloroethene	5	(3)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
1,1-Dichloropropene	-		< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
1,2,3-Trichlorobenzene	-		< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
1,2,3-Trichloropropane	0.01	(4)	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---
1,2,4-Trichlorobenzene	70	(2)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
1,2,4-Trimethylbenzene	15	(1)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
1,2-Dibromo-3-chloropropane	0.2	(2)	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---
1,2-Dibromoethane (EDB)	0.05	(2)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
1,2-Dichlorobenzene	600	(2)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
1,2-Dichloroethane (EDC)	5	(2)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
1,2-Dichloropropane	5	(2)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
1,3,5-Trimethylbenzene	12	(1)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
1,3-Dichlorobenzene	-		< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
1,3-Dichloropropane	370	(1)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
1,4-Dichlorobenzene	75	(2)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
1-Methylnaphthalene	11	(5)	< 4.0	---	< 4.0	---	< 4.0	---	< 4.0	---
2,2-Dichloropropane	-		< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---
2-Butanone	5560	(4)	< 10	---	< 10	---	< 10	---	< 10	---
2-Chlorotoluene	240	(1)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
2-Hexanone	-		< 10	---	< 10	---	< 10	---	< 10	---
2-Methylnaphthalene	36	(1)	< 4.0	---	< 4.0	---	< 4.0	---	< 4.0	---
4-Chlorotoluene	250	(1)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
4-Isopropyltoluene	-		< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
4-Methyl-2-pentanone	-		< 10	---	< 10	---	< 10	---	< 10	---
Acetone	14100	(4)	**2.6 J**	---	**2.6 J**	---	< 10	---	< 10	---
Benzene	5	(2)	< 1.0	<1.0	< 1.0	<1.0	< 1.0	<1.0	< 1.0	<1.0
Bromobenzene	62	(1)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
Bromodichloromethane	1.34	(4)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
Bromoform	33	(5)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
Bromomethane	7.54	(4)	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---
Carbon disulfide	810	(4)	< 10	---	< 10	---	< 10	---	< 10	---
Carbon Tetrachloride	5	(2)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
Chlorobenzene	100	(2)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
Chloroethane	20900	(4)	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---
Chloroform	100	(3)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
Chloromethane	20.3	(4)	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---
cis-1,2-DCE	70	(2)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
cis-1,3-Dichloropropene	4.7	(4)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
Dibromochloromethane	1.68	(4)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
Dibromomethane	8.3	(1)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
Dichlorodifluoromethane	197	(4)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
Ethylbenzene	700	(2)	< 1.0	<1.0	< 1.0	<1.0	< 1.0	<1.0	< 1.0	<1.0
Hexachlorobutadiene	1.39	(4)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
Isopropylbenzene	447	(4)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---

TABLE 5
Downgradient Wells Analytical Summary
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	Screening Levels	Source	MW-38							
			Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15
Methyl tert-butyl ether (MTBE)	143	(4)	< 1.0	< 1.0	**0.41 J**	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methylene Chloride	5	(2)	< 3.0	---	< 3.0	---	< 3.0	---	< 3.0	---
Naphthalene	1.65	(4)	< 2.0	---	< 2.0	---	< 2.0	---	< 2.0	---
n-Butylbenzene	-		< 1.0	---	< 1.0	---	< 3.0	---	< 3.0	---
n-Propylbenzene	-		< 3.0	---	< 3.0	---	< 1.0	---	< 1.0	---
sec-Butylbenzene	-		< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
Styrene	100	(2)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
tert-Butylbenzene	-		< 1.0	---	**0.48 J**	---	< 1.0	---	< 1.0	---
Tetrachloroethene (PCE)	5	(2)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
Toluene	750	(3)	< 1.0	<1.0	< 1.0	<1.0	< 1.0	<1.0	< 1.0	<1.0
trans-1,2-DCE	100	(2)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
trans-1,3-Dichloropropene	4.71	(4)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
Trichloroethene (TCE)	5	(2)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
Trichlorofluoromethane	1136	(4)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
Vinyl chloride	1	(3)	< 1.0	---	< 1.0	---	< 1.0	---	< 1.0	---
Xylenes, Total	620	(3)	< 1.5	<1.5	< 1.5	<1.5	< 1.5	<1.5	< 1.5	<1.5
Semi-Volatile Organic Compounds (ug/L):										
1,2,4-Trichlorobenzene	70	(2)	< 10	---	---	---	< 10	---	---	---
1,2-Dichlorobenzene	600	(2)	< 10	---	---	---	< 10	---	---	---
1,3-Dichlorobenzene	-		< 10	---	---	---	< 10	---	---	---
1,4-Dichlorobenzene	75	(2)	< 10	---	---	---	< 10	---	---	---
1-Methylnaphthalene	11	(5)	< 10	---	---	---	< 10	---	---	---
2,4,5-Trichlorophenol	1170	(4)	< 10	---	---	---	< 10	---	---	---
2,4,6-Trichlorophenol	11.9	(4)	< 10	---	---	---	< 10	---	---	---
2,4-Dichlorophenol	45.3	(4)	< 20	---	---	---	< 20	---	---	---
2,4-Dimethylphenol	354	(4)	< 10	---	---	---	< 10	---	---	---
2,4-Dinitrophenol	38.7	(4)	< 20	---	---	---	< 20	---	---	---
2,4-Dinitrotoluene	2.37	(4)	< 10	---	---	---	< 10	---	---	---
2,6-Dinitrotoluene	0.485	(4)	< 10	---	---	---	< 10	---	---	---
2-Chloronaphthalene	733	(4)	< 10	---	---	---	< 10	---	---	---
2-Chlorophenol	91	(4)	< 10	---	---	---	< 10	---	---	---
2-Methylnaphthalene	36	(1)	< 10	---	---	---	< 10	---	---	---
2-Methylphenol	930	(1)	< 10	---	---	---	< 10	---	---	---
2-Nitroaniline	190	(1)	< 10	---	---	---	< 10	---	---	---
2-Nitrophenol	-		< 10	---	---	---	< 10	---	---	---
3,3´-Dichlorobenzidine	1.25	(4)	< 10	---	---	---	< 10	---	---	---
3+4-Methylphenol	930	(1)	< 10	---	---	---	< 10	---	---	---
3-Nitroaniline	-		< 10	---	---	---	< 10	---	---	---
4,6-Dinitro-2-methylphenol	1.52	(4)	< 20	---	---	---	< 20	---	---	---
4-Bromophenyl phenyl ether	-		< 10	---	---	---	< 10	---	---	---
4-Chloro-3-methylphenol	-		< 10	---	---	---	< 10	---	---	---
4-Chloroaniline	3.7	(5)	< 10	---	---	---	< 10	---	---	---
4-Chlorophenyl phenyl ether	-		< 10	---	---	---	< 10	---	---	---
4-Nitroaniline	38	(5)	< 10	---	---	---	< 10	---	---	---
4-Nitrophenol	-		< 10	---	---	---	< 10	---	---	---
Acenaphthene	535	(4)	< 10	---	---	---	< 10	---	---	---
Acenaphthylene	-		< 10	---	---	---	< 10	---	---	---
Aniline	130	(5)	< 10	---	---	---	< 10	---	---	---
Anthracene	1720	(4)	< 10	---	---	---	< 10	---	---	---

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Downgradient Wells Analytical Summary
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	Screening Levels	Source	MW-38							
			Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15
Azobenzene	1.2	(5)	< 10	---	---	---	< 10	---	---	---
Benzo(a)anthracene	0.12	(4)	< 10	---	---	---	< 10	---	---	---
Benzo(a)pyrene	0.2	(2)	< 10	---	---	---	< 10	---	---	---
Benzo(b)fluoranthene	0.343	(4)	< 10	---	---	---	< 10	---	---	---
Benzo(g,h,i)perylene	-		< 10	---	---	---	< 10	---	---	---
Benzo(k)fluoranthene	3.43	(4)	< 10	---	---	---	< 10	---	---	---
Benzoic acid	75000	(1)	< 20	---	---	---	< 20	---	---	---
Benzyl alcohol	2000	(1)	< 10	---	---	---	< 10	---	---	---
Bis(2-chloroethoxy)methane	59	(1)	< 10	---	---	---	< 10	---	---	---
Bis(2-chloroethyl)ether	0.137	(4)	< 10	---	---	---	< 10	---	---	---
Bis(2-chloroisopropyl)ether	9.81	(4)	< 10	---	---	---	< 10	---	---	---
Bis(2-ethylhexyl)phthalate	6	(2)	< 10	---	---	---	< 10	---	---	---
Butyl benzyl phthalate	160	(5)	< 10	---	---	---	< 10	---	---	---
Carbazole	-		< 10	---	---	---	< 10	---	---	---
Chrysene	34.3	(4)	< 10	---	---	---	< 10	---	---	---
Dibenz(a,h)anthracene	0.0343	(4)	< 10	---	---	---	< 10	---	---	---
Dibenzofuran	-		< 10	---	---	---	< 10	---	---	---
Diethyl phthalate	14800	(4)	< 10	---	---	---	< 10	---	---	---
Dimethyl phthalate	-		< 10	---	---	---	< 10	---	---	---
Di-n-butyl phthalate	885	(4)	< 10	---	---	---	< 10	---	---	---
Di-n-octyl phthalate	-		< 10	---	---	---	< 10	---	---	---
Fluoranthene	802	(4)	< 10	---	---	---	< 10	---	---	---
Fluorene	288	(4)	< 10	---	---	---	< 10	---	---	---
Hexachlorobenzene	0.0976	(4)	< 10	---	---	---	< 10	---	---	---
Hexachlorobutadiene	1.387	(4)	< 10	---	---	---	< 10	---	---	---
Hexachlorocyclopentadiene	50	(4)	< 10	---	---	---	< 10	---	---	---
Hexachloroethane	3.28	(4)	< 10	---	---	---	< 10	---	---	---
Indeno(1,2,3-cd)pyrene	0.343	(4)	< 10	---	---	---	< 10	---	---	---
Isophorone	781	(4)	< 10	---	---	---	< 10	---	---	---
Naphthalene	1.65	(4)	< 10	---	---	---	< 10	---	---	---
Nitrobenzene	1.4	(4)	< 10	---	---	---	< 10	---	---	---
N-Nitrosodimethylamine	0.0017	(4)	< 10	---	---	---	< 10	---	---	---
N-Nitrosodi-n-propylamine	0.11	(5)	< 10	---	---	---	< 10	---	---	---
N-Nitrosodiphenylamine	0.0049	(4)	< 10	---	---	---	< 10	---	---	---
Pentachlorophenol	170	(4)	< 20	---	---	---	< 20	---	---	---
Phenanthrene	1	(4)	< 10	---	---	---	< 10	---	---	---
Phenol	5760	(4)	< 10	---	---	---	< 10	---	---	---
Pyrene	117	(4)	< 10	---	---	---	< 10	---	---	---
Pyridine	20	(1)	< 10	---	---	---	< 10	---	---	---
General Chemistry (mg/L):										
Fluoride	1.6	(3)	**0.4**	---	**0.53**	---	**0.64**	---	**0.84**	---
Chloride	250	(3)	**140**	---	**100**	---	**75**	---	**30**	---
Nitrite	1	(2)	<1.0	---	**0.17 J**	---	< 1.0	---	< 0.10	---
Bromide	-		**1.9**	---	**1.4**	---	**0.98**	---	**0.38**	---
Nitrate	10	(3)	<1.0	---	**0.17 J**	---	< 1.0	---	< 0.10	---
Phosphorus	-		<0.50 H	---	< 2.5	---	< 0.50	---	< 0.50	---
Sulfate	600	(3)	**21**	---	**3.4**	---	**4.6**	---	**30**	---
Carbon Dioxide (CO_2)	-		**630 H**	---	**530**	---	**450**	---	**310**	---
Alkalinity ($CaCO_3$)	-		**682.4**	---	**587.7**	---	**497**	---	**345.6**	---
Bicarbonate ($CaCO_3$)	-		**682.4**	---	**587.7**	---	**497**	---	**345.6**	---

TABLE 5
Downgradient Wells Analytical Summary
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	Screening Levels	Source	MW-38							
			Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15
Total Metals (mg/L):										
Arsenic	0.01	(2)	<0.020	---	**0.015 J**	---	< 0.020	---	< 0.020	---
Barium	2.0	(2)	**0.57**	---	**0.69**	---	**0.6**	---	**0.16**	---
Cadmium	0.005	(2)	< 0.0020	---	< 0.0020	---	< 0.0020	---	< 0.0020	---
Chromium	0.05	(3)	<0.0060	---	**0.042**	---	< 0.0060	---	< 0.0060	---
Lead	0.015	(2)	< 0.0050	---	< 0.0050	---	**0.0093**	---	< 0.0050	---
Selenium	0.05	(3)	< 0.050	---	< 0.050	---	< 0.050	---	< 0.050	---
Silver	0.05	(3)	< 0.0050	---	< 0.0050	---	< 0.0050	---	< 0.0050	---
Mercury	0.002	(3)	<0.00020	---	**< 0.000039 J**	---	< 0.00020	---	< 0.00020	---
Dissolved Metals (mg/L):										
Arsenic	0.01	(2)	< 0.020	---	< 0.020	---	< 0.020	---	< 0.020	---
Barium	1.0	(3)	**0.52**	---	**0.43**	---	**0.55**	---	**0.16**	---
Cadmium	0.005	(2)	< 0.0020	---	< 0.0020	---	< 0.0020	---	< 0.0020	---
Calcium	-		**120**	---	**100**	---	**98**	---	**37**	---
Chromium	0.05	(3)	< 0.0060	---	< 0.0060	---	< 0.0060	---	< 0.0060	---
Copper	1	(3)	< 0.0060	---	< 0.0060	---	**0.033**	---	< 0.0060	---
Iron	1	(3)	**0.13**	---	**0.16**	---	**13**	---	**0.032**	---
Lead	0.015	(2)	< 0.0050	---	< 0.0050	---	**0.014**	---	< 0.0050	---
Magnesium	-		**20**	---	**16**	---	**16**	---	**6**	---
Manganese	0.2	(3)	**2.7**	---	**2.4**	---	**3**	---	**0.93**	---
Potassium	-		**2.2**	---	**1.9**	---	**2.8**	---	**1.1**	---
Selenium	0.05	(3)	<0.050	---	**0.030 J**	---	< 0.050	---	< 0.050	---
Silver	0.05	(3)	< 0.0050	---	< 0.0050	---	< 0.0050	---	< 0.0050	---
Sodium	-		**210**	---	**190**	---	**180**	---	**130**	---
Uranium	0.03	(3)	< 0.10	---	< 0.10	---	< 0.10	---	< 0.10	---
Zinc	10	(3)	<0.020	---	**0.034**	---	**0.053**	---	**0.022**	---
Total Petroleum Hydrocarbons (mg/L):										
Diesel Range Organics	0.0398	(6)	< 0.40	<0.40	< 0.20	<0.20	**0.28**	<0.20	< 0.20	<0.20
Gasoline Range Organics	-	-	**0.18**	**0.058**	**0.047 J**	<0.050	< 0.050	<0.050	< 0.050	<0.050
Motor Oil Range Organics	0.0398	(6)	< 2.5	<2.5	<2.5	<2.5	< 2.5	<2.5	< 2.5	<2.5

Notes:
(1) EPA - Regional Screening Levels (June 2017) -Tap Water
(2) EPA - Regional Screening Levels (June 2017) - MCL
(3) NMED WQCC standards - Title 20 Chapter 6, Part 2, - 20.6.2.3101 Standards for Ground Water of 10,000 mg/l TDS Concentration or less
(4) NMED Tap Water Screening Level - Risk Assessment Guidance for Site Investigations and Remediation (March 2017)
(5) EPA Screening Level - Tap Water x 10 for carcinogenic compounds
(6) NMED groundwater screening level for unknown oil
= No screening level available
= Laboratory analyzed for combined Nitrate (As N) + Nitrite (As N) to meet hold time
= Analysis not required and/or well contains separate phase
= Analytical result exceeds the respective screening level.
= 6/27/13 modification on FWGWM Plan to remove MW-8 and replace with MW-52.
= Columns hidden when there are 4 or more consecutive years recorded that analysis was not required and/or the well contained separate phase

TABLE 6
RCRA Wells Analytical Summary
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	Screening Levels	Source	MW-50				MW-51				MW-53				**MW-54				**MW-55				MW-56			
			Aug-17	Aug-16	Aug-15	Aug-14	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15
Volatile Organic Compounds (ug/L)																										
1,1,1,2-Tetrachloroethane	5.74	(4)	---	< 1.0	---	---	---	< 1.0	< 1.0	< 1.0	---	< 2.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	< 1.0	---
1,1,1-Trichloroethane	60	(3)	---	< 1.0	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	< 1.0	---
1,1,2,2-Tetrachloroethane	10	(3)	---	< 2.0	---	---	---	< 2.0	< 2.0	< 2.0	---	< 2.0	< 2.0	< 2.0	---	---	---	---	---	---	---	---	---	---	< 2.0	---
1,1,2-Trichloroethane	5	(2)	---	< 1.0	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	< 1.0	---
1,1-Dichloroethane	25	(3)	---	< 1.0	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	< 1.0	---
1,1-Dichloroethene	5	(3)	---	< 1.0	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	< 1.0	---
1,1-Dichloropropene	-		---	< 1.0	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	< 1.0	---
1,2,3-Trichlorobenzene	-		---	< 1.0	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	< 1.0	---
1,2,3-Trichloropropane	0.01	(4)	---	< 2.0	---	---	---	< 2.0	< 2.0	< 2.0	---	< 2.0	< 2.0	< 2.0	---	---	---	---	---	---	---	---	---	---	< 2.0	---
1,2,4-Trichlorobenzene	70	(2)	---	< 1.0	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	< 1.0	---
1,2,4-Trimethylbenzene	15	(1)	---	< 1.0	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	**300**	---
1,2-Dibromo-3-chloropropane	0.2	(2)	---	< 2.0	---	---	---	< 2.0	< 2.0	< 2.0	---	< 2.0	< 2.0	< 2.0	---	---	---	---	---	---	---	---	---	---	< 2.0	---
1,2-Dibromoethane (EDB)	0.05	(2)	---	< 1.0	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	< 1.0	---
1,2-Dichlorobenzene	600	(2)	---	< 1.0	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	< 1.0	---
1,2-Dichloroethane (EDC)	5	(2)	---	< 1.0	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	< 1.0	---
1,2-Dichloropropane	5	(2)	---	< 1.0	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	< 1.0	---
1,3,5-Trimethylbenzene	12	(1)	---	< 1.0	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	**97**	---
1,3-Dichlorobenzene	-		---	< 1.0	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	< 1.0	---
1,3-Dichloropropane	370	(1)	---	< 1.0	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	< 1.0	---
1,4-Dichlorobenzene	75	(2)	---	< 1.0	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	< 1.0	---
1-Methylnaphthalene	11	(5)	---	< 4.0	---	---	---	< 4.0	< 4.0	< 4.0	---	< 4.0	< 4.0	< 4.0	---	---	---	---	---	---	---	---	---	---	**19**	---
2,2-Dichloropropane	-		---	< 2.0	---	---	---	< 2.0	< 2.0	< 2.0	---	< 2.0	< 2.0	< 2.0	---	---	---	---	---	---	---	---	---	---	< 2.0	---
2-Butanone	5560	(4)	---	< 10	---	---	---	< 10	< 10	< 10	---	< 10	< 10	< 10	---	---	---	---	---	---	---	---	---	---	**26**	---
2-Chlorotoluene	240	(1)	---	< 1.0	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	< 1.0	---
2-Hexanone	-		---	< 10	---	---	---	< 10	< 10	< 10	---	< 10	< 10	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
2-Methylnaphthalene	36	(1)	---	< 4.0	---	---	---	< 4.0	< 4.0	< 4.0	---	< 4.0	< 4.0	< 4.0	---	---	---	---	---	---	---	---	---	---	**26**	---
4-Chlorotoluene	250	(1)	---	< 1.0	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	< 1.0	---
4-Isopropyltoluene	-		---	< 1.0	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	**11**	---
4-Methyl-2-pentanone	-		---	< 10	---	---	---	< 10	< 10	< 10	---	< 10	< 10	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
Acetone	14100	(4)	---	< 10	---	---	---	**1.6 J**	< 10	< 10	---	**3.2 J**	< 10	< 10	---	---	---	---	---	---	---	---	---	---	**150**	---
Benzene	5	(2)	---	< 1.0	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	**180**	---
Bromobenzene	62	(1)	---	< 1.0	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	< 1.0	---
Bromodichloromethane	1.34	(4)	---	< 1.0	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	< 1.0	---
Bromoform	33	(5)	---	< 1.0	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	< 1.0	---
Bromomethane	7.54	(4)	---	< 3.0	---	---	---	< 3.0	< 3.0	< 3.0	---	< 3.0	< 3.0	< 3.0	---	---	---	---	---	---	---	---	---	---	< 3.0	---
Carbon disulfide	810	(4)	---	< 10	---	---	---	< 10	< 10	< 10	---	< 10	< 10	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
Carbon Tetrachloride	5	(2)	---	< 1.0	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	< 1.0	---
Chlorobenzene	100	(2)	---	< 1.0	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	< 1.0	---
Chloroethane	20900	(4)	---	< 2.0	---	---	---	< 2.0	< 2.0	< 2.0	---	< 2.0	< 2.0	< 2.0	---	---	---	---	---	---	---	---	---	---	< 2.0	---
Chloroform	100	(3)	---	< 1.0	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	< 1.0	---
Chloromethane	20.3	(4)	---	< 3.0	---	---	---	< 3.0	< 3.0	< 3.0	---	< 3.0	< 3.0	< 3.0	---	---	---	---	---	---	---	---	---	---	< 3.0	---
cis-1,2-DCE	70	(2)	---	< 1.0	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	< 1.0	---
cis-1,3-Dichloropropene	4.7	(4)	---	< 1.0	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	< 1.0	---
Dibromochloromethane	1.68	(4)	---	< 1.0	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	< 1.0	---
Dibromomethane	8.3	(1)	---	< 1.0	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	< 1.0	---
Dichlorodifluoromethane	197	(4)	---	< 1.0	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	< 1.0	---
Ethylbenzene	700	(2)	---	< 1.0	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	**88**	---
Hexachlorobutadiene	1.39	(4)	---	< 1.0	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	< 1.0	---
Isopropylbenzene	447	(4)	---	< 1.0	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	**13**	---
Methyl tert-butyl ether (MTBE)	143	(4)	---	< 1.0	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	**0.63 J**	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	**380**	---
Methylene Chloride	5	(2)	---	< 3.0	---	---	---	< 3.0	< 3.0	< 3.0	---	< 3.0	< 3.0	< 3.0	---	---	---	---	---	---	---	---	---	---	< 3.0	---
Naphthalene	1.65	(4)	---	< 2.0	---	---	---	< 2.0	< 2.0	< 2.0	---	< 2.0	< 2.0	< 2.0	---	---	---	---	---	---	---	---	---	---	**52**	---
n-Butylbenzene	-		---	< 3.0	---	---	---	< 3.0	< 3.0	< 3.0	---	< 3.0	< 3.0	< 3.0	---	---	---	---	---	---	---	---	---	---	**10**	---
n-Propylbenzene	-		---	< 1.0	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	**19**	---
sec-Butylbenzene	-		---	< 1.0	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	**7.8**	---
Styrene	100	(2)	---	< 1.0	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	< 1.0	---
tert-Butylbenzene	-		---	< 1.0	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	< 1.0	---
Tetrachloroethene (PCE)	5	(2)	---	< 1.0	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	< 1.0	---
Toluene	750	(3)	---	< 1.0	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	**1.4**	---
trans-1,2-DCE	100	(2)	---	< 1.0	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	< 1.0	---
trans-1,3-Dichloropropene	4.71	(4)	---	< 1.0	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	< 1.0	---
Trichloroethene (TCE)	5	(2)	---	< 1.0	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	< 1.0	---
Trichlorofluoromethane	1136	(4)	---	< 1.0	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	< 1.0	---
Vinyl chloride	1	(3)	---	< 1.0	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	---	---	---	---	---	---	< 1.0	---
Xylenes, Total	620	(3)	---	< 1.5	---	---	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	---	---	---	---	---	---	---	---	---	---	**210**	---

TABLE 6
RCRA Wells Analytical Summary
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	Screening Levels	Source	MW-50				MW-51				MW-53				**MW-54				**MW-55				MW-56			
			Aug-17	Aug-16	Aug-15	Aug-14	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15
Semi-Volatile Organic Compounds (ug/L):																										
1,2,4-Trichlorobenzene	70	(2)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
1,2-Dichlorobenzene	600	(2)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
1,3-Dichlorobenzene	-		---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
1,4-Dichlorobenzene	75	(2)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
1-Methylnaphthalene	11	(5)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
2,4,5-Trichlorophenol	1170	(4)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
2,4,6-Trichlorophenol	11.9	(4)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
2,4-Dichlorophenol	45.3	(4)	---	< 20	---	---	< 20	---	< 20	---	---	---	---	< 20	---	---	---	---	---	---	---	---	---	---	< 20	---
2,4-Dimethylphenol	354	(4)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
2,4-Dinitrophenol	38.7	(4)	---	< 20	---	---	< 20	---	< 20	---	---	---	---	< 20	---	---	---	---	---	---	---	---	---	---	< 20	---
2,4-Dinitrotoluene	2.37	(4)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
2,6-Dinitrotoluene	0.485	(4)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
2-Chloronaphthalene	733	(4)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
2-Chlorophenol	91	(4)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
2-Methylnaphthalene	36	(1)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
2-Methylphenol	930	(1)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
2-Nitroaniline	190	(1)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
2-Nitrophenol	-		---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
3,3´-Dichlorobenzidine	1.25	(4)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
3+4-Methylphenol	930	(1)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
3-Nitroaniline	-		---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
4,6-Dinitro-2-methylphenol	1.52	(4)	---	< 20	---	---	< 20	---	< 20	---	---	---	---	< 20	---	---	---	---	---	---	---	---	---	---	< 20	---
4-Bromophenyl phenyl ether	-		---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
4-Chloro-3-methylphenol	-		---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
4-Chloroaniline	3.7	(5)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
4-Chlorophenyl phenyl ether	-		---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
4-Nitroaniline	38	(5)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
4-Nitrophenol	-		---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
Acenaphthene	535	(4)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
Acenaphthylene	-		---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
Aniline	130	(5)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
Anthracene	1720	(4)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
Azobenzene	1.2	(5)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
Benzo(a)anthracene	0.12	(4)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
Benzo(a)pyrene	0.2	(2)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
Benzo(b)fluoranthene	0.343	(4)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
Benzo(g,h,i)perylene	-		---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
Benzo(k)fluoranthene	3.43	(4)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
Benzoic acid	75000	(1)	---	< 20	---	---	< 20	---	< 20	---	---	---	---	< 20	---	---	---	---	---	---	---	---	---	---	< 20	---
Benzyl alcohol	2000	(1)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
Bis(2-chloroethoxy)methane	59	(1)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
Bis(2-chloroethyl)ether	0.137	(4)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
Bis(2-chloroisopropyl)ether	9.81	(4)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
Bis(2-ethylhexyl)phthalate	6	(2)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	**12**	---	---	---	---	---	---	---	---	---	---	< 10	---
Butyl benzyl phthalate	160	(5)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
Carbazole	-		---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
Chrysene	34.3	(4)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
Dibenz(a,h)anthracene	0.0343	(4)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
Dibenzofuran	-		---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
Diethyl phthalate	14800	(4)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
Dimethyl phthalate	-		---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
Di-n-butyl phthalate	885	(4)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
Di-n-octyl phthalate	-		---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	**26**	---
Fluoranthene	802	(4)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
Fluorene	288	(4)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
Hexachlorobenzene	0.0976	(4)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
Hexachlorobutadiene	1.387	(4)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
Hexachlorocyclopentadiene	50	(4)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
Hexachloroethane	3.28	(4)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
Indeno(1,2,3-cd)pyrene	0.343	(4)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
Isophorone	781	(4)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---

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	Screening Levels	Source	MW-50				MW-51				MW-53				**MW-54				**MW-55				MW-56			
			Aug-17	Aug-16	Aug-15	Aug-14	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15
Naphthalene	1.65	(4)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	16	---
Nitrobenzene	1.4	(4)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
N-Nitrosodimethylamine	0.0017	(4)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
N-Nitrosodi-n-propylamine	0.11	(5)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
N-Nitrosodiphenylamine	0.0049	(4)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
Pentachlorophenol	170	(4)	---	< 20	---	---	< 20	---	< 20	---	---	---	---	< 20	---	---	---	---	---	---	---	---	---	---	< 20	---
Phenanthrene	1	(4)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
Phenol	5760	(4)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
Pyrene	117	(4)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
Pyridine	20	(1)	---	< 10	---	---	< 10	---	< 10	---	---	---	---	< 10	---	---	---	---	---	---	---	---	---	---	< 10	---
General Chemistry (mg/L):																										
Fluoride	1.6	(3)	---	0.23	---	---	0.40	0.37	0.5	0.52	< 2.0	< 0.10	< 0.10	< 0.10	---	---	---	---	---	---	---	---	---	---	< 0.50	---
Chloride	250	(3)	---	4.5	---	---	8.3	11	11	8.3	890	1000	920	960	---	---	---	---	---	---	---	---	---	---	370	---
Nitrite	1	(2)	---	< 0.10	---	---	<1.0	< 0.10	< 0.10	< 0.10	15	< 2.0	< 2.0	< 2.0	---	---	---	---	---	---	---	---	---	---	< 0.50	---
Bromide	-		---	< 0.10	---	---	< 0.10	< 0.10	0.15	< 0.10	2.2	2.2	3	2.1	---	---	---	---	---	---	---	---	---	---	5	---
Nitrate	10	(3)	---	0.23	---	---	<1.0	0.44	1.7	0.34	15	12	12	9.3	---	---	---	---	---	---	---	---	---	---	< 0.50	---
Phosphorus	-		---	< 0.50	---	---	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 10	---	---	---	---	---	---	---	---	---	---	< 2.5	---
Sulfate	600	(3)	---	37	---	---	12	45	120	43	900	1100	980	1000	---	---	---	---	---	---	---	---	---	---	7.9	---
Carbon Dioxide (CO_2)	-		---	230	---	---	230	270	220	240	330	300	300	290	---	---	---	---	---	---	---	---	---	---	890	---
Alkalinity ($CaCO_3$)	-		---	255.9	---	---	254.1	287.7	243	264.9	350.6	331.1	329.8	318.5	---	---	---	---	---	---	---	---	---	---	952.6	---
Bicarbonate ($CaCO_3$)	-		---	255.9	---	---	254.1	287.7	243	264.9	350.6	331.1	329.8	318.5	---	---	---	---	---	---	---	---	---	---	952.6	---
Total Metals (mg/L):																										
Arsenic	0.01	(2)	---	< 0.020	---	---	< 0.020	< 0.050	< 0.020	< 0.020	< 0.020	< 0.050	< 0.020	< 0.020	---	---	---	---	---	---	---	---	---	---	< 0.020	---
Barium	2.0	(2)	---	0.31	---	---	0.17	0.12	0.12	0.11	< 0.020	0.12	0.051	0.64	---	---	---	---	---	---	---	---	---	---	2.4	---
Cadmium	0.005	(2)	---	< 0.0020	---	---	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	---	---	---	---	---	---	---	---	---	---	< 0.0020	---
Chromium	0.05	(3)	---	0.0092	---	---	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	0.0034 J	< 0.0060	0.012	---	---	---	---	---	---	---	---	---	---	< 0.0060	---
Lead	0.015	(2)	---	0.0059	---	---	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	0.01	---	---	---	---	---	---	---	---	---	---	< 0.0050	---
Selenium	0.05	(3)	---	< 0.050	---	---	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.0050	---	---	---	---	---	---	---	---	---	---	< 0.050	---
Silver	0.05	(3)	---	< 0.0050	---	---	< 0.0050	< 0.0050	< 0.0050	< 0.0050	0.01	< 0.0050	< 0.0050	< 0.050	---	---	---	---	---	---	---	---	---	---	< 0.0050	---
Mercury	0.002	(3)	---	< 0.00020	---	---	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	---	---	---	---	---	---	---	---	---	---	< 0.00020	---
Dissolved Metals (mg/L):																										
Arsenic	0.01	(2)	---	< 0.020	---	---	0.020	0.015 J	< 0.020	< 0.020	< 0.020	0.052	< 0.020	< 0.020	---	---	---	---	---	---	---	---	---	---	< 0.020	---
Barium	1.0	(3)	---	0.077	---	---	0.12	0.11	0.063	0.05	< 0.020	0.013 J	< 0.020	0.026	---	---	---	---	---	---	---	---	---	---	2.1	---
Cadmium	0.005	(2)	---	< 0.0020	---	---	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	---	---	---	---	---	---	---	---	---	---	< 0.0020	---
Calcium	-		---	65	---	---	60	71	91	63	380	380	390	360	---	---	---	---	---	---	---	---	---	---	110	---
Chromium	0.05	(3)	---	< 0.0060	---	---	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	---	---	---	---	---	---	---	---	---	---	< 0.0060	---
Copper	1	(3)	---	< 0.0060	---	---	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	---	---	---	---	---	---	---	---	---	---	0.082	---
Iron	1	(3)	---	0.2	---	---	0.075	0.037	0.15	0.041	<0.020	0.0065 J	< 0.020	0.21	---	---	---	---	---	---	---	---	---	---	28	---
Lead	0.015	(2)	---	< 0.0050	---	---	0.0086	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	---	---	---	---	---	---	---	---	---	---	< 0.0050	---
Magnesium	-		---	14	---	---	12	14	18	13	52	54	56	54	---	---	---	---	---	---	---	---	---	---	50	---
Manganese	0.2	(3)	---	1.6	---	---	2.5	2.4	0.95	0.77	0.48	0.57	0.61	0.41	---	---	---	---	---	---	---	---	---	---	2.8	---
Potassium	-		---	1.9	---	---	1.5	1.7	1.8	1.7	4.1	4.6	5	5.3	---	---	---	---	---	---	---	---	---	---	4.4	---
Selenium	0.05	(3)	---	< 0.050	---	---	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	---	---	---	---	---	---	---	---	---	---	< 0.050	---
Silver	0.05	(3)	---	< 0.0050	---	---	< 0.0050	< 0.0050	< 0.0050	< 0.0050	0.011	< 0.0050	< 0.0050	< 0.0050	---	---	---	---	---	---	---	---	---	---	< 0.0050	---
Sodium	-		---	41	---	---	37	40	51	47	770	770	780	800	---	---	---	---	---	---	---	---	---	---	460	---
Uranium	0.03	(3)	---	< 0.10	---	---	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	---	---	---	---	---	---	---	---	---	---	< 0.10	---
Zinc	10	(3)	---	0.021	---	---	< 0.020	0.016 J	0.031	< 0.020	<0.020	0.026	0.025	0.028	---	---	---	---	---	---	---	---	---	---	0.55	---
Total Petroleum Hydrocarbons (mg/L):																										
Diesel Range Organics	0.0398	(6)	---	< 0.20	---	---	< 0.40	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.20	---	---	---	---	---	---	---	---	---	---	93	---
Gasoline Range Organics	-	-	---	< 0.050	---	---	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	---	---	---	---	---	---	---	---	---	---	29	---
Motor Oil Range Organics	0.0398	(6)	---	< 2.5	---	---	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	---	---	---	---	---	---	---	---	---	---	< 25	---

Notes:

(1) EPA - Regional Screening Levels (June 2017) -Tap Water

(2) EPA - Regional Screening Levels (June 2017) - MCL

(3) NMED WQCC standards - Title 20 Chapter 6, Part 2, - 20.6.2.3101 Standards for Ground Water of 10,000 mg/l TDS Concentration or less

(4) NMED Tap Water Screening Level - Risk Assessment Guidance for Site Investigations and Remediation (March 2017)

(5) EPA Screening Level - Tap Water x 10 for carcinogenic compounds

(6) NMED groundwater screening level for unknown oil

-	= No screening level available
*	= Laboratory analyzed for combined Nitrate (As N) + Nitrite (As N) to meet hold time
---	= Analysis not required and/or well contains separate phase
	= Analytical result exceeds the respective screening level.
1	= 6/27/13 modification on FWGWM Plan to remove MW-8 and replace with MW-52.
**	= Columns hidden when there are 4 or more consecutive years recorded that analysis was not required and/or the well contained separate phase

TABLE 6
RCRA Wells Analytical Summary
2018 Groundwater Remediation and Monitoring Annual Report

	Screening Levels	Source	MW-57				**MW-58				MW-59				**MW-60				**MW-61				MW-62				MW-63			
			Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15
Volatile Organic Compounds (ug/L)																													
1,1,1,2-Tetrachloroethane	5.74	(4)	---	---	< 10	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	60	(3)	---	---	< 10	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	10	(3)	---	---	< 20	---	---	---	---	---	---	< 2.0	< 2.0	< 2.0	---	< 2.0	---	---	---	---	---	---	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,1,2-Trichloroethane	5	(2)	---	---	< 10	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	25	(3)	---	---	< 10	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	5	(3)	---	---	< 10	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	-		---	---	< 10	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	-		---	---	< 10	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichloropropane	0.01	(4)	---	---	< 20	---	---	---	---	---	---	< 2.0	< 2.0	< 2.0	---	< 2.0	---	---	---	---	---	---	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,2,4-Trichlorobenzene	70	(2)	---	---	< 10	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	15	(1)	---	---	**37**	---	---	---	---	---	---	**0.35 J**	< 1.0	< 1.0	---	**0.24 J**	---	---	---	---	---	---	**0.28 J**	< 1.0	< 1.0	< 1.0	< 1.0	**0.13 J**	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	0.2	(2)	---	---	< 20	---	---	---	---	---	---	< 2.0	< 2.0	< 2.0	---	< 2.0	---	---	---	---	---	---	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
1,2-Dibromoethane (EDB)	0.05	(2)	---	---	< 10	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	600	(2)	---	---	< 10	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane (EDC)	5	(2)	---	---	< 10	---	---	---	---	---	---	**38**	**25**	**18**	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	**0.41 J**	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	5	(2)	---	---	< 10	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	12	(1)	---	---	**16**	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	-		---	---	< 10	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	370	(1)	---	---	< 10	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	75	(2)	---	---	< 10	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1-Methylnaphthalene	11	(5)	---	---	**100**	---	---	---	---	---	---	< 4.0	< 4.0	< 4.0	---	**0.51 J**	---	---	---	---	---	---	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	**0.35 J**	< 4.0	< 4.0
2,2-Dichloropropane	-		---	---	< 20	---	---	---	---	---	---	< 2.0	< 2.0	< 2.0	---	< 2.0	---	---	---	---	---	---	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
2-Butanone	5560	(4)	---	---	< 100	---	---	---	---	---	---	< 10	< 10	< 10	---	< 10	---	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
2-Chlorotoluene	240	(1)	---	---	< 10	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Hexanone	-		---	---	< 100	---	---	---	---	---	---	< 10	< 10	< 10	---	< 10	---	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
2-Methylnaphthalene	36	(1)	---	---	**95**	---	---	---	---	---	---	< 4.0	< 4.0	< 4.0	---	**0.32 J**	---	---	---	---	---	---	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	**0.37 J**	< 4.0	< 4.0
4-Chlorotoluene	250	(1)	---	---	< 10	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Isopropyltoluene	-		---	---	< 10	---	---	---	---	---	---	**0.84 J**	**1.5**	< 1.0	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Methyl-2-pentanone	-		---	---	< 100	---	---	---	---	---	---	< 10	< 10	< 10	---	< 10	---	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acetone	14100	(4)	---	---	< 100	---	---	---	---	---	---	**4.9 J**	< 10	< 10	---	< 10	---	---	---	---	---	---	< 10	< 10	< 10	< 10	**12**	**2.7 J**	< 10	< 10
Benzene	5	(2)	---	---	**2900**	---	---	---	---	---	**23**	**24**	**7.7**	**7.3**	---	**0.30 J**	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	62	(1)	---	---	< 10	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	1.34	(4)	---	---	< 10	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromoform	33	(5)	---	---	< 10	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	7.54	(4)	---	---	< 30	---	---	---	---	---	---	< 3.0	< 3.0	< 3.0	---	< 3.0	---	---	---	---	---	---	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Carbon disulfide	810	(4)	---	---	< 100	---	---	---	---	---	---	< 10	< 10	< 10	---	< 10	---	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Carbon Tetrachloride	5	(2)	---	---	< 10	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	100	(2)	---	---	< 10	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	20900	(4)	---	---	< 20	---	---	---	---	---	---	< 2.0	< 2.0	< 2.0	---	< 2.0	---	---	---	---	---	---	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroform	100	(3)	---	---	< 10	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane	20.3	(4)	---	---	< 30	---	---	---	---	---	---	< 3.0	< 3.0	< 3.0	---	< 3.0	---	---	---	---	---	---	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
cis-1,2-DCE	70	(2)	---	---	< 10	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,3-Dichloropropene	4.7	(4)	---	---	< 10	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	1.68	(4)	---	---	< 10	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	8.3	(1)	---	---	< 10	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dichlorodifluoromethane	197	(4)	---	---	< 10	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	700	(2)	---	---	**270**	---	---	---	---	---	**76**	**40**	**65**	**29**	---	**0.14 J**	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	1.39	(4)	---	---	< 10	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	447	(4)	---	---	**40**	---	---	---	---	---	---	**8.4**	**12**	**5**	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methyl tert-butyl ether (MTBE)	143	(4)	---	---	**33**	---	---	---	---	---	**1400**	**1900**	**1200**	**1400**	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	**2.9**	**0.97 J**	**1.3**	**4**
Methylene Chloride	5	(2)	---	---	< 30	---	---	---	---	---	---	< 3.0	< 3.0	< 3.0	---	< 3.0	---	---	---	---	---	---	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Naphthalene	1.65	(4)	---	---	**160**	---	---	---	---	---	---	**0.53 J**	**2.8**	< 2.0	---	< 2.0	---	---	---	---	---	---	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
n-Butylbenzene	-		---	---	< 30	---	---	---	---	---	---	**2.3 J**	< 3.0	< 3.0	---	< 3.0	---	---	---	---	---	---	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
n-Propylbenzene	-		---	---	**53**	---	---	---	---	---	---	**7.8**	**12**	**4.4**	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
sec-Butylbenzene	-		---	---	< 10	---	---	---	---	---	---	**4.9**	**5.4**	**4.5**	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	100	(2)	---	---	< 10	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	-		---	---	< 10	---	---	---	---	---	---	**0.56 J**	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene (PCE)	5	(2)	---	---	< 10	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	750	(3)	---	---	< 10	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-DCE	100	(2)	---	---	< 10	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,3-Dichloropropene	4.71	(4)	---	---	< 10	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene (TCE)	5	(2)	---	---	< 10	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	1136	(4)	---	---	< 10	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl chloride	1	(3)	---	---	< 10	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	---	---	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Xylenes, Total	620	(3)	---	---	**57**	---	---	---	---	---	< 1.5	< 1.5	< 1.5	< 1.5	---	< 1.5	---	---	---	---	---	---	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5

TABLE 6
RCRA Wells Analytical Summary
2018 Groundwater Remediation and Monitoring Annual Report

	Screening Levels	Source	MW-57				**MW-58				MW-59				**MW-60				**MW-61				MW-62				MW-63			
			Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15
Semi-Volatile Organic Compounds (ug/L):																														
1,2,4-Trichlorobenzene	70	(2)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
1,2-Dichlorobenzene	600	(2)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
1,3-Dichlorobenzene	-		---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
1,4-Dichlorobenzene	75	(2)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
1-Methylnaphthalene	11	(5)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
2,4,5-Trichlorophenol	1170	(4)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
2,4,6-Trichlorophenol	11.9	(4)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
2,4-Dichlorophenol	45.3	(4)	---	---	< 100	---	---	---	---	---	< 20	< 100	< 20	---	---	< 20	---	---	---	---	---	---	---	< 20	< 20	---	---	< 20	< 20	---
2,4-Dimethylphenol	354	(4)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
2,4-Dinitrophenol	38.7	(4)	---	---	< 100	---	---	---	---	---	< 20	< 100	< 20	---	---	< 20	---	---	---	---	---	---	---	< 20	< 20	---	---	< 20	< 20	---
2,4-Dinitrotoluene	2.37	(4)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
2,6-Dinitrotoluene	0.485	(4)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
2-Chloronaphthalene	733	(4)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
2-Chlorophenol	91	(4)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
2-Methylnaphthalene	36	(1)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
2-Methylphenol	930	(1)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
2-Nitroaniline	190	(1)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
2-Nitrophenol	-		---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
3,3´-Dichlorobenzidine	1.25	(4)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
3+4-Methylphenol	930	(1)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
3-Nitroaniline	-		---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
4,6-Dinitro-2-methylphenol	1.52	(4)	---	---	< 100	---	---	---	---	---	< 20	< 100	< 20	---	---	< 20	---	---	---	---	---	---	---	< 20	< 20	---	---	< 20	< 20	---
4-Bromophenyl phenyl ether	-		---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
4-Chloro-3-methylphenol	-		---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
4-Chloroaniline	3.7	(5)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
4-Chlorophenyl phenyl ether	-		---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
4-Nitroaniline	38	(5)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
4-Nitrophenol	-		---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
Acenaphthene	535	(4)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
Acenaphthylene	-		---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
Aniline	130	(5)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
Anthracene	1720	(4)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
Azobenzene	1.2	(5)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
Benzo(a)anthracene	0.12	(4)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
Benzo(a)pyrene	0.2	(2)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
Benzo(b)fluoranthene	0.343	(4)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
Benzo(g,h,i)perylene	-		---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
Benzo(k)fluoranthene	3.43	(4)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
Benzoic acid	75000	(1)	---	---	< 100	---	---	---	---	---	< 20	**36 J**	< 20	---	---	**10 J**	---	---	---	---	---	---	---	**11 J**	< 20	---	---	**18 J**	< 20	---
Benzyl alcohol	2000	(1)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
Bis(2-chloroethoxy)methane	59	(1)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
Bis(2-chloroethyl)ether	0.137	(4)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
Bis(2-chloroisopropyl)ether	9.81	(4)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
Bis(2-ethylhexyl)phthalate	6	(2)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	**4.9 J**	< 10	---
Butyl benzyl phthalate	160	(5)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
Carbazole	-		---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
Chrysene	34.3	(4)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
Dibenz(a,h)anthracene	0.0343	(4)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
Dibenzofuran	-		---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
Diethyl phthalate	14800	(4)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
Dimethyl phthalate	-		---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
Di-n-butyl phthalate	885	(4)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
Di-n-octyl phthalate	-		---	---	**83**	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
Fluoranthene	802	(4)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
Fluorene	288	(4)	---	---	**76**	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
Hexachlorobenzene	0.0976	(4)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
Hexachlorobutadiene	1.387	(4)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
Hexachlorocyclopentadiene	50	(4)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
Hexachloroethane	3.28	(4)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
Indeno(1,2,3-cd)pyrene	0.343	(4)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
Isophorone	781	(4)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---

TABLE 6
RCRA Wells Analytical Summary
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	Screening Levels	Source	MW-57				**MW-58				MW-59				**MW-60				**MW-61				MW-62				MW-63			
			Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15
Naphthalene	1.65	(4)	---	---	240	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
Nitrobenzene	1.4	(4)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
N-Nitrosodimethylamine	0.0017	(4)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
N-Nitrosodi-n-propylamine	0.11	(5)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
N-Nitrosodiphenylamine	0.0049	(4)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
Pentachlorophenol	170	(4)	---	---	< 100	---	---	---	---	---	< 20	< 100	< 20	---	---	< 20	---	---	---	---	---	---	---	< 20	< 20	---	---	< 20	< 20	---
Phenanthrene	1	(4)	---	---	150	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
Phenol	5760	(4)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
Pyrene	117	(4)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
Pyridine	20	(1)	---	---	< 50	---	---	---	---	---	< 10	< 50	< 10	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---	< 10	< 10	---
General Chemistry (mg/L):																														
Fluoride	1.6	(3)	---	---	< 0.50	---	---	---	---	---	< 0.10	< 0.50	< 0.10	< 0.10	---	< 0.10	---	---	---	---	---	---	<0.50	< 0.10	< 2.0	< 0.10	< 0.10	< 0.10	0.16	< 0.10
Chloride	250	(3)	---	---	340	---	---	---	---	---	190	200	190	240	---	190	---	---	---	---	---	---	11	13	14	14	92	110	100	270
Nitrite	1	(2)	---	---	< 0.50	---	---	---	---	---	<1.0	< 0.50	< 0.10	< 0.10	---	< 0.10	---	---	---	---	---	---	0.068 J	0.016 J	< 1.0	< 0.10	0.057	0.13	< 0.10	< 0.10
Bromide	-		---	---	2.8	---	---	---	---	---	3.1	3.4	< 0.10	1.2	---	3.8	---	---	---	---	---	---	0.22	0.071 J	< 0.10	< 0.10	1.2	1.8	1.5	4
Nitrate	10	(3)	---	---	< 0.50	---	---	---	---	---	<1.0	0.26 J	0.6	0.28	---	26	---	---	---	---	---	---	0.078 J	0.094 J	< 1.0	< 0.10	32	35	39	78
Phosphorus	-		---	---	3.1	---	---	---	---	---	< 0.50	< 2.5	< 0.50	< 0.50	---	< 0.50	---	---	---	---	---	---	6.7 J	< 10	< 10	< 10	5.3 J	< 0.50	< 0.50	< 10
Sulfate	600	(3)	---	---	< 2.5	---	---	---	---	---	180	170	200	780	---	1300	---	---	---	---	---	---	3600	3700	4000	4000	1200	1300	1200	1700
Carbon Dioxide (CO_2)	-		---	---	940	---	---	---	---	---	1000	1000	1000	940	---	720	---	---	---	---	---	---	600 H	580	500	520	610	580	470	480
Alkalinity ($CaCO_3$)	-		---	---	981.8	---	---	---	---	---	1050	1105	1094	1035	---	786.2	---	---	---	---	---	---	622.9	626.3	550	573.9	616.5	597	500.7	522.5
Bicarbonate ($CaCO_3$)	-		---	---	981.8	---	---	---	---	---	1050	1105	1094	1035	---	786.2	---	---	---	---	---	---	622.9	626.3	550	573.9	616.5	597	500.7	522.5
Total Metals (mg/L):																														
Arsenic	0.01	(2)	---	---	< 0.020	---	---	---	---	---	< 0.020	< 0.050	< 0.020	0.022	---	< 0.050	---	---	---	---	---	---	< 0.020	< 0.050	< 0.020	< 0.020	< 0.020	< 0.050	< 0.020	< 0.020
Barium	2.0	(2)	---	---	2.1	---	---	---	---	---	0.12	0.11	0.17	0.21	---	0.033	---	---	---	---	---	---	0.030	0.033	0.33	< 0.020	0.12	0.019 J	0.28	< 0.020
Cadmium	0.005	(2)	---	---	< 0.0020	---	---	---	---	---	< 0.0020	< 0.0020	< 0.0020	< 0.0020	---	< 0.0020	---	---	---	---	---	---	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020
Chromium	0.05	(3)	---	---	< 0.0060	---	---	---	---	---	< 0.0060	< 0.0060	0.0062	< 0.0060	---	0.0031 J	---	---	---	---	---	---	< 0.0060	< 0.0060	0.0071	< 0.0060	0.0048 J	< 0.0060	0.016	< 0.0060
Lead	0.015	(2)	---	---	< 0.0050	---	---	---	---	---	< 0.0050	< 0.0050	< 0.0050	< 0.0050	---	< 0.0050	---	---	---	---	---	---	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Selenium	0.05	(3)	---	---	< 0.050	---	---	---	---	---	< 0.050	< 0.050	< 0.050	< 0.050	---	< 0.050	---	---	---	---	---	---	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Silver	0.05	(3)	---	---	< 0.0050	---	---	---	---	---	< 0.0050	< 0.0050	< 0.0050	< 0.0050	---	< 0.0050	---	---	---	---	---	---	0.013	< 0.0050	< 0.0050	< 0.0050	0.0064	< 0.0050	< 0.0050	< 0.0050
Mercury	0.002	(3)	---	---	< 0.00020	---	---	---	---	---	< 0.00020	< 0.00020	< 0.00020	< 0.00020	---	0.000054 J	---	---	---	---	---	---	0.000066 J	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020
Dissolved Metals (mg/L):																														
Arsenic	0.01	(2)	---	---	< 0.020	---	---	---	---	---	<0.020	0.032	< 0.020	< 0.020	---	0.054	---	---	---	---	---	---	<0.020	0.046	< 0.020	< 0.020	<0.020	0.034	< 0.020	< 0.020
Barium	1.0	(3)	---	---	1.9	---	---	---	---	---	0.073	0.083	0.076	0.055	---	0.023	---	---	---	---	---	---	0.011 J	0.01 J	< 0.020	< 0.020	0.011	< 0.020	0.023	< 0.020
Cadmium	0.005	(2)	---	---	< 0.0020	---	---	---	---	---	< 0.0020	< 0.0020	< 0.0020	< 0.0020	---	< 0.0020	---	---	---	---	---	---	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020
Calcium	-		---	---	120	---	---	---	---	---	170	160	200	250	---	230	---	---	---	---	---	---	450	450	450	470	330	310	320	470
Chromium	0.05	(3)	---	---	< 0.0060	---	---	---	---	---	< 0.0060	< 0.0060	< 0.0060	< 0.0060	---	< 0.0060	---	---	---	---	---	---	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060
Copper	1	(3)	---	---	< 0.0060	---	---	---	---	---	< 0.0060	< 0.0060	< 0.0060	< 0.0060	---	0.0027 J	---	---	---	---	---	---	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060
Iron	1	(3)	---	---	2.6	---	---	---	---	---	7.5	6.9	5.2	4.3	---	0.0048 J	---	---	---	---	---	---	0.015 J	0.0046 J	1.3	0.15	0.054	< 0.020	3.9	< 0.020
Lead	0.015	(2)	---	---	< 0.0050	---	---	---	---	---	0.0090	< 0.0050	< 0.0050	< 0.0050	---	< 0.0050	---	---	---	---	---	---	< 0.0050	< 0.0050	< 0.0050	< 0.0050	0.0059	< 0.0050	< 0.0050	< 0.0050
Magnesium	-		---	---	44	---	---	---	---	---	50	49	56	69	---	88	---	---	---	---	---	---	37	38	38	38	110	110	99	130
Manganese	0.2	(3)	---	---	3.3	---	---	---	---	---	1.5	1.8	1.9	1.9	---	0.0011 J	---	---	---	---	---	---	1.5	1.8	1.2	1.4	0.48	0.5	0.73	0.81
Potassium	-		---	---	4.1	---	---	---	---	---	3	2.8	3.7	3.6	---	4	---	---	---	---	---	---	9	9.1	10	9.5	3.7	3.7	4.1	4.6
Selenium	0.05	(3)	---	---	< 0.0050	---	---	---	---	---	0.11	< 0.050	< 0.050	< 0.050	---	< 0.050	---	---	---	---	---	---	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Silver	0.05	(3)	---	---	< 0.050	---	---	---	---	---	< 0.0050	< 0.0050	< 0.0050	< 0.0050	---	< 0.0050	---	---	---	---	---	---	0.012	< 0.0050	< 0.0050	< 0.0050	0.0088	< 0.0050	< 0.0050	< 0.0050
Sodium	-		---	---	410	---	---	---	---	---	430	390	480	470	---	660	---	---	---	---	---	---	1400	1400	1600	1500	380	460	420	580
Uranium	0.03	(3)	---	---	< 0.10	---	---	---	---	---	< 0.10	< 0.10	< 0.10	< 0.10	---	< 0.10	---	---	---	---	---	---	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Zinc	10	(3)	---	---	0.081	---	---	---	---	---	<0.020	0.022	0.021	0.036	---	0.036	---	---	---	---	---	---	<0.020	0.02	0.051	0.028	< 0.020	0.02	0.1	0.03
Total Petroleum Hydrocarbons (mg/L):																														
Diesel Range Organics	0.0398	(6)	---	---	17	---	---	---	---	---	<0.40	0.75	0.85	0.32	---	< 0.20	---	---	---	---	---	---	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Gasoline Range Organics	-		---	---	520	---	---	---	---	---	2.3	1.0	1.8	1.1	---	< 0.050	---	---	---	---	---	---	0.023 J	< 0.050	< 0.050	< 0.050	0.034	< 0.050	< 0.050	< 0.050
Motor Oil Range Organics	0.0398	(6)	---	---	< 250	---	---	---	---	---	< 2.5	< 2.5	< 2.5	< 2.5	---	< 2.5	---	---	---	---	---	---	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5

Notes:
(1) EPA - Regional Screening Levels (June 2017) -Tap Water
(2) EPA - Regional Screening Levels (June 2017) - MCL
(3) NMED WQCC standards - Title 20 Chapter 6, Part 2, - 20.6.2.3101 Standards for Ground Water of 10,000 mg/l TDS Concentration or less
(4) NMED Tap Water Screening Level - Risk Assessment Guidance for Site Investigations and Remediation (March 2017)
(5) EPA Screening Level - Tap Water x 10 for carcinogenic compounds
(6) NMED groundwater screening level for unknown oil

-	= No screening level available
*	= Laboratory analyzed for combined Nitrate (As N) + Nitrite (As N) to meet hold time
---	= Analysis not required and/or well contains separate phase
	= Analytical result exceeds the respective screening level.
1	= 6/27/13 modification on FWGWM Plan to remove MW-8 and replace with MW-52.
**	= Columns hidden when there are 4 or more consecutive years recorded that analysis was not required and/or the well contained separate phase

TABLE 6
RCRA Wells Analytical Summary
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	Screening Levels	Source	MW-64				MW-65				**MW-66				MW-67				MW-68				**MW-69				MW-70			
			Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15
Volatile Organic Compounds (ug/L)																														
1,1,1,2-Tetrachloroethane	5.74	(4)	< 1.0	< 1.0	< 1.0	< 2.0	< 10	< 20	< 20	< 20	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
1,1,1-Trichloroethane	60	(3)	< 1.0	< 1.0	< 1.0	< 2.0	< 10	< 20	< 20	< 20	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
1,1,2,2-Tetrachloroethane	10	(3)	< 2.0	< 2.0	< 2.0	< 4.0	< 20	< 40	< 40	< 40	---	---	---	---	---	< 2.0	< 2.0	< 2.0	---	< 2.0	< 2.0	< 2.0	---	---	---	---	< 2.0	< 2.0	---	< 2.0
1,1,2-Trichloroethane	5	(2)	< 1.0	< 1.0	< 1.0	< 2.0	< 10	< 20	< 20	< 20	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
1,1-Dichloroethane	25	(3)	< 1.0	< 1.0	< 1.0	< 2.0	< 10	< 20	< 20	< 20	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
1,1-Dichloroethene	5	(3)	< 1.0	< 1.0	< 1.0	< 2.0	< 10	< 20	< 20	< 20	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
1,1-Dichloropropene	-		< 1.0	< 1.0	< 1.0	< 2.0	< 10	< 20	< 20	< 20	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
1,2,3-Trichlorobenzene	-		< 1.0	< 1.0	< 1.0	< 2.0	< 10	< 20	< 20	< 20	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
1,2,3-Trichloropropane	0.01	(4)	< 2.0	< 2.0	< 2.0	< 4.0	< 20	< 40	< 40	< 40	---	---	---	---	---	< 2.0	< 2.0	< 2.0	---	< 2.0	< 2.0	< 2.0	---	---	---	---	< 2.0	< 2.0	---	< 2.0
1,2,4-Trichlorobenzene	70	(2)	< 1.0	< 1.0	< 1.0	< 2.0	< 10	< 20	< 20	< 20	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
1,2,4-Trimethylbenzene	15	(1)	< 1.0	< 1.0	< 1.0	< 2.0	**590**	**520**	**480**	**860**	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
1,2-Dibromo-3-chloropropane	0.2	(2)	< 2.0	< 2.0	< 2.0	< 4.0	< 20	< 40	< 40	< 40	---	---	---	---	---	< 2.0	< 2.0	< 2.0	---	< 2.0	< 2.0	< 2.0	---	---	---	---	< 2.0	< 2.0	---	< 2.0
1,2-Dibromoethane (EDB)	0.05	(2)	< 1.0	< 1.0	< 1.0	< 2.0	< 10	< 20	< 20	< 20	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
1,2-Dichlorobenzene	600	(2)	< 1.0	< 1.0	< 1.0	< 2.0	< 10	< 20	< 20	< 20	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
1,2-Dichloroethane (EDC)	5	(2)	< 1.0	< 1.0	< 1.0	< 2.0	**170**	**150**	**88**	**200**	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
1,2-Dichloropropane	5	(2)	< 1.0	< 1.0	< 1.0	< 2.0	< 10	< 20	< 20	< 20	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
1,3,5-Trimethylbenzene	12	(1)	< 1.0	< 1.0	< 1.0	< 2.0	**41**	**3.8 J**	< 20	< 20	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
1,3-Dichlorobenzene	-		< 1.0	< 1.0	< 1.0	< 2.0	< 10	< 20	< 20	< 20	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
1,3-Dichloropropane	370	(1)	< 1.0	< 1.0	< 1.0	< 2.0	< 10	< 20	< 20	< 20	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
1,4-Dichlorobenzene	75	(2)	< 1.0	< 1.0	< 1.0	< 2.0	< 10	< 20	< 20	< 20	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
1-Methylnaphthalene	11	(5)	< 4.0	< 4.0	< 4.0	< 8.0	**110**	**150**	**130**	**120**	---	---	---	---	---	< 4.0	< 4.0	< 4.0	---	< 4.0	< 4.0	< 4.0	---	---	---	---	< 4.0	< 4.0	---	< 4.0
2,2-Dichloropropane	-		< 2.0	< 2.0	< 2.0	< 4.0	< 20	< 40	< 40	< 40	---	---	---	---	---	< 2.0	< 2.0	< 2.0	---	< 2.0	< 2.0	< 2.0	---	---	---	---	< 2.0	< 2.0	---	< 2.0
2-Butanone	5560	(4)	< 10	< 10	< 10	< 20	< 100	< 200	< 200	< 200	---	---	---	---	---	< 10	< 10	< 10	---	< 10	< 10	< 10	---	---	---	---	< 10	< 10	---	< 10
2-Chlorotoluene	240	(1)	< 1.0	< 1.0	< 1.0	< 2.0	< 10	< 20	< 20	< 20	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
2-Hexanone	-		< 10	< 10	< 10	< 20	< 100	< 200	< 200	< 200	---	---	---	---	---	< 10	< 10	< 10	---	< 10	< 10	< 10	---	---	---	---	< 10	< 10	---	< 10
2-Methylnaphthalene	36	(1)	< 4.0	< 4.0	< 4.0	< 8.0	**12 J**	**6.8 J**	< 80	< 80	---	---	---	---	---	< 4.0	< 4.0	< 4.0	---	< 4.0	< 4.0	< 4.0	---	---	---	---	< 4.0	< 4.0	---	< 4.0
4-Chlorotoluene	250	(1)	< 1.0	< 1.0	< 1.0	< 2.0	< 10	< 20	< 20	< 20	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
4-Isopropyltoluene	-		< 1.0	< 1.0	< 1.0	< 2.0	**12**	**11 J**	< 20	< 20	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
4-Methyl-2-pentanone	-		< 10	< 10	< 10	< 20	< 100	< 200	< 200	< 200	---	---	---	---	---	< 10	< 10	< 10	---	< 10	< 10	< 10	---	---	---	---	< 10	< 10	---	< 10
Acetone	14100	(4)	< 10	< 10	< 10	< 20	**110**	< 200	< 200	< 200	---	---	---	---	---	**2.9 J**	< 10	< 10	---	**1.4 J**	< 10	< 10	---	---	---	---	< 10	**2.7 J**	---	< 10
Benzene	5	(2)	< 1.0	< 1.0	< 1.0	< 2.0	**4500**	**5800**	**5700**	**7800**	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
Bromobenzene	62	(1)	< 1.0	< 1.0	< 1.0	< 2.0	< 10	< 20	< 20	< 20	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
Bromodichloromethane	1.34	(4)	< 1.0	< 1.0	< 1.0	< 2.0	< 10	< 20	< 20	< 20	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
Bromoform	33	(5)	< 1.0	< 1.0	< 1.0	< 2.0	< 10	< 20	< 20	< 20	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
Bromomethane	7.54	(4)	< 3.0	< 3.0	< 3.0	< 6.0	< 30	< 60	< 60	< 60	---	---	---	---	---	< 3.0	< 3.0	< 3.0	---	< 3.0	< 3.0	< 3.0	---	---	---	---	< 3.0	< 3.0	---	< 3.0
Carbon disulfide	810	(4)	< 10	< 10	< 10	< 20	< 100	< 200	< 200	< 200	---	---	---	---	---	< 10	< 10	< 10	---	< 10	< 10	< 10	---	---	---	---	< 10	< 10	---	< 10
Carbon Tetrachloride	5	(2)	< 1.0	< 1.0	< 1.0	< 2.0	< 10	< 20	< 20	< 20	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
Chlorobenzene	100	(2)	< 1.0	< 1.0	< 1.0	< 2.0	< 10	< 20	< 20	< 20	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
Chloroethane	20900	(4)	< 2.0	< 2.0	< 2.0	< 4.0	< 20	< 40	< 40	< 40	---	---	---	---	---	< 2.0	< 2.0	< 2.0	---	< 2.0	< 2.0	< 2.0	---	---	---	---	< 2.0	< 2.0	---	< 2.0
Chloroform	100	(3)	< 1.0	< 1.0	< 1.0	< 2.0	< 10	< 20	< 20	< 20	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
Chloromethane	20.3	(4)	< 3.0	< 3.0	< 3.0	< 6.0	< 30	< 60	< 60	< 60	---	---	---	---	---	< 3.0	< 3.0	< 3.0	---	< 3.0	< 3.0	< 3.0	---	---	---	---	< 3.0	< 3.0	---	< 3.0
cis-1,2-DCE	70	(2)	< 1.0	< 1.0	< 1.0	< 2.0	< 10	< 20	< 20	< 20	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
cis-1,3-Dichloropropene	4.7	(4)	< 1.0	< 1.0	< 1.0	< 2.0	< 10	< 20	< 20	< 20	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
Dibromochloromethane	1.68	(4)	< 1.0	< 1.0	< 1.0	< 2.0	< 10	< 20	< 20	< 20	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
Dibromomethane	8.3	(1)	< 1.0	< 1.0	< 1.0	< 2.0	< 10	< 20	< 20	< 20	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
Dichlorodifluoromethane	197	(4)	< 1.0	< 1.0	< 1.0	< 2.0	< 10	< 20	< 20	< 20	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
Ethylbenzene	700	(2)	< 1.0	< 1.0	< 1.0	< 2.0	**1800**	**1700**	**1200**	**1900**	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
Hexachlorobutadiene	1.39	(4)	< 1.0	< 1.0	< 1.0	< 2.0	< 10	< 20	< 20	< 20	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
Isopropylbenzene	447	(4)	< 1.0	< 1.0	< 1.0	< 2.0	**91**	**86**	**72**	**88**	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
Methyl tert-butyl ether (MTBE)	143	(4)	< 1.0	< 1.0	< 1.0	< 2.0	**4600**	**1900**	**490**	**1400**	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	**0.40 J**	---	< 1.0
Methylene Chloride	5	(2)	< 3.0	< 3.0	< 3.0	< 6.0	< 30	< 60	< 60	< 60	---	---	---	---	---	< 3.0	< 3.0	< 3.0	---	< 3.0	< 3.0	< 3.0	---	---	---	---	< 3.0	< 3.0	---	< 3.0
Naphthalene	1.65	(4)	< 2.0	< 2.0	< 2.0	< 4.0	**51**	**27 J**	**46**	**210**	---	---	---	---	---	< 3.0	< 2.0	< 2.0	---	< 2.0	< 2.0	< 2.0	---	---	---	---	< 2.0	< 2.0	---	< 2.0
n-Butylbenzene	-		< 3.0	< 3.0	< 3.0	< 6.0	**10 J**	**6.4 J**	< 60	< 60	---	---	---	---	---	< 1.0	< 3.0	< 3.0	---	< 3.0	< 3.0	< 3.0	---	---	---	---	< 3.0	< 3.0	---	< 3.0
n-Propylbenzene	-		< 1.0	< 1.0	< 1.0	< 2.0	**300**	**270**	**220**	**250**	---	---	---	---	---	< 2.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
sec-Butylbenzene	-		< 1.0	< 1.0	< 1.0	< 2.0	**18**	**16 J**	< 20	< 20	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
Styrene	100	(2)	< 1.0	< 1.0	< 1.0	< 2.0	< 10	< 20	< 20	< 20	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
tert-Butylbenzene	-		< 1.0	< 1.0	< 1.0	< 2.0	< 10	< 20	< 20	< 20	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
Tetrachloroethene (PCE)	5	(2)	< 1.0	< 1.0	< 1.0	< 2.0	< 10	< 20	< 20	< 20	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
Toluene	750	(3)	< 1.0	< 1.0	< 1.0	< 2.0	**7.6 J**	< 20	< 20	< 20	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
trans-1,2-DCE	100	(2)	< 1.0	< 1.0	< 1.0	< 2.0	< 10	< 20	< 20	< 20	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
trans-1,3-Dichloropropene	4.71	(4)	< 1.0	< 1.0	< 1.0	< 2.0	< 10	< 20	< 20	< 20	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
Trichloroethene (TCE)	5	(2)	< 1.0	< 1.0	< 1.0	< 2.0	< 10	< 20	< 20	< 20	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
Trichlorofluoromethane	1136	(4)	< 1.0	< 1.0	< 1.0	< 2.0	< 10	< 20	< 20	< 20	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
Vinyl chloride	1	(3)	< 1.0	< 1.0	< 1.0	< 2.0	< 10	< 20	< 20	< 20	---	---	---	---	---	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	---	---	---	---	< 1.0	< 1.0	---	< 1.0
Xylenes, Total	620	(3)	< 1.5	< 1.5	< 1.5	< 3.0	**580**	**79**	**65**	**150**	---	---	---	---	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	---	---	---	---	< 1.5	< 1.5	---	< 1.5

TABLE 6
RCRA Wells Analytical Summary
2018 Groundwater Remediation and Monitoring Annual Report

	Screening Levels	Source	MW-64				MW-65				**MW-66				MW-67				MW-68				**MW-69				MW-70			
			Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15
Semi-Volatile Organic Compounds (ug/L):																														
1,2,4-Trichlorobenzene	70	(2)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
1,2-Dichlorobenzene	600	(2)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
1,3-Dichlorobenzene	-		---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
1,4-Dichlorobenzene	75	(2)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
1-Methylnaphthalene	11	(5)	---	< 10	< 10	---	**100**	**100**	**14**	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
2,4,5-Trichlorophenol	1170	(4)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
2,4,6-Trichlorophenol	11.9	(4)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
2,4-Dichlorophenol	45.3	(4)	---	< 20	< 20	---	< 20	< 100	< 20	---	---	---	---	---	---	---	< 20	---	---	---	< 20	---	---	---	---	---	---	---	< 20	< 20	---	---
2,4-Dimethylphenol	354	(4)	---	< 10	< 10	---	**21**	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
2,4-Dinitrophenol	38.7	(4)	---	< 20	< 20	---	< 20	< 100	< 20	---	---	---	---	---	---	---	< 20	---	---	---	< 20	---	---	---	---	---	---	---	< 20	< 20	---	---
2,4-Dinitrotoluene	2.37	(4)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
2,6-Dinitrotoluene	0.485	(4)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
2-Chloronaphthalene	733	(4)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
2-Chlorophenol	91	(4)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
2-Methylnaphthalene	36	(1)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
2-Methylphenol	930	(1)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
2-Nitroaniline	190	(1)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
2-Nitrophenol	-		---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
3,3´-Dichlorobenzidine	1.25	(4)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
3+4-Methylphenol	930	(1)	---	< 10	< 10	---	**10**	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
3-Nitroaniline	-		---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
4,6-Dinitro-2-methylphenol	1.52	(4)	---	< 20	< 20	---	< 20	< 100	< 20	---	---	---	---	---	---	---	< 20	---	---	---	< 20	---	---	---	---	---	---	---	< 20	< 20	---	---
4-Bromophenyl phenyl ether	-		---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
4-Chloro-3-methylphenol	-		---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
4-Chloroaniline	3.7	(5)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
4-Chlorophenyl phenyl ether	-		---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
4-Nitroaniline	38	(5)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
4-Nitrophenol	-		---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
Acenaphthene	535	(4)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
Acenaphthylene	-		---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
Aniline	130	(5)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
Anthracene	1720	(4)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
Azobenzene	1.2	(5)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
Benzo(a)anthracene	0.12	(4)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
Benzo(a)pyrene	0.2	(2)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
Benzo(b)fluoranthene	0.343	(4)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
Benzo(g,h,i)perylene	-		---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
Benzo(k)fluoranthene	3.43	(4)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
Benzoic acid	75000	(1)	---	**8.3 J**	< 20	---	< 20	**92 J**	< 20	---	---	---	---	---	---	---	< 20	---	---	---	< 20	---	---	---	---	---	---	---	**6.7 J**	**6.7 J**	---	---
Benzyl alcohol	2000	(1)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
Bis(2-chloroethoxy)methane	59	(1)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
Bis(2-chloroethyl)ether	0.137	(4)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
Bis(2-chloroisopropyl)ether	9.81	(4)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
Bis(2-ethylhexyl)phthalate	6	(2)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
Butyl benzyl phthalate	160	(5)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
Carbazole	-		---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
Chrysene	34.3	(4)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
Dibenz(a,h)anthracene	0.0343	(4)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
Dibenzofuran	-		---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
Diethyl phthalate	14800	(4)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
Dimethyl phthalate	-		---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
Di-n-butyl phthalate	885	(4)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
Di-n-octyl phthalate	-		---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
Fluoranthene	802	(4)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
Fluorene	288	(4)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
Hexachlorobenzene	0.0976	(4)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
Hexachlorobutadiene	1.387	(4)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
Hexachlorocyclopentadiene	50	(4)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
Hexachloroethane	3.28	(4)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
Indeno(1,2,3-cd)pyrene	0.343	(4)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
Isophorone	781	(4)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---

TABLE 6
RCRA Wells Analytical Summary
2018 Groundwater Remediation and Monitoring Annual Report

	Screening Levels	Source	MW-64				MW-65				**MW-66				MW-67				MW-68				**MW-69				MW-70			
			Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15	Aug-18	Aug-17	Aug-16	Aug-15
Naphthalene	1.65	(4)	---	< 10	< 10	---	21	19 J	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
Nitrobenzene	1.4	(4)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
N-Nitrosodimethylamine	0.0017	(4)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
N-Nitrosodi-n-propylamine	0.11	(5)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
N-Nitrosodiphenylamine	0.0049	(4)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
Pentachlorophenol	170	(4)	---	< 20	< 20	---	< 20	< 100	< 20	---	---	---	---	---	---	---	< 20	---	---	---	< 20	---	---	---	---	---	---	---	< 20	< 20	---	---
Phenanthrene	1	(4)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
Phenol	5760	(4)	---	< 10	< 10	---	13	22 J	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
Pyrene	117	(4)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
Pyridine	20	(1)	---	< 10	< 10	---	< 10	< 50	< 10	---	---	---	---	---	---	---	< 10	---	---	---	< 10	---	---	---	---	---	---	---	< 10	< 10	---	---
General Chemistry (mg/L):																																
Fluoride	1.6	(3)	<2.0	< 0.10	< 10	< 0.10	<0.50	< 0.10	< 0.50	< 0.50	---	---	---	---	0.62	0.87	< 0.10	0.62	0.27	0.26	0.41	0.35	---	---	---	---	<0.50	0.45 J	---	0.7
Chloride	250	(3)	840	790	860	940	200	230	220	210	---	---	---	---	14	12	12	14	60	52	38	42	---	---	---	---	280	330	---	420
Nitrite	1	(2)	< 2.0	< 2.0	< 10	< 2.0	<0.50	< 0.10	< 0.50	< 0.50	---	---	---	---	8.6	< 0.10	< 0.10	< 0.10	4.5	< 0.10	< 0.10	< 0.10	---	---	---	---	< 0.50	< 0.50	---	< 0.50
Bromide	-		2.5	3.5	5.1	3.4	5	0.99	4.2	4.5	---	---	---	---	0.16	0.15	0.16	0.13	0.23	0.22	0.21	0.23	---	---	---	---	1.6	1.7	---	2.4
Nitrate	10	(3)	52	55	58	40	0.21 J	0.035 J	< 0.50	< 0.50	---	---	---	---	8.6	13	9.9	13	4.5	7.6	5.6	7.6	---	---	---	---	0.23	< 0.50	---	< 0.50
Phosphorus	-		5.7 J	< 0.50	< 50	< 10	3	< 0.50	< 2.5	< 2.5	---	---	---	---	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	---	---	---	---	< 2.5	< 2.5	---	< 2.5
Sulfate	600	(3)	1500	1500	1500	1500	560	1400	1600	970	---	---	---	---	240	180	270	240	200	250	260	280	---	---	---	---	1900	1900	---	2400
Carbon Dioxide (CO_2)	-		270	260	260	260	1200	1100	860	1300	---	---	---	---	330	320	290	310	250	220	210	180	---	---	---	---	790	830	---	780
Alkalinity ($CaCO_3$)	-		275.2	276.3	279	287.7	1305	1177	946	1335	---	---	---	---	351.6	345.5	314.7	342.5	264.4	236.7	236.3	200.2	---	---	---	---	811.5	804.5	---	809.4
Bicarbonate ($CaCO_3$)	-		275.2	276.3	279	287.7	1305	1177	946	1335	---	---	---	---	351.6	345.5	314.7	342.5	264.4	236.7	236.3	200.2	---	---	---	---	811.5	804.5	---	809.4
Total Metals (mg/L):																																
Arsenic	0.01	(2)	<0.020	<0.010	< 0.020	< 0.020	<0.020	< 0.050	0.02	< 0.020	---	---	---	---	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.050	< 0.020	< 0.020	---	---	---	---	<0.020	< 0.25	---	< 0.020
Barium	2.0	(2)	0.29	0.12	0.095	0.077	0.061	0.058	0.11	0.21	---	---	---	---	0.081	0.05	0.23	0.12	0.038	0.053	0.28	0.038	---	---	---	---	0.23	0.19	---	0.023
Cadmium	0.005	(2)	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	---	---	---	---	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	---	---	---	---	< 0.0020	< 0.0020	---	< 0.0020
Chromium	0.05	(3)	0.0097	0.0050 J	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	---	---	---	---	< 0.0060	< 0.0060	0.0089	< 0.0060	< 0.0060	< 0.0060	0.012	< 0.0060	---	---	---	---	0.011	0.0086	---	< 0.0060
Lead	0.015	(2)	< 0.0050	< 0.0050	0.0088	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	---	---	---	---	< 0.0050	< 0.0050	0.005	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	---	---	---	---	< 0.0050	< 0.0050	---	< 0.0050
Selenium	0.05	(3)	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	---	---	---	---	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	---	---	---	---	< 0.050	< 0.050	---	< 0.050
Silver	0.05	(3)	< 0.0050	< 0.0050	< 0.0050	< 0.0050	0.0065	< 0.0050	< 0.0050	< 0.0050	---	---	---	---	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	---	---	---	---	0.0044 J	< 0.0050	---	< 0.0050
Mercury	0.002	(3)	0.00012J	< 0.00020	< 0.00020	< 0.00020	0.000075J	< 0.00020	< 0.00020	< 0.00020	---	---	---	---	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	---	---	---	---	0.00010 J	< 0.00020	---	< 0.00020
Dissolved Metals (mg/L):																																
Arsenic	0.01	(2)	<0.020	0.048	< 0.020	< 0.020	<0.020	0.049	< 0.020	< 0.020	---	---	---	---	< 0.020	0.022	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	---	---	---	---	<0.020	0.028	---	< 0.020
Barium	1.0	(3)	0.011 J	0.012 J	0.024	< 0.020	0.12	0.039	0.045	0.2	---	---	---	---	0.026	0.031	0.043	0.039	0.027	0.023	0.029	0.022	---	---	---	---	0.014 J	0.016 J	---	0.024
Cadmium	0.005	(2)	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	---	---	---	---	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	---	---	---	---	< 0.0020	< 0.0020	---	< 0.0020
Calcium	-		450	480	500	530	200	350	370	270	---	---	---	---	130	130	140	150	130	100	90	93	---	---	---	---	560	620	---	640
Chromium	0.05	(3)	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	---	---	---	---	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	---	---	---	---	< 0.0060	< 0.0060	---	< 0.0060
Copper	1	(3)	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	---	---	---	---	< 0.0060	0.0016 J	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	---	---	---	---	< 0.0060	< 0.0060	---	< 0.0060
Iron	1	(3)	0.057	0.025	1.8	< 0.020	5.3	7.1	6.7	7	---	---	---	---	< 0.020	< 0.020	0.29	< 0.020	< 0.020	< 0.020	0.25	< 0.020	---	---	---	---	9.6	25	---	8.5
Lead	0.015	(2)	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	0.0055	---	---	---	---	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	---	---	---	---	< 0.0050	< 0.0050	---	< 0.0050
Magnesium	-		66	73	78	72	95	120	110	97	---	---	---	---	27	27	28	31	27	25	21	24	---	---	---	---	110	130	---	180
Manganese	0.2	(3)	0.0015 J	0.0011 J	0.037	< 0.0020	1.5	3.2	2.7	1.8	---	---	---	---	0.16	0.14	0.4	0.38	0.0041	0.0028	0.06	0.0045	---	---	---	---	1.8	2.3	---	4.3
Potassium	-		4.5	4.7	5.5	5.1	3.6	3.8	4.1	3.6	---	---	---	---	2.8	3.8	3.4	3	2.8	3.0	2.7	2.6	---	---	---	---	4.0	3.5	---	4.2
Selenium	0.05	(3)	< 0.050	< 0.050	< 0.050	< 0.050	0.032	< 0.050	< 0.050	< 0.050	---	---	---	---	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	---	---	---	---	< 0.050	< 0.050	---	< 0.050
Silver	0.05	(3)	0.012	< 0.0050	< 0.0050	< 0.0050	0.0045	< 0.0050	< 0.0050	< 0.0050	---	---	---	---	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	---	---	---	---	0.015	< 0.0050	---	< 0.0050
Sodium	-		800	830	830	850	550	740	800	680	---	---	---	---	80	68	79	74	120	110	110	110	---	---	---	---	530	580	---	730
Uranium	0.03	(3)	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	---	---	---	---	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	---	---	---	---	< 0.10	< 0.10	---	< 0.10
Zinc	10	(3)	< 0.020	0.028	0.038	< 0.020	<0.020	0.12	< 0.020	0.022	---	---	---	---	< 0.020	0.023	< 0.020	0.025	<0.020	0.026	< 0.020	0.027	---	---	---	---	<0.020	0.024	---	0.028
Total Petroleum Hydrocarbons (mg/L):																																
Diesel Range Organics	0.0398	(6)	< 0.40	< 0.20	< 0.20	< 0.20	2.8	4.4	4.8	7.7	---	---	---	---	< 0.40	< 0.20	0.64	0.21	< 0.40	< 0.20	< 0.20	< 0.20	---	---	---	---	< 0.40	< 0.20	---	< 0.20
Gasoline Range Organics	-	-	0.024	< 0.050	< 0.050	< 0.10	29	23	20	19	---	---	---	---	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	---	---	---	---	0.034 J	< 0.050	---	< 0.050
Motor Oil Range Organics	0.0398	(6)	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	---	---	---	---	< 2.5	< 2.5	< 2.5	< 2.5	<2.5	<2.5	< 2.5	< 2.5	---	---	---	---	< 2.5	< 2.5	---	< 2.5

Notes:

(1) EPA - Regional Screening Levels (June 2017) -Tap Water
(2) EPA - Regional Screening Levels (June 2017) - MCL
(3) NMED WQCC standards - Title 20 Chapter 6, Part 2, - 20.6.2.3101 Standards for Ground Water of 10,000 mg/l TDS Concentration or less
(4) NMED Tap Water Screening Level - Risk Assessment Guidance for Site Investigations and Remediation (March 2017)
(5) EPA Screening Level - Tap Water x 10 for carcinogenic compounds
(6) NMED groundwater screening level for unknown oil

-	= No screening level available
*	= Laboratory analyzed for combined Nitrate (As N) + Nitrite (As N) to meet hold time
---	= Analysis not required and/or well contains separate phase
	= Analytical result exceeds the respective screening level.
1	= 6/27/13 modification on FWGWM Plan to remove MW-8 and replace with MW-52.
**	= Columns hidden when there are 4 or more consecutive years recorded that analysis was not required and/or the well contained separate phase

Table 7
Collection and Observation Wells Analytical Summary
2018 Groundwater Remediation and Monitoring Annual Report

Constituents			CW 0+60							
			Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15
Volatile Organic Compounds (mg/L)										
Benzene	0.005	(2)	**0.0007 J**	**0.0012**	< 1.0	< 0.001	<0.001	**0.0025**	**0.0012**	**0.0016**
Toluene	0.750	(3)	<0.001	<0.001	< 1.0	< 0.001	< 0.001	< 0.001	< 0.001	<0.001
Ethylbenzene	0.700	(2)	**0.0018**	**0.0037**	**0.0035**	**0.0031**	**0.0018**	**0.0023**	< 0.001	**0.0017**
Xylene	0.620	(3)	<0.0015	**0.0015**	< 1.5	< 0.0015	< 0.0015	< 0.0015	< 0.0015	<0.0015
MTBE	0.143	(4)	<0.001	<0.001	< 1.0	< 0.001	< 0.001	< 0.001	< 0.001	<0.001
Total Petroleum Hydrocarbons (mg/L):										
Diesel Range Organics	0.0398	(6)	**0.33 J**	**1.2**	**1.2**	**1.4**	**0.83**	**0.73**	**1.7**	**1.4**
Gasoline Range Organics	-	-	---	---	**3.2**	---	---	---	**0.51**	**2.7**
Motor Oil Range Organics	0.0398	(6)	<2.5	< 2.5	< 2.5	<2.5	< 2.5	< 2.5	< 2.5	< 2.5

CW 25+95							
Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15
< 0.001	< 0.001	< 0.001	< 0.001	**0.0071**	**0.0039**	**0.110**	**0.210**
< 0.001	< 0.001	< 0.001	< 0.001	<0.005	<0.001	< 0.005	<0.050
< 0.001	< 0.001	< 0.001	< 0.001	<0.005	<0.001	< 0.005	<0.050
< 0.0015	< 0.0015	< 0.0015	< 0.0015	<0.0075	<0.0015	< 0.0075	<0.075
0.00089 J	< 0.001	< 0.001	< 0.001	< 0.005	<0.001	< 0.005	<0.050
<0.40	<0.40	< 0.20	<0.20	<0.20	<0.20	**1.3**	<0.20
0.44	---	**0.18**	---	---	---	**1.7**	**0.88**
<2.5	<2.5	< 2.5	<2.5	< 2.5	< 2.5	**3.1**	< 2.5

Constituents			OW 0+60							
			Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15
Volatile Organic Compounds (mg/L)										
Benzene	0.005	(2)	---	---	---	**0.00007J**	< 0.001	---	< 0.001	<0.001
Toluene	0.750	(3)	---	---	---	**0.00043J**	< 0.001	---	< 0.001	< 0.001
Ethylbenzene	0.700	(2)	---	---	---	**0.00058J**	< 0.001	---	< 0.001	< 0.001
Xylene	0.620	(3)	---	---	---	**0.0025**	< 0.0015	---	< 0.0015	<0.0015
MTBE	0.143	(4)	---	---	---	< 0.001	< 0.001	---	< 0.001	< 0.001
Total Petroleum Hydrocarbons (mg/L):										
Diesel Range Organics	0.0398	(6)	---	---	---	**13**	**1.3**	---	**1.7**	**3.2**
Gasoline Range Organics	-	-	---	---	---	**2.1**	**0.7**	---	**0.38**	**0.3**
Motor Oil Range Organics	0.0398	(6)	---	---	---	< 5	< 2.5	---	< 2.5	< 2.5

OW 14+10							
Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15
---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---

Constituents			OW 1+50							
			Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15
Volatile Organic Compounds (mg/L)										
Benzene	0.005	(2)	---	---	---	< 0.001	< 0.001	<0.005	---	---
Toluene	0.750	(3)	---	---	---	< 0.001	< 0.001	<0.005	---	---
Ethylbenzene	0.700	(2)	---	---	---	< 0.001	< 0.001	<0.005	---	---
Xylene	0.620	(3)	---	---	---	**0.0025**	< 0.0015	<0.0075	---	---
MTBE	0.143	(4)	---	---	---	< 0.001	< 0.001	<0.005	---	---
Total Petroleum Hydrocarbons (mg/L):										
Diesel Range Organics	0.0398	(6)	---	---	---	**13**	**4.2**	**2.5**	---	---
Gasoline Range Organics	-	-	---	---	---	**2.1**	**2.9**	**3.2**	---	---
Motor Oil Range Organics	0.0398	(6)	---	---	---	< 5	< 2.5	<2.5	---	---

OW 16+60							
Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15
---	---	---	**0.000084J**	<0.010	<0.010	< 0.001	<0.00 5
---	---	---	< 0.001	<0.010	<0.010	< 0.001	<0.010
---	---	---	**0.0011**	<0.010	<0.010	**0.0017**	<0.010
---	---	---	**0.00048J**	<0.0 15	<0.0 15	< 0.0015	<0.0 15
---	---	---	**0.39**	**0.41**	**0.28**	**0.41**	**0.460**
---	---	---	**86**	**3.8**	**28.0**	**5.0**	**12**
---	---	---	**1.5**	**1.5**	**1.8**	**1.00**	**1.8**
---	---	---	<5	<2.5	<2.5	< 2.5	< 2.5

Table 7
Collection and Observation Wells Analytical Summary
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Constituents			OW 3+85							
			Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15
Volatile Organic Compounds (mg/L)										
Benzene	0.005	(2)	---	< 0.001	---	< 0.001	<0.010	<0.010	< 0.001	---
Toluene	0.750	(3)	---	< 0.001	---	< 0.001	<0.010	<0.010	< 0.001	---
Ethylbenzene	0.700	(2)	---	< 0.001	---	**0.00067J**	**0.011**	**0.011**	< 0.001	---
Xylene	0.620	(3)	---	< 0.015	---	< 0.0015	<0.0015	<0.0015	< 0.015	---
MTBE	0.143	(4)	---	< 0.001	---	< 0.001	<0.010	<0.010	< 0.001	---
Total Petroleum Hydrocarbons (mg/L):										
Diesel Range Organics	0.0398	(6)	---	**7.9**	---	**75**	**9**	**56**	**12.0**	---
Gasoline Range Organics	-	-	---	<2.5	---	**4.2**	**3.1**	**14**	**4.7**	---
Motor Oil Range Organics	0.0398	(6)	---	**3.7**	---	**7.2**	<2.5	<25	< 2.5	---

OW 19+50							
Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15
---	---	---	< 0.001	---	---	---	---
---	---	---	< 0.001	---	---	---	---
---	---	---	< 0.001	---	---	---	---
---	---	---	< 0.0015	---	---	---	---
---	---	---	**0.0025**	---	---	---	---
---	---	---	**7.9**	---	---	---	---
---	---	---	< 0.050	---	---	---	---
---	---	---	<5	---	---	---	---

Constituents			OW 5+50							
			Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15
Volatile Organic Compounds (mg/L)										
Benzene	0.005	(2)	---	---	---	< 0.001	---	---	---	---
Toluene	0.750	(3)	---	---	---	< 0.001	---	---	---	---
Ethylbenzene	0.700	(2)	---	---	---	< 0.001	---	---	---	---
Xylene	0.620	(3)	---	---	---	< 0.0015	---	---	---	---
MTBE	0.143	(4)	---	---	---	**0.00039J**	---	---	---	---
Total Petroleum Hydrocarbons (mg/L):										
Diesel Range Organics	0.0398	(6)	---	---	---	**370**	---	---	---	---
Gasoline Range Organics	-	-	---	---	---	**0.12**	---	---	---	---
Motor Oil Range Organics	0.0398	(6)	---	---	---	**70**	---	---	---	---

OW 22+00							
Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15
---	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001
---	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001
---	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001
---	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	<0.0015
---	**0.0059**	**0.0057**	**0.00029J**	< 0.001	**0.018**	< 0.001	<0.001
---	< 0.40	< 0.20	**3.1**	< 0.20	< 0.20	< 0.20	**0.24**
---	<0.05	<0.05	< 0.050	<0.05	< 0.05	< 0.05	< 0.050
---	<2.5	<2.5	<5	<2.5	<2.5	< 2.5	< 2.5

Constituents			OW 6+70							
			Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15
Volatile Organic Compounds (mg/L)										
Benzene	0.005	(2)	---	---	---	---	---	---	---	---
Toluene	0.750	(3)	---	---	---	---	---	---	---	---
Ethylbenzene	0.700	(2)	---	---	---	---	---	---	---	---
Xylene	0.620	(3)	---	---	---	---	---	---	---	---
MTBE	0.143	(4)	---	---	---	---	---	---	---	---
Total Petroleum Hydrocarbons (mg/L):										
Diesel Range Organics	0.0398	(6)	---	---	---	---	---	---	---	---
Gasoline Range Organics	-	-	---	---	---	---	---	---	---	---
Motor Oil Range Organics	0.0398	(6)	---	---	---	---	---	---	---	---

OW 23+10							
Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15
< 0.001	---	---	< 0.001	< 0.001	< 0.001	< 0.001	<0.001
< 0.001	---	---	< 0.001	< 0.001	< 0.001	< 0.001	<0.001
< 0.001	---	---	< 0.001	< 0.001	< 0.001	< 0.001	<0.001
< 0.0015	---	---	< 0.0015	< 0.0015	< 0.0015	< 0.0015	<0.0015
0.00045 J	---	---	**0.0014**	< 0.001	**0.012**	< 0.001	<0.001
<0.40	---	---	**1.8**	**0.27**	< 0.20	**0.52**	< 0.20
0.12	---	---	**0.084**	<0.05	< 0.05	< 0.05	< 0.050
<2.5	---	---	<5	<2.5	<2.5	< 2.5	< 2.5

Table 7
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Constituents			OW 8+10								OW 23+90							
			Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15	Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15
Volatile Organic Compounds (mg/L)																		
Benzene	0.005	(2)	---	---	< 0.001	< 0.001	< 0.001	---	---	---	---	---	---	< 0.001	< 0.001	< 0.001	< 0.001	<0.001
Toluene	0.750	(3)	---	---	< 0.001	< 0.001	< 0.001	---	---	---	---	---	---	< 0.001	< 0.001	< 0.001	< 0.001	<0.001
Ethylbenzene	0.700	(2)	---	---	< 0.001	< 0.001	< 0.001	---	---	---	---	---	---	< 0.001	< 0.001	< 0.001	< 0.001	<0.001
Xylene	0.620	(3)	---	---	< 0.0015	< 0.0015	< 0.0015	---	---	---	---	---	---	< 0.0015	< 0.0015	< 0.0015	< 0.0015	<0.0015
MTBE	0.143	(4)	---	---	**0.0012**	**0.0018**	**0.0047**	---	---	---	---	---	---	**0.0004J**	< 0.001	< 0.001	< 0.001	<0.001
Total Petroleum Hydrocarbons (mg/L):																		
Diesel Range Organics	0.0398	(6)	---	---	**0.22**	**5.7**	< 0.20	---	---	---	---	---	---	**1.4**	< 0.20	< 0.20	< 0.20	< 0.20
Gasoline Range Organics	-	-	---	---	<0.05	<0.05	<0.05	---	---	---	---	---	---	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Motor Oil Range Organics	0.0398	(6)	---	---	<5	<5	<2.5	---	---	---	---	---	---	<5	<2.5	<2.5	< 2.5	< 2.5

Constituents			OW 11+15								OW 25+70							
			Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15	Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15
Volatile Organic Compounds (mg/L)																		
Benzene	0.005	(2)	---	---	---	**4.4**	**3.9**	**3.8**	**2.5**	**1.7**	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001
Toluene	0.750	(3)	---	---	---	**0.0014J**	< 0.020	< 0.020	< 0.020	< 0.050	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001
Ethylbenzene	0.700	(2)	---	---	---	**0.0096J**	< 0.020	< 0.020	< 0.020	< 0.050	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001
Xylene	0.620	(3)	---	---	---	< 0.030	< 0.030	< 0.030	< 0.030	< 0.075	< 0.0015	< 0.0015	< 0.0015	< 0.0015	**0.0026**	< 0.0015	< 0.0015	<0.0015
MTBE	0.143	(4)	---	---	---	**0.32**	**0.31**	**0.22**	**0.48**	**0.64**	**0.0004 J**	< 0.001	**0.0014**	**0.0027**	< 0.001	< 0.001	< 0.001	<0.001
Total Petroleum Hydrocarbons (mg/L):																		
Diesel Range Organics	0.0398	(6)	---	---	---	**120**	**540**	**110**	**54**	**94**	<0.40	< 0.40	< 0.20	< 1.0	< 0.20	< 0.20	< 0.20	< 0.20
Gasoline Range Organics	-	-	---	---	---	**13**	**12**	**14**	**4.5**	**0.3**	**0.14**	**0.10**	**0.091**	**0.10**	**0.078**	**0.13**	< 0.05	**0.12**
Motor Oil Range Organics	0.0398	(6)	---	---	---	<50	<25	<25	< 25	< 25	<2.5	< 2.5	< 2.5	<5	<2.5	<2.5	< 2.5	< 2.5

Notes:

(1) EPA - Regional Screening Levels (June 2017) -Tap Water
(2) EPA - Regional Screening Levels (June 2017) - MCL
(3) NMED WQCC standards - Title 20 Chapter 6, Part 2, - 20.6.2.3101 Standards for Ground Water of 10,000 mg/l TDS Concentration or less
(4) NMED Tap Water Screening Level - Risk Assessment Guidance for Site Investigations and Remediation (March 2017)
(5) EPA Screening Level - Tap Water x 10 for carcinogenic compounds
(6) NMED groundwater screening level for unknown oil

-	= No screening level available
*	= Laboratory analyzed for combined Nitrate (As N) + Nitrite (As N) to meet hold time
---	= Analysis not required and/or well contains separate phase
	= Analytical result exceeds the respective screening level.
**	= Columns hidden when there are 4 or more consecutive years recorded that analysis was not required and/or the well contained separate phase

TABLE 8
Outfalls Analytical Summary
2018 Groundwater Remediation and Monitoring Annual Report

Constituents			East Outfall #2							East Outfall #3							
			Aug-18	Apr-18	Aug-17	Apr-17	May-16	Aug-15	Apr-15	Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	May-16	Aug-15	Apr-15
Volatile Organic Compounds (ug/L)																	
Benzene	0.005	(2)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Toluene	0.75	(3)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Ethylbenzene	0.7	(2)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Xylene	0.62	(3)	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015
MTBE	0.143	(4)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
General Chemistry (mg/l):																	
Fluoride	1.6	(3)	**0.43**	--	**0.42**	0.46	**0.18**	**0.17**	**0.52**	**0.16**	--	**0.18**	**0.23**	**0.19**	**0.18**	**0.18**	**0.22**
Chloride	250	(3)	**4.4**	--	**9.5**	**8.4**	**3.4**	**2.7**	**8.6**	**3.1**	--	**4.1**	**18**	**3.4**	**3.8**	**3.6**	**4.4**
Nitrite	1	(2)	<1.0	--	**1.6**	**1.4**	< 0.10	< 0.10	**0.13**	**0.48 J**	--	**0.59 J**	**2.4**	< 1.0	< 0.10	< 0.10	< 0.10
Bromide	-	-	**0.074 J**	--	**0.13**	< 0.10	< 0.10	< 0.10	< 0.10	**0.041 J**	--	**0.036 J**	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Nitrate	10	(3)	<1.0	--	**1.6**	**1.4**	**0.17**	**0.54**	**0.71**	**0.48 J**	--	**0.59 J**	**2.4**	< 1.0	**0.22**	**0.47**	**0.21**
Phosphorus	-	-	**0.64 H**	--	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	**0.33 JH**	--	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Sulfate	600	(3)	**58**	--	**190**	**89**	**45**	**42**	**88**	**44**	--	**51**	**120**	**48**	**44**	**47**	**54**
Carbon Dioxide (CO_2)	-	-	**210**	**330**	**310**	**320**	**90**	**78**	-	**86**	**300**	**110**	**240**	**84**	**87**	**85**	-
Alkalinity ($CaCO_3$)	-	-	**233.9**	**354.6**	**343.7**	**343.1**	**97.96**	**85.24**	**344.8**	**93.12**	**319.9**	**126.5**	**253.5**	**94**	**95.28**	**95.16**	**111**
Bicarbonate ($CaCO_3$)	-	-	**233.9**	**354.6**	**343.7**	**343.1**	**97.96**	**85.24**	**344.8**	**93.12**	**319.9**	**126.5**	**253.5**	**94**	**95.28**	**95.16**	**111**
Total Metals (mg/l):																	
Arsenic	0.01	(2)	< 0.020	< 0.020	**0.02**	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Barium	2.0	(2)	**0.060**	**0.11**	**0.23**	**0.066**	**0.09**	**0.063**	**0.087**	**0.07**	**0.10**	**0.076**	**0.08**	**0.072**	**0.074**	**0.065**	**0.063**
Cadmium	0.005	(2)	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020
Chromium	0.05	(3)	< 0.0060	< 0.0060	**0.021**	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060
Lead	0.015	(2)	<0.0050	**0.0054**	< 0.0050	< 0.0050	**0.0057**	< 0.0050	< 0.0050	<0.0050	**0.0052**	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Selenium	0.05	(3)	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Silver	0.05	(3)	<0.0050	**0.0056**	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	**0.0059**	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Mercury	0.002	(3)	**0.000085 J**	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	**0.000060 J**	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020
Dissolved Metals (mg/l):																	
Arsenic	0.01	(2)	< 0.020	< 0.020	< 0.020	< 0.020	< 0.0010	**0.001**	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.0010	**0.001**	< 0.020
Barium	1.0	(3)	**0.055**	**0.065**	**0.095**	**0.066**	**0.068**	**0.06**	**0.089**	**0.065**	**0.09**	**0.067**	**0.08**	**0.069**	**0.072**	**0.062**	**0.062**
Cadmium	0.005	(2)	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020
Calcium	-		**74**	**110**	**120**	**98**	**37**	**30**	**100**	**36**	**130**	**45**	**92**	**34**	**35**	**33**	**41**
Chromium	0.05	(3)	< 0.0060	< 0.0060	< 0.0050	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060
Copper	1	(3)	< 0.0060	< 0.0060	< 0.050	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060
Iron	1	(3)	< 0.020	< 0.020	**0.023**	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	**0.0066 J**	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Lead	0.015	(2)	< 0.0050	< 0.0050	< 0.00020	< 0.0050	< 0.00050	< 0.00050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.00050	< 0.00050	< 0.0050
Magnesium	-		**14**	**22**	**26**	**21**	**6.2**	**5.2**	**21**	**6.2**	**25**	**8.2**	**16**	**6**	**5.8**	**5.9**	**7.1**
Manganese	0.2	(3)	**0.0043**	<0.0020	**0.076**	**0.0054**	**0.009**	**0.0021**	**0.011**	**0.0013 J**	<0.0020	**0.0031**	< 0.0020	**0.0032**	**0.0028**	**0.0031**	< 0.0020
Potassium	-		**1.0**	**1.4**	**2.1**	**1.6**	**1.6**	**1.7**	**1.4**	**1.8**	**2.2**	**1.8**	**2.1**	**1.9**	**1.6**	**1.8**	**1.9**
Selenium	0.05	(3)	< 0.050	< 0.050	< 0.050	< 0.050	< 0.0010	< 0.0010	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.0010	< 0.0010	< 0.050
Silver	0.05	(3)	**0.0024 J**	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Sodium	-		**36**	**61**	**67**	**58**	**16**	**14**	**57**	**18**	**80**	**22**	**53**	**18**	**17**	**17**	**22**
Uranium	0.03	(3)	< 0.10	< 0.10	< 0.0050	< 0.10	**0.0008**	< 0.00050	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	**0.0008**	**0.0007**	< 0.10
Zinc	10	(3)	**0.065**	< 0.020	**0.030**	< 0.020	**0.02**	**0.019**	< 0.020	**0.056**	< 0.020	**0.031**	< 0.020	**0.025**	< 0.010	**0.018**	< 0.020

Notes:
(1) EPA - Regional Screening Levels (June 2017) -Tap Water
(2) EPA - Regional Screening Levels (June 2017) - MCL
(3) NMED WQCC standards - Title 20 Chapter 6, Part 2, - 20.6.2.3101 Standards for Ground Water of 10,000 mg/l TDS Concentration or less
(4) NMED Tap Water Screening Level - Risk Assessment Guidance for Site Investigations and Remediation (March 2017)
(5) EPA Screening Level - Tap Water x 10 for carcinogenic compounds
(6) NMED groundwater screening level for unknown oil

-	= No screening level available or result available
*	= Laboratory analyzed for combined Nitrate (As N) + Nitrite (As N) to meet hold time
	= Analytical result exceeds the respective screening level.
**	= Columns hidden when there are 4 or more consecutive years recorded that analysis was not required and/or the well contained separate phase

TABLE 9
Seeps Analytical Summary - 2018 Groundwater Remediation and Monitoring Annual Report

			Seep #1							
			Aug-18	May-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15
Volatile Organic Compounds (mg/l):										
Benzene	0.005	(2)	---	---	---	<0.001	---	<0.001	---	<0.001
Toluene	0.750	(3)	---	---	---	<0.001	---	<0.001	---	<0.001
Ethylbenzene	0.700	(2)	---	---	---	<0.001	---	<0.001	---	<0.001
Xylene	0.620	(3)	---	---	---	<0.0015	---	<0.0015	---	<0.0015
MTBE	0.143	(4)	---	---	---	**0.043**	---	**0.041**	---	**0.013**
General Chemistry (mg/l):										
Fluoride	1.6	(3)	---	<0.50	---	<0.5	---	**0.35**	---	<1.0
Chloride	250	(3)	---	**270**	---	**210**	---	**200**	---	**170**
Nitrite	1.0	(2)	---	<0.50	---	<1.0	---	<1.0	---	<1.0
Bromide	-	-	---	3.9	---	3.2	---	2.6	---	3.3
Nitrate	10	(3)	---	<0.50	---	<1.0	---	<1.0	---	<1.0
Phosphorus	-	-	---	<10	---	< 2.5	---	< 2.5	---	<5.0
Sulfate	600	(3)	---	**1000**	---	**1100**	---	**1300**	---	**1200**
Carbon Dioxide (CO_2)	-	-	---	**430**	---	**470**	---	**450**	---	**390**
Alkalinity ($CaCO_3$)	-	-	---	**453.2**	---	**507.1**	---	**479.6**	---	**433.1**
Bicarbonate ($CaCO_3$)	-	-	---	**453.2**	---	**507.1**	---	**479.6**	---	**433.1**

			Seep #2					
			Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16
Volatile Organic Compounds (mg/l):								
Benzene	0.005	(2)	---	---	---	---	---	---
Toluene	0.750	(3)	---	---	---	---	---	---
Ethylbenzene	0.700	(2)	---	---	---	---	---	---
Xylene	0.620	(3)	---	---	---	---	---	---
MTBE	0.143	(4)	---	---	---	---	---	---
General Chemistry (mg/l):								
Fluoride	1.6	(3)	---	---	---	---	---	---
Chloride	250	(3)	---	---	---	---	---	---
Nitrite	1.0	(2)	---	---	---	---	---	---
Bromide	-	-	---	---	---	---	---	---
Nitrate	10	(3)	---	---	---	---	---	---
Phosphorus	-	-	---	---	---	---	---	---
Sulfate	600	(3)	---	---	---	---	---	---
Carbon Dioxide (CO_2)	-	-	---	---	---	---	---	---
Alkalinity ($CaCO_3$)	-	-	---	---	---	---	---	---
Bicarbonate ($CaCO_3$)	-	-	---	---	---	---	---	---

			Seep #3							
			Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15
Volatile Organic Compounds (mg/l):										
Benzene	0.005	(2)	---	---	---	---	---	<0.001	---	---
Toluene	0.750	(3)	---	---	---	---	---	<0.001	---	---
Ethylbenzene	0.700	(2)	---	---	---	---	---	<0.001	---	---
Xylene	0.620	(3)	---	---	---	---	---	<0.0015	---	---
MTBE	0.143	(4)	---	---	---	---	---	<0.001	---	---
General Chemistry (mg/l):										
Fluoride	1.6	(3)	---	---	---	---	---	**0.22**	---	---
Chloride	250	(3)	---	---	---	---	---	**260**	---	---
Nitrite	1.0	(2)	---	---	---	---	---	<1.0	---	---
Bromide	-	-	---	---	---	---	---	**3.2**	---	---
Nitrate	10	(3)	---	---	---	---	---	<1.0	---	---
Phosphorus	-	-	---	---	---	---	---	<5	---	---
Sulfate	600	(3)	---	---	---	---	---	**2500**	---	---
Carbon Dioxide (CO_2)	-	-	---	---	---	---	---	**330**	---	---
Alkalinity ($CaCO_3$)	-	-	---	---	---	---	---	**365.4**	---	---
Bicarbonate ($CaCO_3$)	-	-	---	---	---	---	---	**365.4**	---	---

			Seep #6							
			Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15
Volatile Organic Compounds (mg/l):										
Benzene	0.005	(2)	---	---	---	---	---	---	---	---
Toluene	0.750	(3)	---	---	---	---	---	---	---	---
Ethylbenzene	0.700	(2)	---	---	---	---	---	---	---	---
Xylene	0.620	(3)	---	---	---	---	---	---	---	---
MTBE	0.143	(4)	---	---	---	---	---	---	---	---
General Chemistry (mg/l):										
Fluoride	1.6	(3)	---	---	---	---	---	---	---	---
Chloride	250	(3)	---	---	---	---	---	---	---	---
Nitrite	1.0	(2)	---	---	---	---	---	---	---	---
Bromide	-	-	---	---	---	---	---	---	---	---
Nitrate	10	(3)	---	---	---	---	---	---	---	---
Phosphorus	-	-	---	---	---	---	---	---	---	---
Sulfate	600	(3)	---	---	---	---	---	---	---	---
Carbon Dioxide (CO_2)	-	-	---	---	---	---	---	---	---	---
Alkalinity ($CaCO_3$)	-	-	---	---	---	---	---	---	---	---
Bicarbonate ($CaCO_3$)	-	-	---	---	---	---	---	---	---	---

	Seep #9					
	Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16
Volatile Organic Compounds (mg/l):						
Benzene	---	---	---	---	---	---
Toluene	---	---	---	---	---	---
Ethylbenzene	---	---	---	---	---	---
Xylene	---	---	---	---	---	---
MTBE	---	---	---	---	---	---
General Chemistry (mg/l):						
Fluoride	---	---	---	---	---	---
Chloride	---	---	---	---	---	---
Nitrite	---	---	---	---	---	---
Bromide	---	---	---	---	---	---
Nitrate	---	---	---	---	---	---
Phosphorus	---	---	---	---	---	---
Sulfate	---	---	---	---	---	---
Carbon Dioxide (CO_2)	---	---	---	---	---	---
Alkalinity ($CaCO_3$)	---	---	---	---	---	---
Bicarbonate ($CaCO_3$)	---	---	---	---	---	---

Notes:

(1) EPA - Regional Screening Levels (June 2017) -Tap Water
(2) EPA - Regional Screening Levels (June 2017) - MCL
(3) NMED WQCC standards - Title 20 Chapter 6, Part 2, - 20.6.2.3101 Standards for Ground Water of 10,000 mg/l TDS Concentration or less
(4) NMED Tap Water Screening Level - Risk Assessment Guidance for Site Investigations and Remediation (March 2017)
(5) EPA Screening Level - Tap Water x 10 for carcinogenic compounds
(6) NMED groundwater screening level for unknown oil

-	= No screening level available
*	= Laboratory analyzed for combined Nitrate (As N) + Nitrite (As N) to meet hold time
---	= Analysis not required and/or well contains separate phase
	= Analytical result exceeds the respective screening level.
**	= Columns hidden when there are 4 or more consecutive years recorded that analysis was not required and/or the well contained separate phase

TABLE 10
San Juan River Analytical Summary
2018 Groundwater Remediation and Monitoring Annual Report

Constituents			North of MW-46								North of MW-45							
			Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15	Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15
Volatile Organic Compounds (mg/L):																		
Benzene	0.005	(2)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Toluene	0.750	(3)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Ethylbenzene	0.700	(2)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Xylenes	0.620	(3)	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015
MTBE	0.143	(4)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Petroleum Hydrocarbons (mg/L):																		
Diesel Range Organics	-	-	<0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.40	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Gasoline Range Organics	-	-	<0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Motor Oil Range Organics	-	-	<2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
General Chemistry (mg/L):																		
Fluoride	1.6	(3)	**0.14**	**0.15**	**0.13**	**0.19**	**0.15**	**0.19**	**0.17**	**0.21**	**0.14**	**0.15**	**0.12**	**0.17**	**0.15**	**0.2**	**0.17**	**0.2**
Chloride	250	(3)	**2.5**	**3**	**2.9**	**4.4**	**2.7**	**3.5**	**2.9**	**3.8**	**2.7**	**2.8**	**2.8**	**3.5**	**2.7**	**3.3**	**2.9**	**3.8**
Nitrite	1.0	(2)	<1.0	<1.0	< 0.10	< 1.0	< 1.0	< 1.0	< 0.10	< 0.10	<1.0	<1.0	< 0.10	< 1.0	< 1.0	< 1.0	< 0.10	< 0.10
Bromide	-	-	<0.10	<0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	<0.10	<0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Nitrate	10	(3)	<1.0	<1.0	**0.074 J**	< 1.0	< 1.0	< 1.0	< 0.10	< 0.10	<1.0	<1.0	< 0.10	< 1.0	< 1.0	< 1.0	< 0.10	< 0.10
Phosphorus	-	-	<0.50	<0.50 H	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50 H	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Sulfate	600	(3)	**43**	**59**	**45**	**120**	**49**	**80**	**53**	**93**	**42**	**49**	**45**	**71**	**48**	**78**	**52**	**92**
Carbon Dioxide (CO_2)	-	-	---	**78**	**75**	**72**	**77**	**86**	---	---	---	**75 H**	**75**	**71**	**76**	**86**	---	---
Alkalinity ($CaCO_3$)	-	-	**82.52**	**87.48**	**84.92**	**103.6**	**85**	**95**	**92**	**99.6**	**82.08**	**84.32**	**84.16**	**91.12**	**84.8**	**95.44**	**91**	**99.68**
Total Dissolved Solids	1000	(3)	**202**	**219**	**182**	**172**	**170**	**245**	**202**	**263**	**205**	**210**	**176**	**166**	**180**	**246**	**200**	**267**
Electric Conductivity	-	-	**309**	**340**	**280**	**260**	**280**	**380**	**310**	**405**	**314**	**320**	**280**	**260**	**280**	**380**	**300**	**411**
Total Metals (mg/L):																		
Arsenic	0.01	(2)	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Barium	2.0	(2)	**0.13**	**0.074**	**0.086**	**0.082**	**0.11**	**0.078**	**0.17**	**0.057**	**0.17**	**0.13**	**0.11**	**0.085**	**0.14**	**0.08**	**0.15**	**0.06**
Cadmium	0.005	(2)	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020
Chromium	0.05	(3)	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060
Lead	0.015	(2)	< 0.0050	< 0.0050	< 0.0050	< 0.0050	**0.0058**	< 0.0050	< 0.0050	< 0.0050	**0.0056**	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Selenium	0.05	(3)	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Silver	0.05	(3)	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Mercury	0.002	(3)	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020
Dissolved Metals (mg/L):																		
Arsenic	0.01	(2)	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.0010	< 0.0010	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.0010	< 0.0010	< 0.020
Barium	1.0	(3)	**0.065**	**0.057**	**0.071**	**0.067**	**0.086**	**0.074**	**0.074**	**0.062**	**0.065**	**0.055**	**0.069**	**0.07**	**0.082**	**0.073**	**0.072**	**0.056**
Cadmium	0.005	(2)	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020
Calcium	-		**31**	**35**	**33**	**48**	**34**	**40**	**36**	**44**	**30**	**32**	**32**	**36**	**34**	**39**	**35**	**44**
Chromium	0.05	(3)	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060
Copper	1.0	(3)	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060
Iron	1.0	(3)	**0.021**	**0.033**	**0.014 J**	< 0.020	**0.36**	**0.022**	**0.085**	**0.028**	<0.020	<0.020	**0.011 J**	**0.07**	**0.32**	< 0.020	**0.028**	< 0.020
Lead	0.015	(2)	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.00050	< 0.00050	< 0.0050	<0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.00050	< 0.00050	< 0.0050
Magnesium	-		**5.2**	**5.9**	**5.8**	**7.1**	**5.5**	**6.1**	**5.6**	**6.7**	**5.2**	**5.7**	**5.7**	**6.4**	**5.6**	**6.1**	**5.5**	**6.8**
Manganese	0.2	(3)	**0.0079**	**0.044**	**0.0091**	**0.098**	**0.032**	**0.010**	**0.009**	**0.011**	**0.0028**	**0.0065**	**0.008**	**0.019**	**0.033**	**0.011**	**0.0037**	**0.01**
Potassium	-		**1.7**	**1.7**	**1.9**	**2**	2.2	**1.9**	**2**	**2.2**	**1.7**	**1.8**	**1.8**	**2**	**2.3**	**1.8**	**2**	**2.2**
Selenium	0.05	(3)	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.0010	< 0.0010	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.0010	< 0.0010	< 0.050
Silver	0.05	(3)	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Sodium	-		**15**	**22**	**16**	**34**	**19**	**27**	**18**	**33**	**15**	**20**	**16**	**25**	**20**	**27**	**18**	**34**
Uranium	0.03	(3)	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	**0.00078**	**0.00067**	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	**0.00076**	**0.00066**	< 0.10
Zinc	10	(3)	**0.081**	< 0.020	**0.031**	**0.02**	< 0.020	**0.024**	**0.028**	**0.023**	**0.11**	< 0.020	**0.031**	< 0.020	< 0.020	**0.014**	**0.018**	**0.05**

Notes:

(1) EPA - Regional Screening Levels (June 2017) -Tap Water (2) EPA - Regional Screening Levels (June 2017) - MCL

(3) NMED WQCC standards - Title 20 Chapter 6, Part 2, - 20.6.2.3101 Standards for Ground Water of 10,000 mg/l TDS Concentration or less

(4) NMED Tap Water Screening Level - Risk Assessment Guidance for Site Investigations and Remediation (March 2017)

(5) EPA Screening Level - Tap Water x 10 for carcinogenic compounds (6) NMED groundwater screening level for unknown oil

-	= No screening level available
*	= Laboratory analyzed for combined Nitrate (As N) + Nitrite (As N) to meet hold time
---	= Analysis not required and/or well contains separate phase
	= Analytical result exceeds the respective screening level.
**	= Columns hidden when there are 4 or more consecutive years recorded that analysis was not required and/or the well contained separate phase

TABLE 10
San Juan River Analytical Summary
2018 Groundwater Remediation and Monitoring Annual Report

Constituents			Upstream								Downstream							
			Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15	Aug-18	Apr-18	Aug-17	Apr-17	Aug-16	Apr-16	Aug-15	Apr-15
Volatile Organic Compounds (mg/L):																		
Benzene	0.005	(2)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Toluene	0.750	(3)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Ethylbenzene	0.700	(2)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Xylenes	0.620	(3)	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015
MTBE	0.143	(4)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Petroleum Hydrocarbons (mg/L):																		
Diesel Range Organics	-	-	<0.40	<0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Gasoline Range Organics	-	-	<0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Motor Oil Range Organics	-	-	<2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
General Chemistry (mg/L):																		
Fluoride	1.6	(3)	**0.13**	**0.15**	**0.13**	**0.17**	**0.16**	**0.2**	**0.17**	**0.21**	**0.14**	**0.15**	**0.12**	**0.17**	**0.16**	**0.19**	**0.17**	**0.21**
Chloride	250	(3)	**2.5**	**2.8**	**3.4**	**3.5**	**2.7**	**3.3**	**3**	**4.3**	**2.5**	**2.9**	**2.8**	**3.7**	**2.7**	**3.4**	**3**	**3.9**
Nitrite	1.0	(2)	<0.10	<1.0	< 0.10	< 1.0	< 1.0	< 1.0	< 0.10	< 0.10	<1.0	<1.0	< 0.10	< 1.0	< 1.0	< 1.0	< 0.10	< 0.10
Bromide	-	-	<0.10	<0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	<0.10	<0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Nitrate	10	(3)	<0.10	<1.0	**0.18**	< 1.0	< 1.0	< 1.0	< 0.10	< 0.10	<1.0	<1.0	**0.082 J**	< 1.0	< 1.0	< 1.0	< 0.10	< 0.10
Phosphorus	-	-	<0.50	<0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50 H	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Sulfate	600	(3)	**43**	**50**	**46**	**73**	**49**	**75**	**54**	**110**	**44**	**58**	**45**	**80**	**49**	**84**	**54**	**100**
Carbon Dioxide (CO_2)	-	-	---	**76**	**77**	**71**	**77**	**86**	---	---	---	**77 H**	**75**	**72**	**77**	**87**	---	---
Alkalinity ($CaCO_3$)	-	-	**82.16**	**84.2**	**85.68**	**91.24**	**86**	**95**	**91.56**	**99.56**	**82.04**	**86.16**	**84.52**	**93**	**86**	**97**	**92.12**	**102.6**
Total Dissolved Solids	1000	(3)	**294**	**235**	**181**	**167**	**178**	**240**	**204**	**232**	**196**	**200**	**186**	**172**	**184**	**254**	**196**	**279**
Electric Conductivity	-	-	**454**	**360**	**280**	**250**	**290**	**380**	**300**	**357**	**302**	**319**	**280**	**260**	**290**	**400**	**300**	**429**
Total Metals (mg/L):																		
Arsenic	0.01	(2)	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.02	< 0.020
Barium	2.0	(2)	**0.16**	**0.079**	**0.099**	**0.079**	**0.11**	**0.08**	**0.16**	**0.061**	**0.11**	**0.078**	**0.091**	**0.078**	**0.12**	**0.082**	**0.130**	**0.058**
Cadmium	0.005	(2)	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.002	< 0.0020
Chromium	0.05	(3)	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.006	< 0.0060
Lead	0.015	(2)	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	**0.0059**	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.0050
Selenium	0.05	(3)	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Silver	0.05	(3)	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.0050
Mercury	0.002	(3)	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.00020
Dissolved Metals (mg/L):																		
Arsenic	0.01	(2)	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.0010	**0.001**	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.0010	< 0.001	< 0.020
Barium	1.0	(3)	**0.066**	**0.058**	**0.072**	**0.07**	**0.084**	**0.072**	**0.077**	**0.056**	**0.065**	**0.058**	**0.07**	**0.068**	**0.085**	**0.072**	**0.077**	**0.055**
Cadmium	0.005	(2)	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.002	< 0.0020
Calcium	-		**30**	**32**	**33**	**37**	**34**	**39**	**33**	**45**	**31**	**35**	**33**	**40**	**34**	**41**	**34**	**47**
Chromium	0.05	(3)	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.006	< 0.0060
Copper	1.0	(3)	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.006	< 0.0060
Iron	1.0	(3)	<0.020	<0.020	**0.015 J**	< 0.020	**0.29**	< 0.020	**0.062**	< 0.020	**0.023**	<0.020	**0.010 J**	< 0.020	**0.31**	**0.031**	**0.086**	< 0.020
Lead	0.015	(2)	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.00050	< 0.00050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.00050	< 0.0005	< 0.0050
Magnesium	-		**5.3**	**5.7**	**5.9**	**6.4**	**5.5**	**5.9**	**5.4**	**7.1**	**5.2**	**5.9**	**5.8**	**6.5**	**5.5**	**6.2**	**5.4**	**7.2**
Manganese	0.2	(3)	**0.0022**	**0.0074**	**0.0095**	**0.021**	**0.03**	**0.012**	**0.01**	**0.034**	**0.0041**	**0.016**	**0.012**	**0.029**	**0.032**	**0.029**	**0.011**	**0.062**
Potassium	-		**1.6**	**1.7**	**1.9**	**1.9**	**2.1**	**1.7**	**1.9**	**2.1**	**1.6**	**1.7**	**1.8**	**1.9**	**2.3**	**1.9**	**1.9**	**2.1**
Selenium	0.05	(3)	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.0010	< 0.0010	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.0010	< 0.001	< 0.050
Silver	0.05	(3)	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.0050
Sodium	-		**15**	**20**	**17**	**26**	**19**	**26**	**19**	**39**	**15**	**22**	**16**	**27**	**19**	**29**	**18**	**37**
Uranium	0.03	(3)	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	**0.00076**	**0.00062**	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	**0.00084**	**0.0006**	< 0.10
Zinc	10	(3)	**0.086**	<0.020	**0.033**	< 0.020	**0.024**	**0.016**	**0.021**	< 0.020	**0.040**	< 0.020	**0.033**	< 0.020	< 0.020	**0.013**	**0.03**	< 0.020

Notes:

(1) EPA - Regional Screening Levels (June 2017) -Tap Water (2) EPA - Regional Screening Levels (June 2017) - MCL

(3) NMED WQCC standards - Title 20 Chapter 6, Part 2, - 20.6.2.3101 Standards for Ground Water of 10,000 mg/l TDS Concentration or less

(4) NMED Tap Water Screening Level - Risk Assessment Guidance for Site Investigations and Remediation (March 2017)

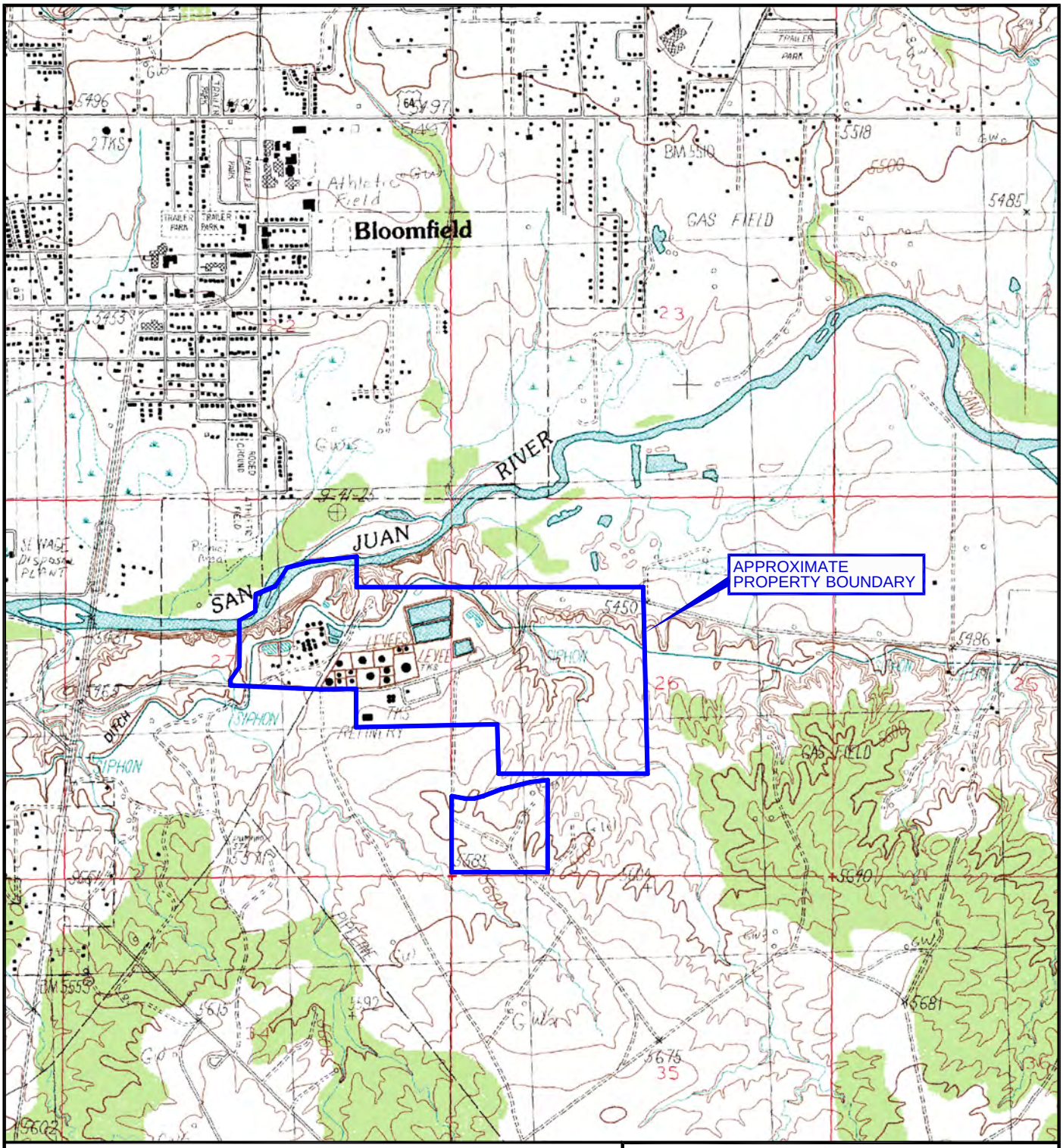
(5) EPA Screening Level - Tap Water x 10 for carcinogenic compounds (6) NMED groundwater screening level for unknown oil

-	= No screening level available
*	= Laboratory analyzed for combined Nitrate (As N) + Nitrite (As N) to meet hold time
---	= Analysis not required and/or well contains separate phase
	= Analytical result exceeds the respective screening level.
**	= Columns hidden when there are 4 or more consecutive years recorded that analysis was not required and/or the well contained separate phase

Table 11
Wastewater Volumes
2018 Groundwater Remediation Monitoring Annual Report

2018	API Monthly Total Gallons	API Monthly Total BBls	Injection well Total BBLs	Discharge to Evaporation Ponds Total BBLs
January	920,000	21,905	248	21,657
February	633,000	15,071	12,756	2,315
March	619,000	14,738	5,471	9,267
April	657,000	15,643	3,380	12,263
May	698,000	16,619	4,894	11,725
June	592,000	14,095	67	14,028
July	591,000	14,071	0	14,071
August	649,000	15,452	0	15,452
September	789,000	18,786	320	18,466
October	888,000	21,143	0	21,143
November	689,000	16,405	0	16,405
December	626,000	14,905	2,082	12,823
BBLs - barrels				169,615

Figures



Map Source: USGS 7.5 Min. Quad Sheet BLOOMFIELD, NM., 1985.

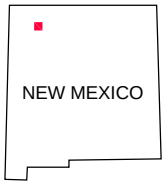
Western Refining

WESTERN REFINING SOUTHWEST

N

0 2000

SCALE IN FEET



QUADRANGLE LOCATION

FACILITY SITE MAP
BLOOMFIELD TERMINAL

JANUARY 2019

FIGURE 1

Western Refining
WESTERN REFINING SOUTHWEST

WELL LOCATION MAP
BLOOMFIELD TERMINAL

JANUARY 2019 | FIGURE 2

LEGEND

- MW-1 ● MONITORING WELL LOCATION AND IDENTIFICATION NUMBER
- RW-1 ⊛ RECOVERY WELL LOCATION AND IDENTIFICATION NUMBER
- OW 1+50 ◐ OBSERVATION WELL LOCATION AND IDENTIFICATION NUMBER
- CW 1+50 ◑ COLLECTION WELL LOCATION AND IDENTIFICATION NUMBER
- SW1-0206 ▲ SUMP WELL LOCATION AND IDENTIFICATION NUMBER
- P-2 PIEZOMETER IDENTIFICATION
- SURFACE WATER DRAINAGE PATTERN
- UNDER GROUND PIPE-WAY
- ABOVE GROUND PIPE-WAY
- SLURRY BARRIER WALL
- FORMER TANK LOCATION

0 300
SCALE IN FEET

±600' East Of Trans. Truck Shop
2 ~ 5-Acre Evap. Ponds

NORTH OF 45
SW6
SW7
NORTH OF 46
SEEP 2
SEEP 3
SEEP 1
SW5
SEEP 5
TANK 37
SW1
SW3
SW4
SW2
UPSTREAM SAMPLE POINT
EAST FORK OUTFALL 1
OUTFALL 2
OUTFALL 3
OUTFALL TANK 38
NORTH OF 45
NORTH OF 46
DOWNSTREAM SAMPLE POINT
1554 ft

LEGEND

- RIVER SAMPLE POINT
- OUTFALL
- SEEP
- SUMP WELL

0 400
SCALE IN FEET

Western Refining

SAN JUAN RIVER
AREA LOCATION MAP

JANUARY 2019 | FIGURE 3

Western Refining
WESTERN REFINING SOUTHWEST

GROUNDWATER ELEVATION AND FLOW DIRECTION - APRIL 2018 BLOOMFIELD TERMINAL

JANUARY 2019	FIGURE 4

LEGEND

- MW–1 ● MONITORING WELL LOCATION AND IDENTIFICATION NUMBER
- RW–1 ⊛ RECOVERY WELL LOCATION AND IDENTIFICATION NUMBER
- OW 1+50 ◐ OBSERVATION WELL LOCATION AND IDENTIFICATION NUMBER
- CW 1+50 ◑ COLLECTION WELL LOCATION AND IDENTIFICATION NUMBER
- SW1–0206 ▲ SUMP WELL LOCATION AND IDENTIFICATION NUMBER
- P–2 PIEZOMETER IDENTIFICATION
- SURFACE WATER DRAINAGE PATTERN
- UNDER GROUND PIPE-WAY
- ABOVE GROUND PIPE-WAY
- SLURRY BARRIER WALL
- FORMER TANK LOCATION
- 5500 CONTOUR OF GROUNDWATER ELEVATION (FT MSL)
- 5501.49 GROUNDWATER ELEVATION (FT MSL) (APRIL 2018)
- GROUNDWATER FLOW DIRECTION

0 300
SCALE IN FEET

Western Refining
WESTERN REFINING SOUTHWEST

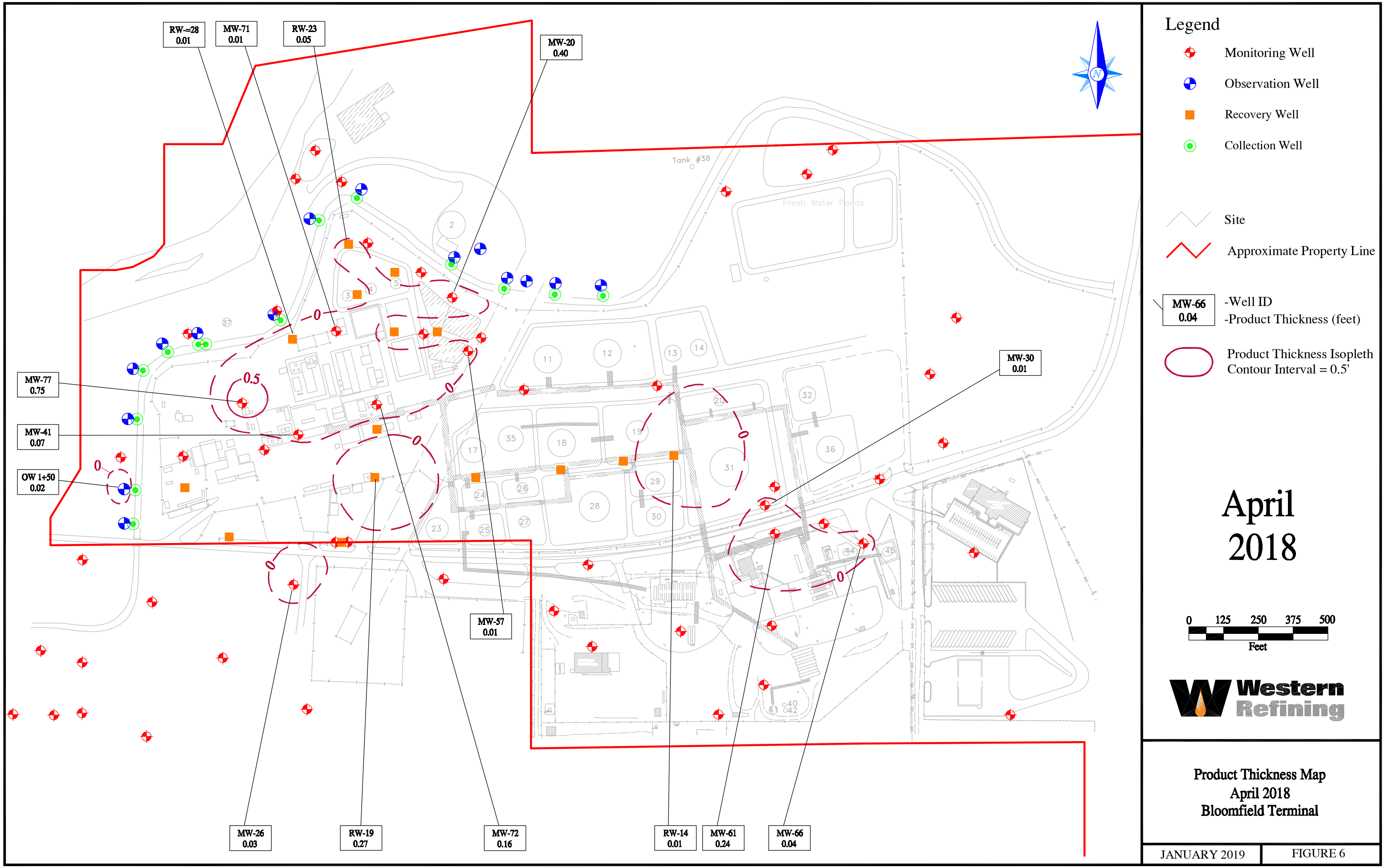
GROUNDWATER ELEVATION AND FLOW DIRECTION - AUGUST 2018 BLOOMFIELD TERMINAL

JANUARY 2019 | FIGURE 5

LEGEND

- MW-1 ● MONITORING WELL LOCATION AND IDENTIFICATION NUMBER
- RW-1 ⊛ RECOVERY WELL LOCATION AND IDENTIFICATION NUMBER
- OW 1+50 ◐ OBSERVATION WELL LOCATION AND IDENTIFICATION NUMBER
- CW 1+50 ◑ COLLECTION WELL LOCATION AND IDENTIFICATION NUMBER
- SW1-0206 ▲ SUMP WELL LOCATION AND IDENTIFICATION NUMBER
- P-2 PIEZOMETER IDENTIFICATION
- SURFACE WATER DRAINAGE PATTERN
- UNDER GROUND PIPE-WAY
- ABOVE GROUND PIPE-WAY
- SLURRY BARRIER WALL
- FORMER TANK LOCATION
- 5500 CONTOUR OF GROUNDWATER ELEVATION (FT MSL)
- 5501.92 GROUNDWATER ELEVATION (FT MSL) (AUGUST 2018)
- GROUNDWATER FLOW DIRECTION

0 300
SCALE IN FEET



Legend

- Monitoring Well
- Observation Well
- Recovery Well
- Collection Well
- Site
- Approximate Property Line
- MW-66 0.04 -Well ID -Product Thickness (feet)
- Product Thickness Isopleth Contour Interval = 0.5'

April 2018

0 125 250 375 500
Feet

Western Refining

Product Thickness Map
April 2018
Bloomfield Terminal

JANUARY 2019 | FIGURE 6

RW-28
0.79

MW-71
0.04

RW-23
0.04

RW-09
0.01

MW-20
0.54

RW-43
0.02

MW-56
0.09

MW-45
0.01

CW 11+15
0.04

MW-77
0.62

MW-41
0.10

OW 1+50
0.05

MW-26
0.03

RW-19
1.25

MW-72
1.20

MW-57
0.02

MW-61
0.30

MW-66
0.07

Tank #38

Fresh Water Ponds

0

0.5

1

Legend

- Monitoring Well
- Observation Well
- Recovery Well
- Collection Well
- Site
- Approximate Property Line
- MW-66 0.07 -Well ID -Product Thickness (feet)
- Product Thickness Isopleth Contour Interval = 0.5'

August 2018

0 125 250 375 500
Feet

Western Refining

Product Thickness Map
August 2018
Bloomfield Terminal

JANUARY 2019 | FIGURE 7

OW 8+10
NS[1]

OW 11+15
NRSN[1]

OW 14+10
NS[1]

OW 16+60
NRSN[1]

MW-20
NR[1]

OW 19+50
NS[1]

OW 22+00
< 0.001
< 0.001
< 0.001
< 0.0015
0.0059

OW 23+10
NRSN[1]

OW 23+90
NS[1]

OW 25+70
< 0.001
< 0.001
< 0.001
< 0.0015
< 0.001

CW 25+95
< 0.001
< 0.001
< 0.001
< 0.0015
< 0.001

MW-01
< 0.001
< 0.001
< 0.001
< 0.0015
< 0.001

East Outfall 2
< 0.001
< 0.001
< 0.001
< 0.0015
< 0.001

East Outfall 3
< 0.001
< 0.001
< 0.001
< 0.0015
< 0.001

OW 6+70
NS[1]

OW 5+50
NS[1]

OW 3+85
<0.001
< 0.001
<0.001
< 0.0015
< 0.001

OW 1+50
NR[1]

CW 0+60
0.0012
< 0.001
0.0037
0.0015
< 0.001

OW 0+60
NS[1]

MW-52
< 0.001
< 0.001
< 0.001
< 0.0015
< 0.001

MW-12
< 0.001
< 0.001
< 0.001
< 0.0015
< 0.001

MW-38
< 0.001
< 0.001
< 0.001
< 0.0015
< 0.001

MW-37
< 0.001
< 0.001
< 0.001
< 0.0015
< 0.001

MW-35
< 0.001
< 0.001
< 0.001
< 0.0015
< 0.001

MW-33
NS[1]

MW-13
< 0.001
< 0.001
< 0.001
< 0.0015
< 0.001

MW-30
NR[1]

MW-6
NS[1]

Tank #38

Fresh Water Ponds

Legend

- Monitoring Well
- Observation Well
- Recovery Well
- Collection Well
- Outfall
- Site
- Approximate Property Line

MW-52	-Well ID
< 0.001	-Benzene
< 0.001	-Toluene
< 0.001	-Ethylbenzene
< 0.0015	-Xylenes, Total
< 0.001	-MTBE

Notes:

All concentrations in milligrams per liter (mg/L)

NS[1] = Well is Dry or Not Enough Water to Sample- No sample

NR[1] = No Sample Required - Well Contains Separate Phase Hydrocarbon

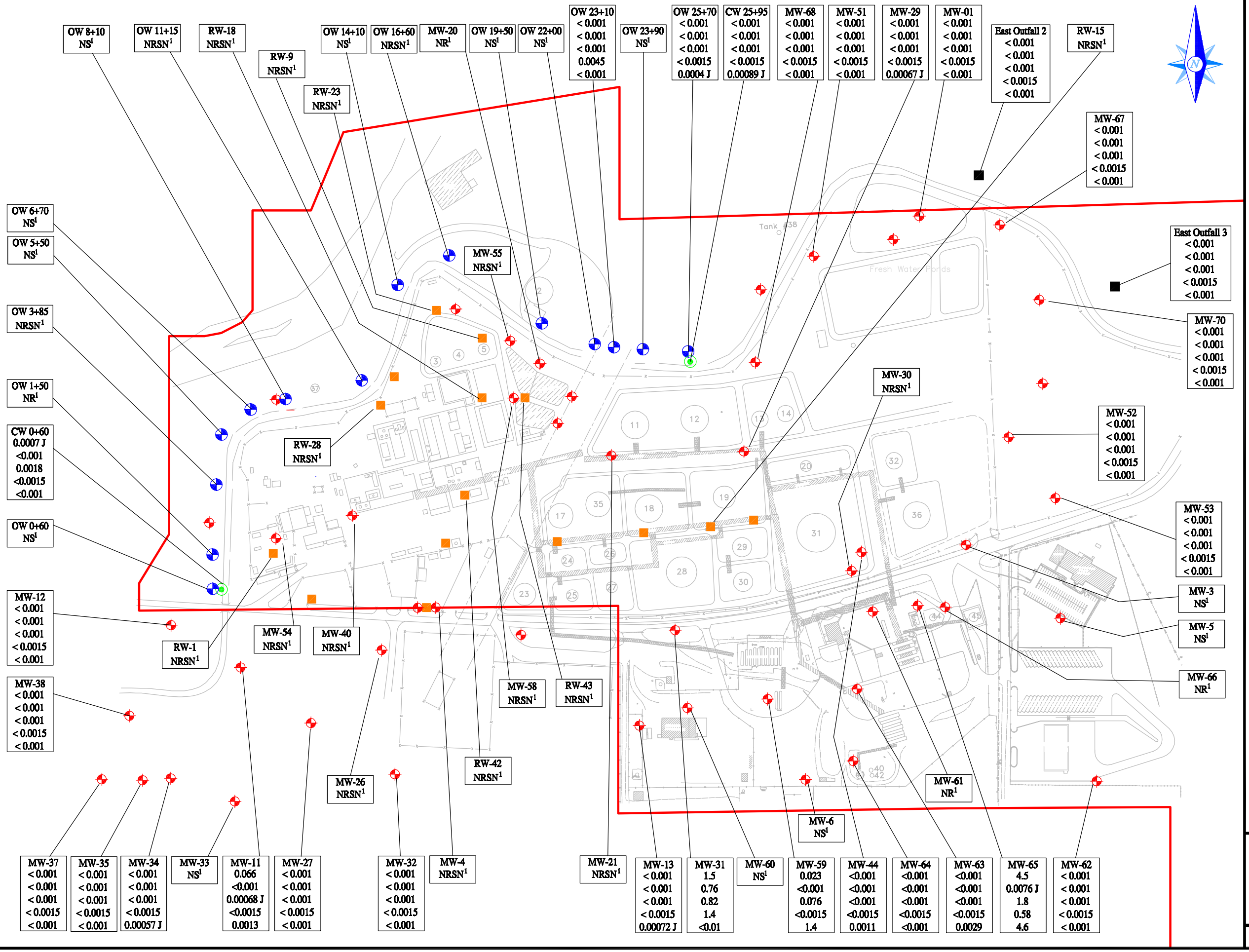
NRSN[1] = No Sample Required -Well Contains Sheen

0 125 250 375 500
Feet

Western Refining

BTEX and MTBE Concentration Map - April 2018 Bloomfield Terminal

JANUARY 2019 | FIGURE 8



Legend

- Monitoring Well
- Observation Well
- Recovery Well
- Collection Well
- Outfall
- Site
- Approximate Property Line

MW-52	-Well ID
< 0.001	-Benzene
< 0.001	-Toluene
< 0.001	-Ethylbenzene
< 0.0015	-Xylenes, Total
< 0.001	-MTBE

Notes:

All concentrations in milligrams per liter (mg/L)

NS[1] = Well is Dry or Not Enough Water to Sample- No sample

NR[1] = No Sample Required - Well Contains Separate Phase Hydrocarbon

NRSN[1] = No Sample Required -Well Contains Sheen

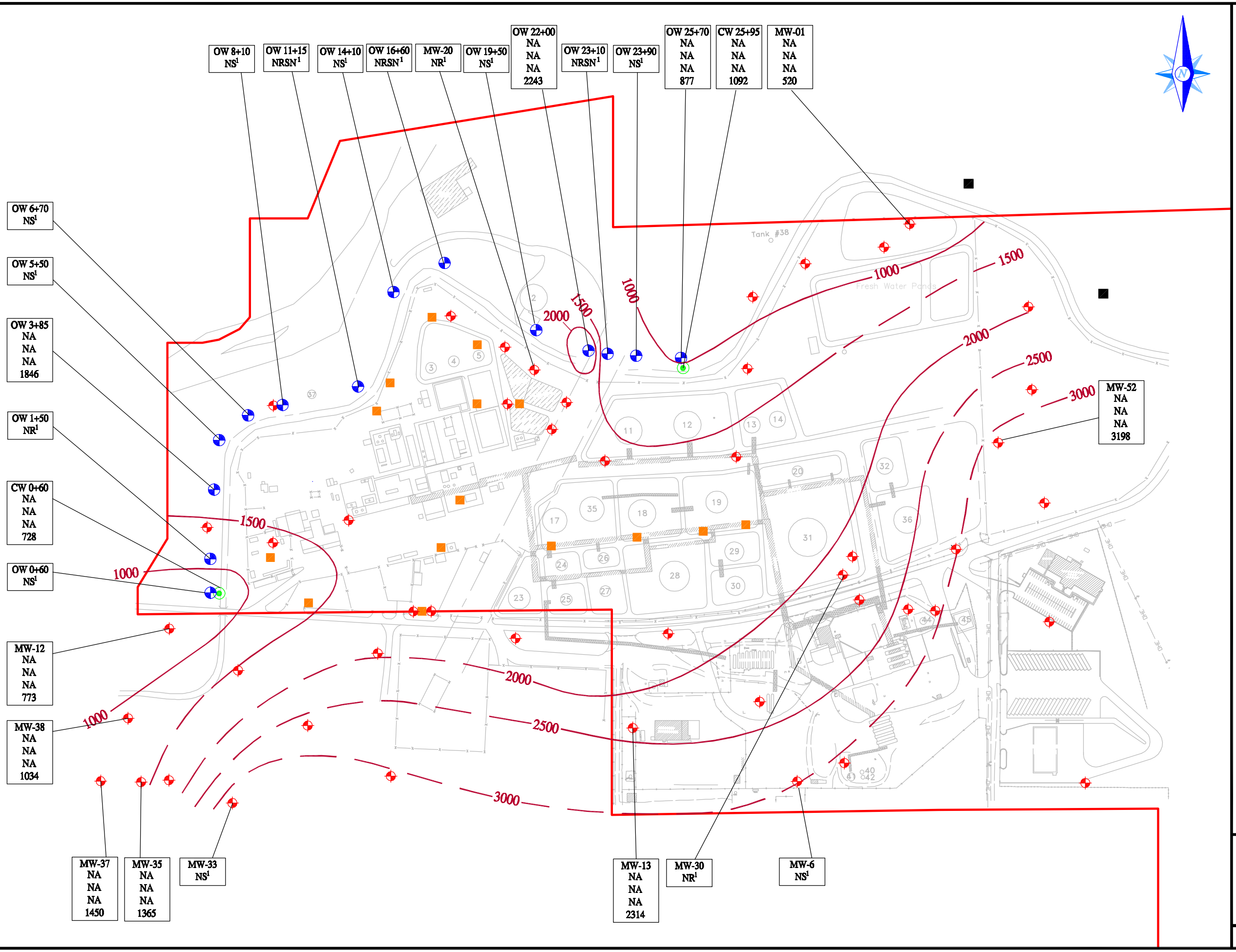
0 125 250 375 500

Feet

Western Refining

BTEX and MTBE Concentration Map - August 2018 Bloomfield Terminal

JANUARY 2019 | FIGURE 9



Legend

- Monitoring Well
- Observation Well
- Recovery Well
- Collection Well
- Outfall
- Site
- Approximate Property Line

MW-52	-Well ID
< 0.001	-Chloride
< 0.001	-Sulfate
< 0.0015	-Nitrate
< 0.001	-TDS

Notes:

1. All concentrations in milligrams per liter (mg/L)

2. Outfall values not used to contour

NA = Not Analyzed

NS[1] = Well is Dry or Not Enough Water to Sample- No sample

NR[1] = No Sample Required - Well Contains Separate Phase Hydrocarbon

NRSN[1] = No Sample Required -Well Contains Sheen

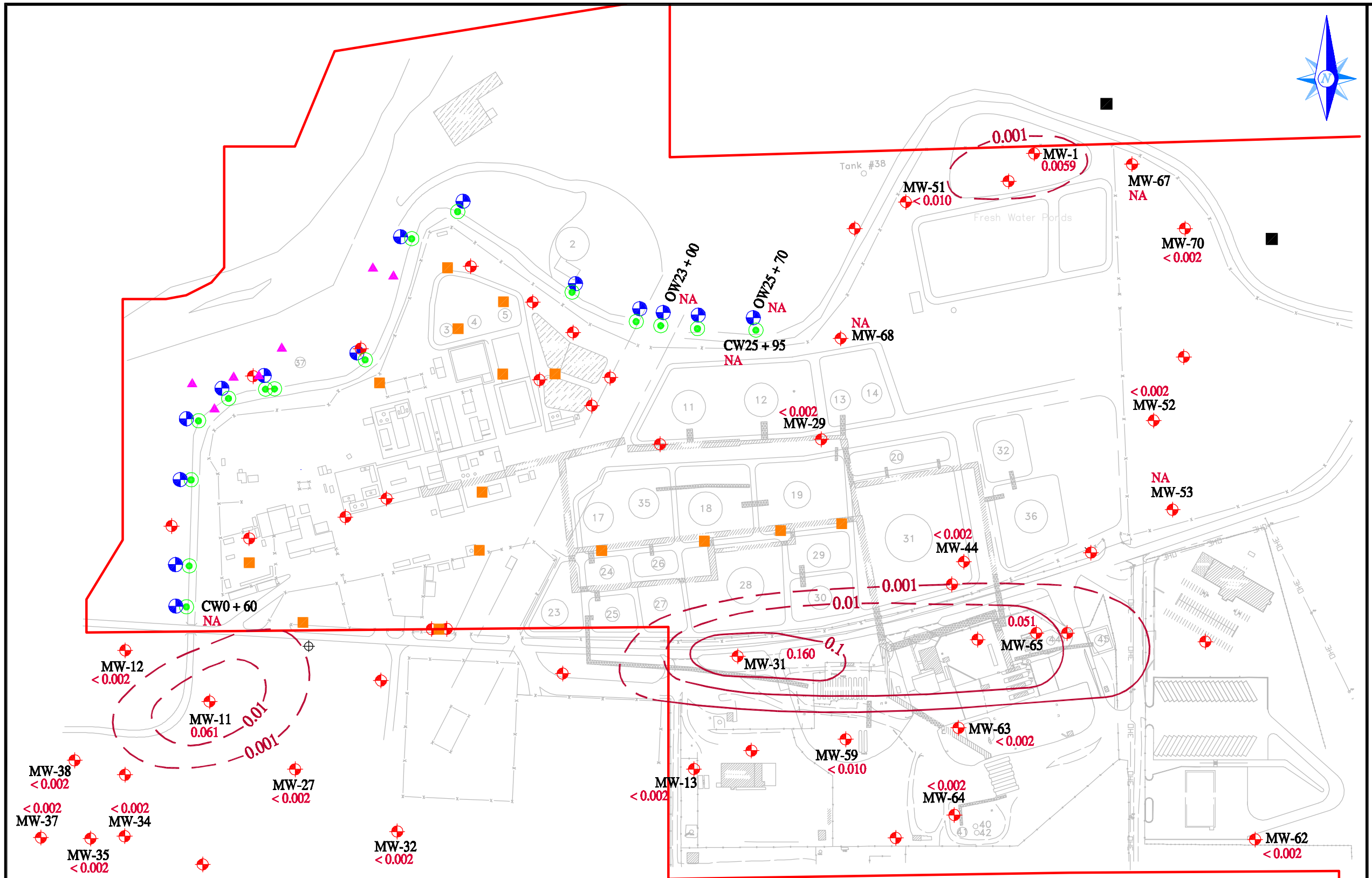
TDS Isoconcentration Contour Interval = 500 mg/L

0 125 250 375 500
Feet

Western Refining

Chloride, Sulfate, Nitrate and TDS Concentration Map - April 2018 Bloomfield Terminal

JANUARY 2019 | FIGURE 10



Legend

- Monitoring Well
- Observation Well
- Recovery Well
- Collection Well
- Outfall
- Piezometer
- Sump Well

Site

Approximate Property Line

MW-52 -Well ID
< 0.002 -Naphthalene

Notes:

1. All concentrations in milligrams per liter (mg/L)

2. Outfall values not used to contour

NA = Not Analyzed

NS[1] = Well is Dry or Not Enough Water to Sample- No sample

NR[1] = No Sample Required - Well Contains Separate Phase Hydrocarbon

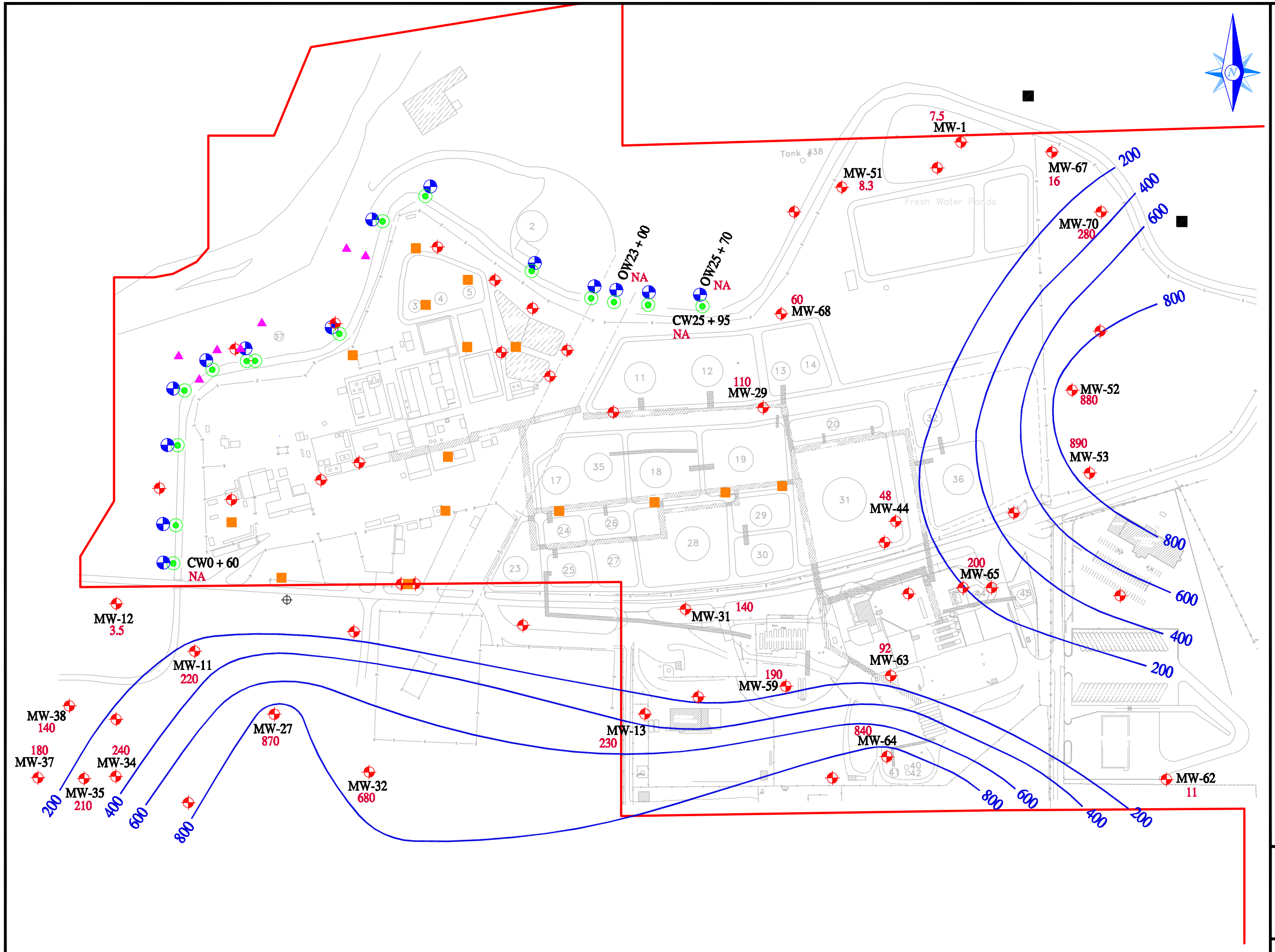
Naphthalene Isoconcentration Contour

0 125 250 375 500
Feet

Western Refining

Naphthalene Concentration Map - August 2018 Bloomfield Terminal

JANUARY 2019 | FIGURE 11



Legend

- Monitoring Well
- Observation Well
- Recovery Well
- Collection Well
- Outfall
- Piezometer
- Sump Well
- Site
- Approximate Property Line

MW-52 -Well ID
880 -Chloride

Notes:

1. All concentrations in milligrams per liter (mg/L)

2. Outfall values not used to contour

NA = Not Analyzed

NS[1] = Well is Dry or Not Enough Water to Sample- No sample

NR[1] = No Sample Required - Well Contains Separate Phase Hydrocarbon

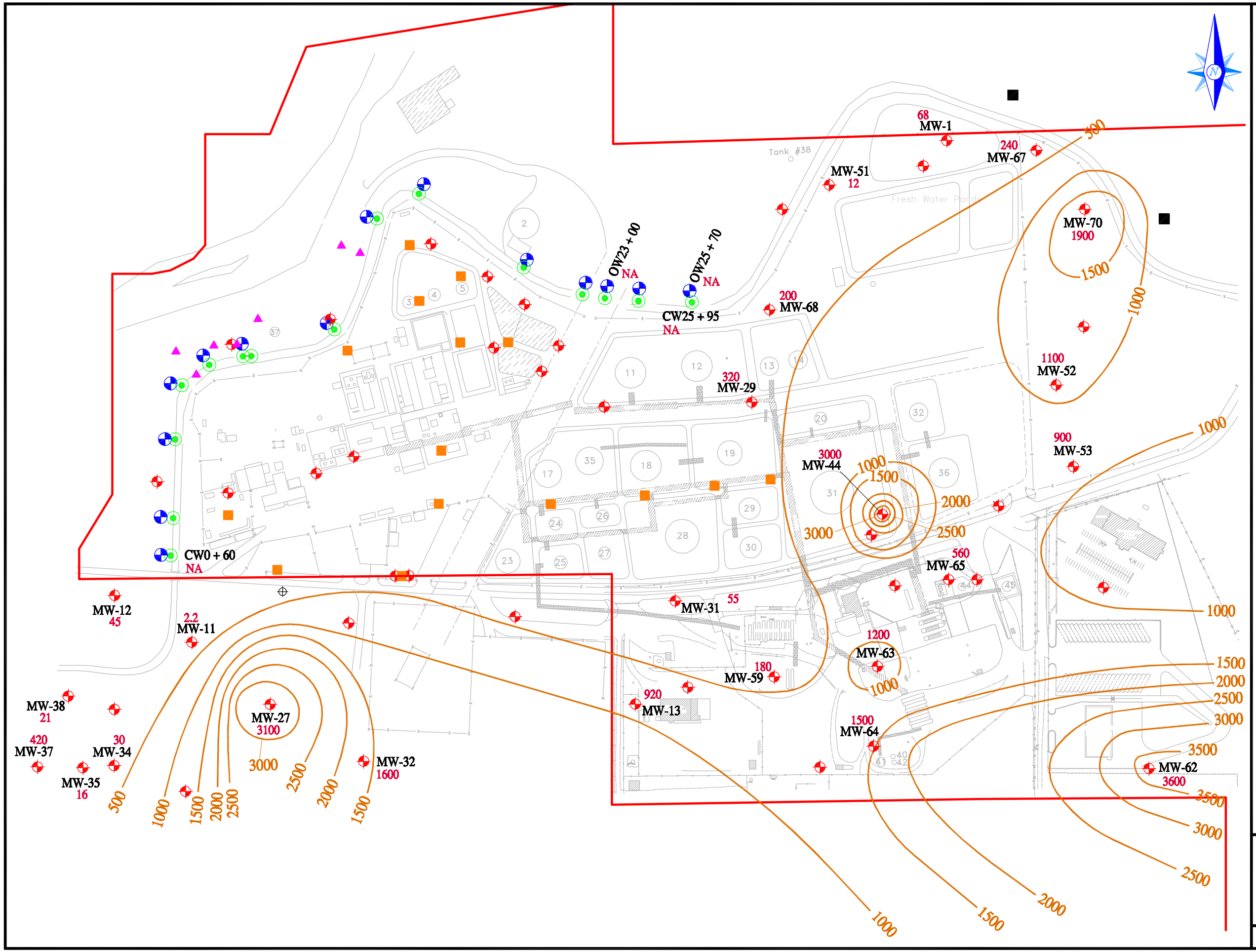
Chloride Isoconcentration Contour Interval = 200 mg/L

0 125 250 375 500
Feet

Western Refining

Chloride Concentration Map - August 2018 Bloomfield Terminal

JANUARY 2019 | FIGURE 12



Legend

- Monitoring Well
- Observation Well
- Recovery Well
- Collection Well
- Outfall
- Piezometer
- Sump Well
- Site
- Approximate Property Line

MW-52 -Well ID
1100 -Sulfate

Notes:

1. All concentrations in milligrams per liter (mg/L)

2. Outfall values not used to contour

NA = Not Analyzed

NS[1] = Well is Dry or Not Enough Water to Sample- No sample

NR[1] = No Sample Required - Well Contains Separate Phase Hydrocarbon

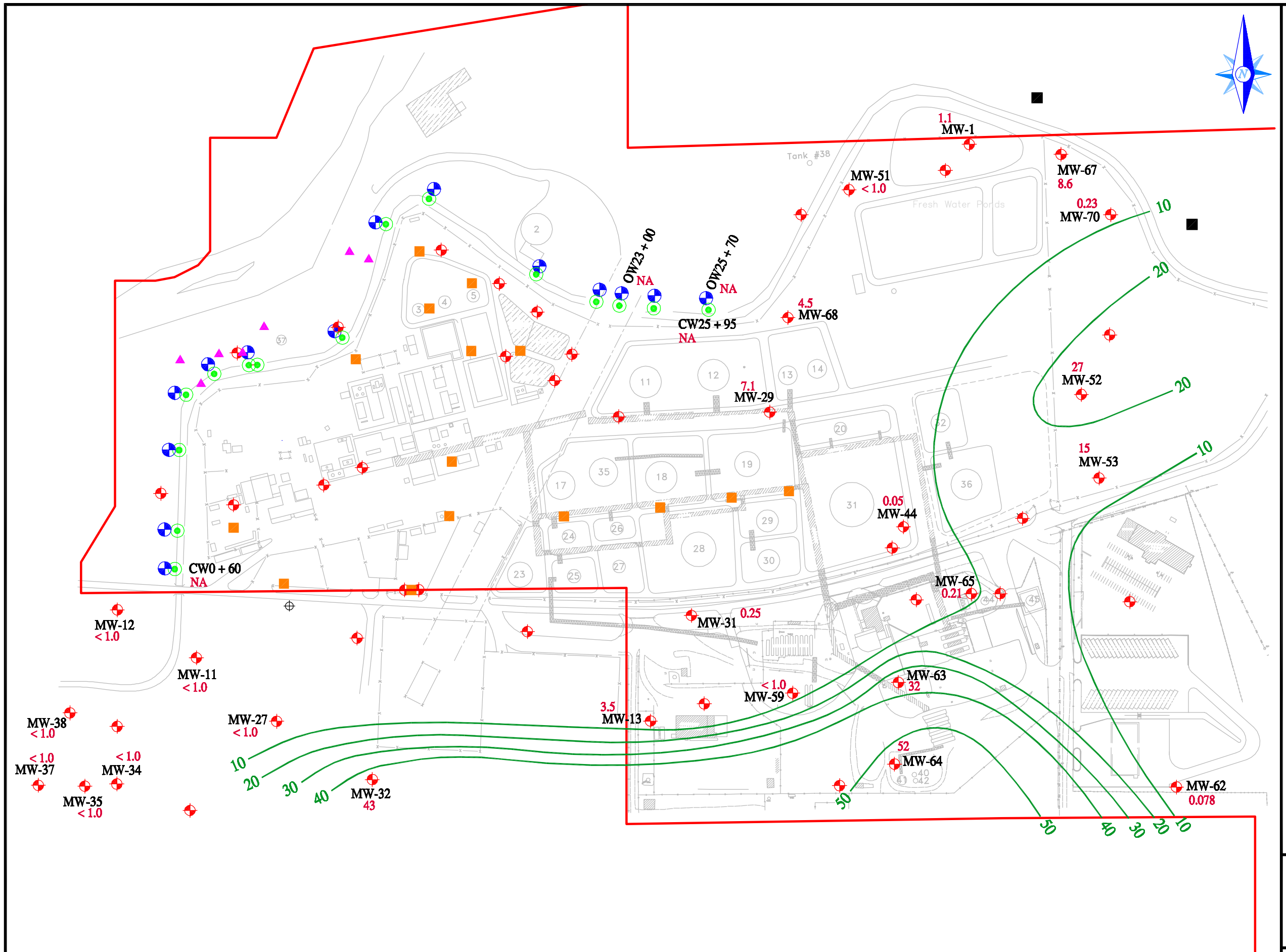
Sulfate Isoconcentration Contour Interval = 500 mg/L

0 125 250 375 500
Feet

Western Refining

Sulfate Concentration Map - August 2018 Bloomfield Terminal

JANUARY 2019 | FIGURE 13



Legend

- Monitoring Well
- Observation Well
- Recovery Well
- Collection Well
- Outfall
- Piezometer
- Sump Well
- Site
- Approximate Property Line

MW-52 -Well ID

27 -Nitrate

Notes:

1. All concentrations in milligrams per liter (mg/L)

2. Outfall values not used to contour

NA = Not Analyzed

NS[1] = Well is Dry or Not Enough Water to Sample- No sample

NR[1] = No Sample Required - Well Contains Separate Phase Hydrocarbon

Nitrate Isoconcentration Contour Interval = 10 mg/L

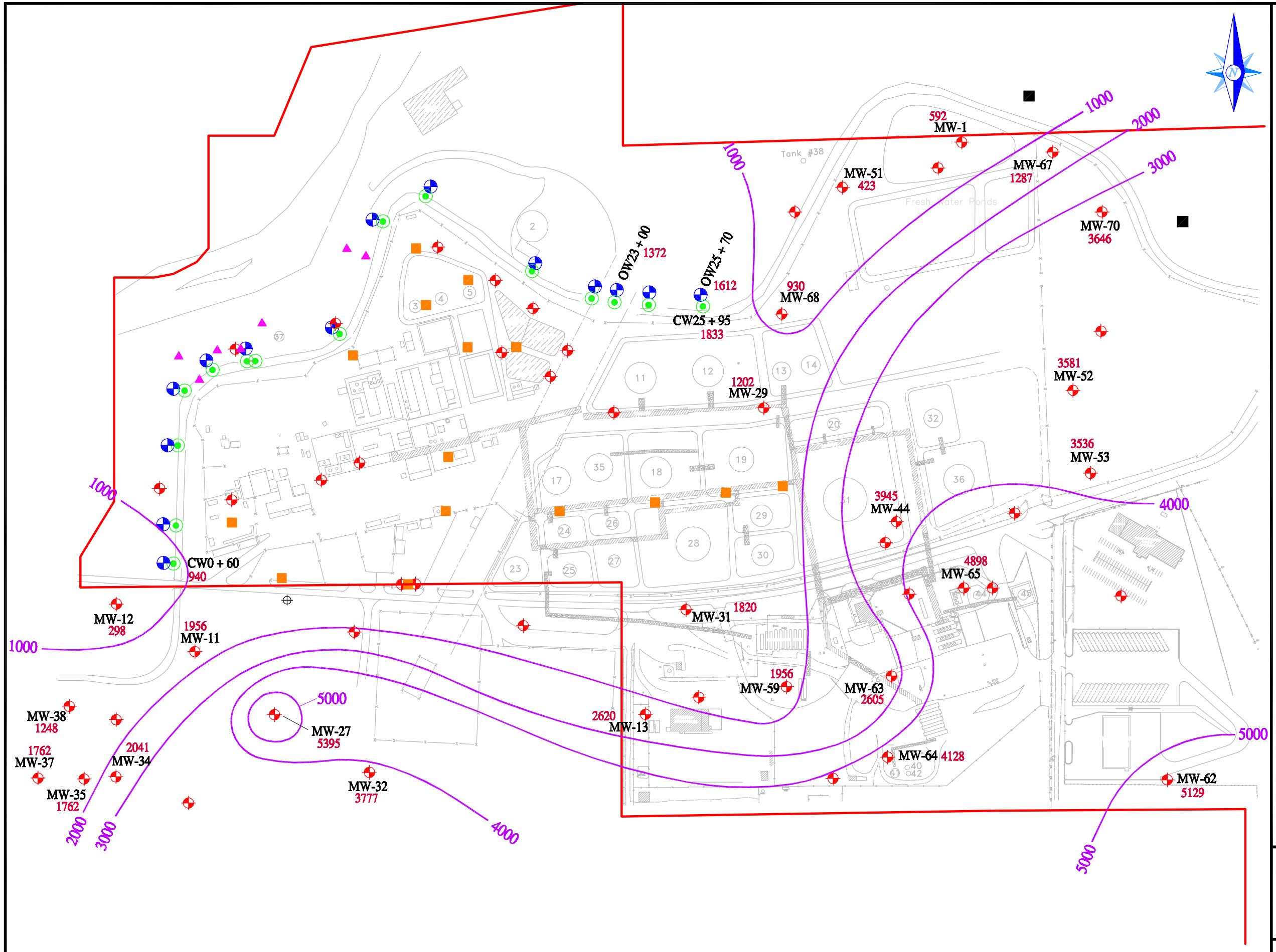
0 125 250 375 500

Feet

Western Refining

Nitrate Concentration Map - August 2018 Bloomfield Terminal

JANUARY 2019 | FIGURE 14



Legend

- Monitoring Well
- Observation Well
- Recovery Well
- Collection Well
- Outfall
- Piezometer
- Sump Well
- Site
- Approximate Property Line

MW-52 -Well ID
1202 -TDS

Notes:

1. All concentrations in milligrams per liter (mg/L)

2. Outfall values not used to contour

NA = Not Analyzed

NS[1] = Well is Dry or Not Enough Water to Sample- No sample

NR[1] = No Sample Required - Well Contains Separate Phase Hydrocarbon

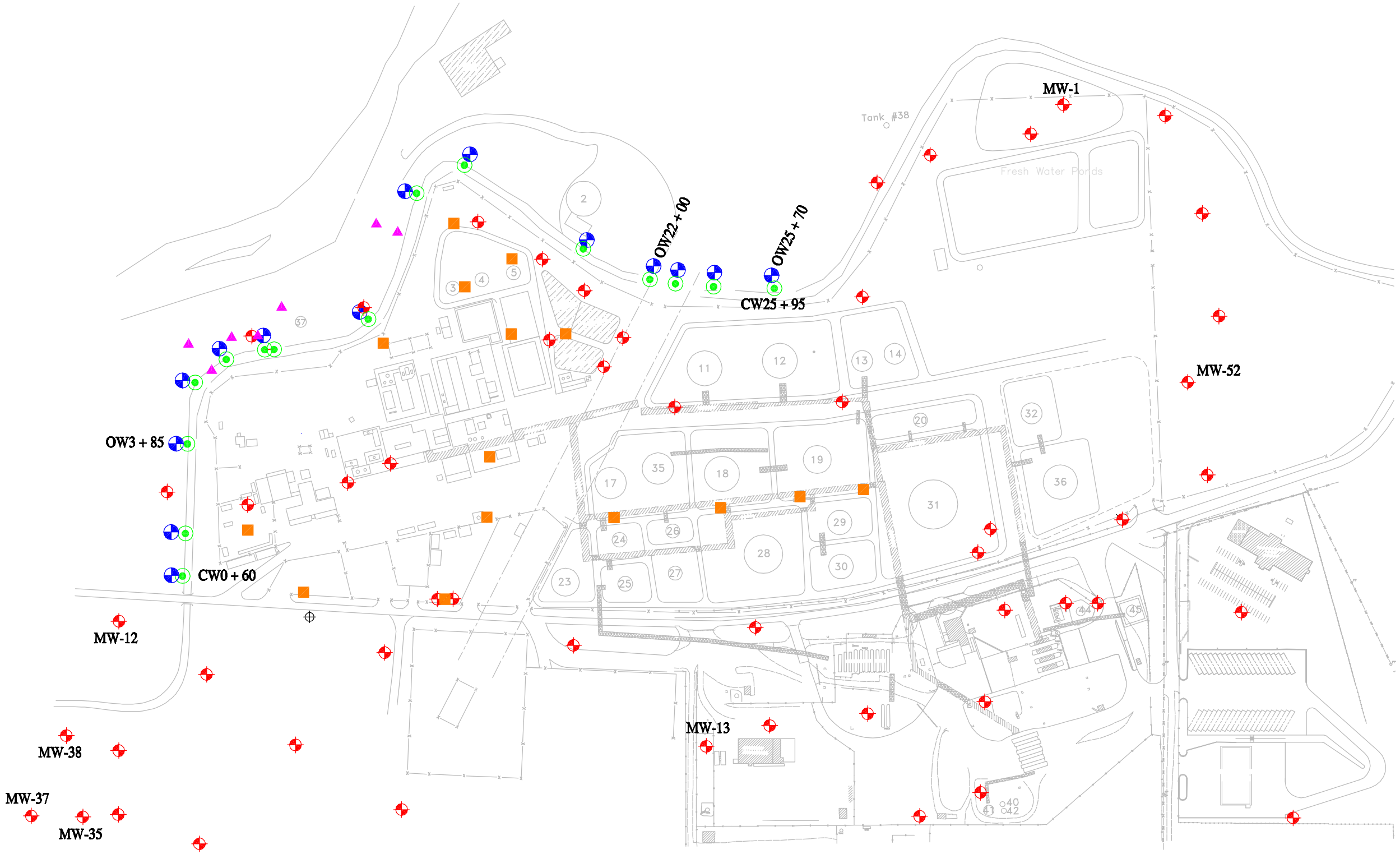
TDS Isoconcentration Contour Interval = 500 mg/L

0 125 250 375 500
Feet

Western Refining

Total Dissolved Solids Concentration Map - August 2018 Bloomfield Terminal

JANUARY 2019 | FIGURE 15



Legend

- Monitoring Well
- Observation Well
- Recovery Well
- Collection Well
- Piezometer
- Sump Well

Note:
All identified wells were sampled in April 2018

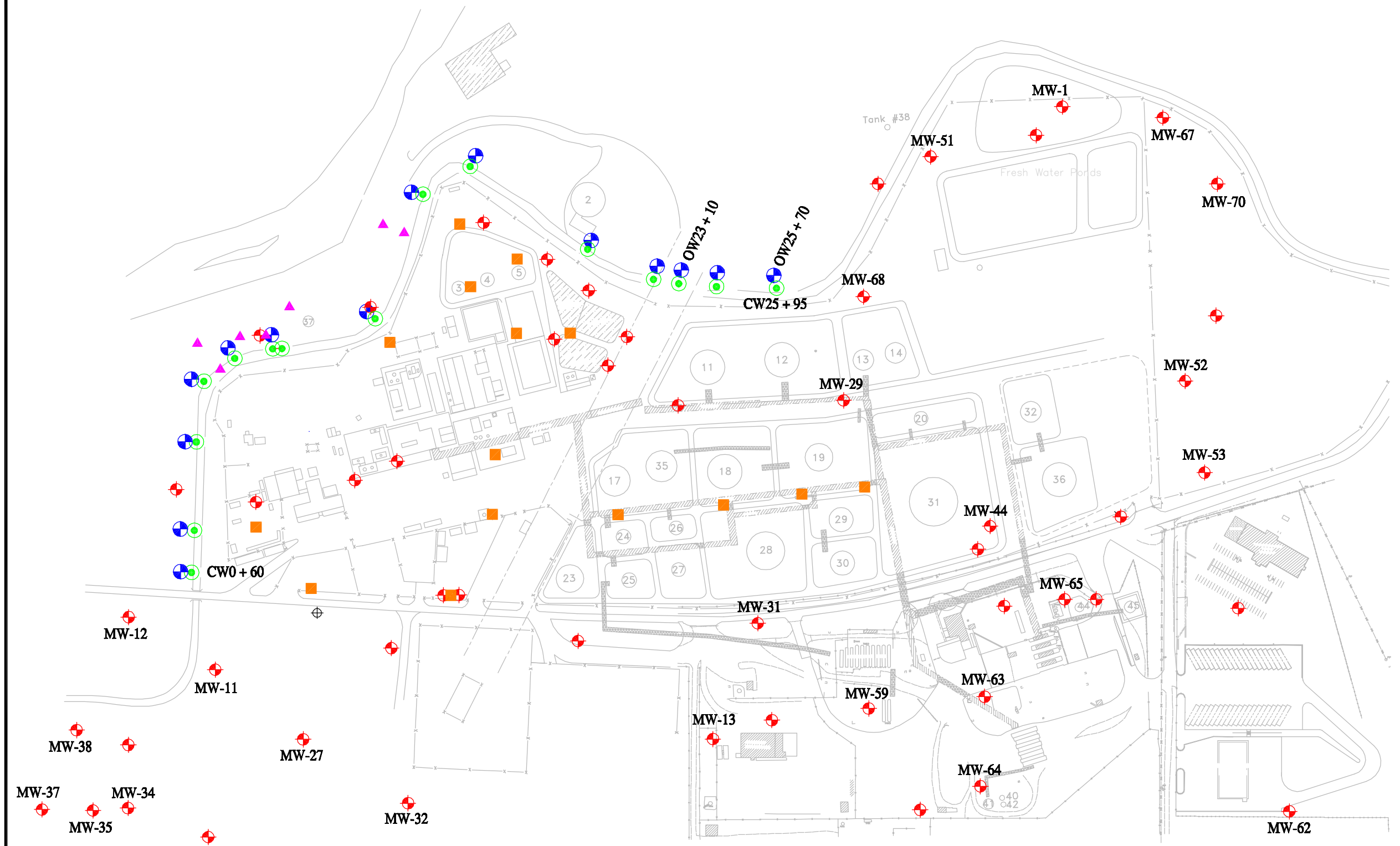
April 2018

0 125 250 375 500
Feet

Western Refining

Wells Sampled
April 2018
Bloomfield Terminal

JANUARY 2019 | FIGURE 16



Legend

- Monitoring Well
- Observation Well
- Recovery Well
- Collection Well
- Piezometer
- Sump Well

Note:
All identified wells were sampled in August 2018

August 2018

0 125 250 375 500
Feet

Western Refining

Wells Sampled August 2018 Bloomfield Terminal

JANUARY 2019 | FIGURE 17

Appendix A

1.0 DATA VALIDATION INTRODUCTION

This summary presents data verification results for groundwater and surface water sampling activities conducted in 2018 at the Bloomfield Terminal pursuant to Section IV.A.2. of the July 2007 Consent Order (NMED, 2007) issued by the New Mexico Environment Department Hazardous Waste Bureau (NMED-HWB), and Section 2.F of Discharge Permit GW-001 (NMOCD, 2017) issued by the New Mexico Energy, Mineral, and Natural Resources Department Oil Conservation Division (EMNRD-OCD). The data review was performed in accordance with the procedures specified in the Order issued by NMED (NMED, 2007), USEPA Functional Guidelines for Organic and Inorganic Data Review, and quality assurance and control parameters set by the project laboratory Hall Environmental Analysis Laboratory, Inc. The samples evaluated include groundwater samples collected from monitoring wells installed at the Refinery Complex and North Boundary Barrier, a groundwater seep sample collected at the San Juan River bluff, and surface water samples collected from the San Juan River.

A total of 56 groundwater samples, one groundwater seep sample, four groundwater "outfall" samples, and 12 surface water samples (excluding QA samples) were collected in annual and semiannual monitoring events between April 18, 2018 and August 10, 2018. Groundwater samples, groundwater seep samples, outfall samples, and surface water samples were submitted to Hall Environmental Analysis Laboratory for the following parameters:

- Volatile organic compounds (VOCs) by USEPA Method 8260B;
- Semi-volatile organic compounds (SVOCs) by USEPA Method 8270C
- Gasoline, diesel, and motor oil range organics by SW-846 Method 8015B;
- Total metals (arsenic, barium, cadmium, chromium, lead, selenium, and silver) and dissolved metals (arsenic, barium, cadmium, chromium, copper, iron, lead, magnesium, manganese, potassium, selenium, silver, sodium, uranium, and zinc) by SW846 Method 6010B/E200.7; and
- Mercury by EPA Method 7470.

Groundwater and surface water samples were also analyzed for general water quality parameters including, fluoride, chloride, nitrate, nitrite, bromide, phosphorous, sulfate, total carbon dioxide, total alkalinity, bicarbonate, total dissolved solids, and specific conductance.

Additionally, 22 quality assurance samples consisting of trip blanks, field blanks, equipment rinsate blanks, and field duplicates were collected and analyzed as part of the investigation activities. Table A-1 presents a summary of the field sample identifications, laboratory sample identifications, and sample collection dates.

2.0 QUALITY CONTROL PARAMETERS REVIEWED

Sample results were subject to a Level II data review that includes an evaluation of the following quality control (QC) parameters:

- Chain-of-Custody;
- Sample Preservation and Temperature Upon Laboratory Receipt
- Holding Times;
- Blank Contamination (method blanks, trip blanks, field blanks, and equipment rinsate blanks);
- Surrogate Recovery (for organic parameters);
- Laboratory Control Sample (LCS) Recovery and Relative Percent Difference (RPD);
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recovery and RPD;
- Duplicates (field duplicate, laboratory duplicate); and
- Other Applicable QC Parameters.

The data qualifiers used to qualify the analytical results associated with QC parameters outside of the established data quality objectives are defined below:

J+	The analyte was positively identified; however, the result should be considered an estimated value with a potential high bias.
J-	The analyte was positively identified; however, the result should be considered an estimated value with a potential low bias.
UJ	The reporting limit for a constituent that was not detected is considered an estimated value.
R	Quality control indicates that the data is not usable.

Results qualified as "J+", "J-", or "UJ" are of acceptable data quality and may be used quantitatively to fulfill the objectives of the analytical program, per EPA guidelines.

Results for the performance monitoring events that required qualification based on the data verification are summarized in Table A-2.

2.1 CHAIN-OF-CUSTODY

The chain-of-custody documentation associated with project samples was found to be complete. Chain-of-custodies included sample identifications, date and time of collection, requested parameters, and relinquished/received signatures.

2.2 SAMPLE PRESERVATION AND TEMPERATURE UPON LABORATORY RECEIPT

Samples collected were received preserved and intact by Hall Environmental Laboratories, Inc. Samples were received by the laboratory at a temperature of 6.0 degrees Celsius or lower. Data qualification on lower temperature samples was not required.

2.3 HOLDING TIMES

All samples were extracted and analyzed within method-specified holding time limits with the exception of total carbon dioxide and phosphorus, both general water quality parameters. The recommended holding time for total carbon dioxide analysis is "immediate". Unless the sample is analyzed in the field it is flagged by the laboratory. The holding time for phosphorus is 48 hours. Since analyses were conducted in a reasonable time period after collection of samples and samples were properly preserved, the data was accepted but was flagged as estimated with a potential low bias. Data qualification for exceeding holding times is shown on Table A-2.

2.4 BLANK CONTAMINATION

2.4.1 Method Blank

Method blanks were analyzed at the appropriate frequency. Target compounds were not detected in the method blanks above target screening levels with the following exception:

Lab Report 1808248

- The constituent sulfate was detected in the method blank (Batch ID R53287) at a concentration of 1600 mg/L. The screening level for sulfate is 600 mg/L. Nine samples were qualified "J+" in Table A-2.

2.4.2 Trip Blank

Trip blanks were analyzed at the appropriate frequency as specified in the Order and Permit. Target compounds were not detected in the trip blanks with the following exceptions:

Lab Report 1808322-005 – The following data was flagged with "J" (Analyte detected below quantitation limit) Batch ID R53334.

- Naphthalene – 1.2 ug/l vs screening level of 1.65 ug/l;
- 1-Methylnaphthalene – 0.42 ug/l vs screening level of 11 ug/l; and
- 2-Methylnaphthalene – 0.63 ug/l vs screening level of 36 ug/l.

These constituents were not detected in the method blank. The data was not qualified.

Lab Report 1808322-005 – The GRO result was flagged with a "J" (Analyte detected below quantitation limit) Batch ID A53492. GRO was present in the method blank and the sample was qualified "J+" in Table A-2.

Lab Report 1808540-005 – The GRO result was flagged with a "J" (Analyte detected below quantitation limit) Batch ID A53346. GRO was present in the method blank and the sample was qualified "J+" in Table A-2.

Lab Report 1808540-010 – The GRO result was flagged with a "J" (Analyte detected below quantitation limit) Batch ID A53346. GRO was present in the method blank and the sample was qualified "J+" in Table A-2.

Lab Report 1808649-007 – The GRO result was flagged with a "J" (Analyte detected below quantitation limit) Batch ID B53389. GRO was present in the method blank and the sample was qualified "J+" in Table A-2.

Lab Report 1808728-005 –In Batch ID Z53468 GRO was present in the method blank and the sample was qualified "J+" in Table A-2.

2.4.3 Field Blanks/Equipment Rinsate Blank

Field and equipment rinsate blanks were collected as specified in the Order and Permit. Target compounds were not detected in the field blanks or equipment blanks with the following exceptions:

Lab Report 1808439-002 (Field Blank #2)

- Total Carbon Dioxide – 7.1 mg CO2/L. The data was flagged with "H" (Holding times for preparation or analysis exceeded). The results were qualified with "J-" in Table A-2; and
- Zinc – 0.049 mg/L vs screening level of 10 mg/L. In Batch ID A53717 zinc was not detected in the method blank. Zinc was detected in LCS at a concentration of 0.50 mg/L. The results were qualified with "J+" in Table A-2.

Lab Report 1808439-008 (Equipment Blank)

- Total Carbon Dioxide – 9.8 mg CO2/l. The data was flagged with "H" (Holding times for preparation or analysis exceeded). The results were qualified with a "J-" in Table A-2;

Lab Report 1808649-002 (Field Blank #3)

- Toluene – 0.22 ug/l vs screening level of 750 ug/l. The data was flagged with a "J" (Analyte detected below quantitation limit). In Batch ID C53346 toluene was not detected in the method blank. The data was not qualified.

2.4.4 Common Laboratory Contaminants

Per USEPA guidelines, common laboratory contaminants for VOC analysis are acetone, 2-butanone (MEK), cyclohexane, chloromethane, and methylene chloride. Data qualification was not required since COCs were not detected in the method blanks.

2.4.5 Methanol Blanks

Methanol Blanks are not applicable and were not analyzed.

2.5 SURROGATE RECOVERY

Surrogate recoveries for the organic and inorganic analyses were performed at the required frequency and were within laboratory acceptance limits, with the following exceptions:

Lab Report 1804A98-007

- Surrogate recovery for bromofluorobenzene (BFB) was above the upper acceptance limit for field sample OW 3+85 in Laboratory Batch ID G42469. The associated detected field sample results for gasoline range organics (GRO) are qualified "J+" due to a potential high bias.

Data qualification for surrogate recovery is shown on Table A-2.

2.6 LCS RECOVERY AND RELATIVE PERCENT DIFFERENCE

LCS/LCS duplicates were performed at the required frequency and were evaluated based on the following criteria:

- If the analyte recovery was above acceptance limits for the LCS or LCS duplicate, but the analyte was not detected in the associated batch, then data qualification was not required.
- If the analyte recovery was above acceptance limits for the LCS or LCS duplicate and the analyte was detected in the associated batch, then the analyte results were qualified "J+" to account for a potential high bias.
- If the analyte recovery was below acceptance limits for LCS or LCS duplicate then the analyte results in the associated analytical batch were qualified ("UJ" for non-detects and "J-" for detected results) to account for a potential low bias.

LCS/LCSD percent recoveries and relative percent differences (RPDs) were within acceptance limits and no qualification was required.

2.7 MS/MSD RECOVERY AND RELATIVE PERCENT DIFFERENCE

MS/MSD samples were performed at the required frequency and were evaluated by the following criteria:

- If the MS or MSD recovery for an analyte was above acceptance limits but the analyte was not detected in the associated analytical batch, then data qualification was not required.
- If the MS or MSD recovery for an analyte was above acceptance limits and the analyte was detected in the associated analytical batch, then analyte results were qualified "J+" to account for a potential high bias.
- Low MS/MSD recoveries for inorganic parameters result in sample qualification of the associated analytical batch with a "J-".
- Results were not qualified based on non-project specific MS/MSD (i.e., batch QC) recoveries.

Some lab reports do not report MS/MSD results if none of the samples included under that report were used for the MS/MSD; however, in many instances the sample used for the MS/MSD was a sample of similar matrix materials submitted by Western in a different data set and its MS/MSD results were included in other lab reports, which are included in this data validation review.

MS/MSD percent recoveries and RPDs were within acceptance limits and no qualification was required with one exception for diesel range organics:

Lab Report 1808248

- The MS recovery for DRO was below the acceptable range; however, the MSD recovery was within range and demonstrates the analyses can produce usable results.

2.8 DUPLICATES

2.8.1 Field Duplicates

Field duplicates were collected at a rate as stated in the Order and Permit. The RPDs between the field duplicate and its associated sample were calculated and are presented in Table A-3. The field duplicates were evaluated by the following criteria:

- If an analyte was detected at a concentration greater than five times the method reporting limit, the RPD should be less than 25 percent for ground water samples.
- If an analyte was detected at a concentration that is less than five times the method reporting limit, then the difference between the sample and the field duplicate should not exceed the method reporting limit.
- Duplicate RPDs are calculated by dividing the difference of the concentrations by the average of the concentrations.

Field duplicate RPDs were within acceptance limits except for the following:

Lab Reports 1804A7701 (CW 0+60) and 180A7702 (CW 0+60 DUP) - Diesel Range Organics concentrations of 1.2 mg/L vs 0.92 mg/L in the duplicate sample. The RPD was 26.4 %.

Lab Reports 1808248011 (MW-59) and 1808248014 (DUPLICATE #1) – Sodium concentrations of 430 mg/L vs 180 mg/L in the duplicate sample. The RPD was 82%.

Lab Reports 1808540001 (MW-64) and 1808540009 (DUPLICATE #2)

- Bromide concentrations of 2.5 mg/L vs 3.4 mg/L in the duplicate sample. The RPD was 30.5%;
- Barium concentrations of 0.29 mg/L vs 0.22 mg/L in the duplicate sample. The RPD was 27.5%;
- Iron concentrations of 0.057 mg/L vs 0.031 mg/L in the duplicate sample. The RPD was 59.1%.

3.0 COMPLETENESS SUMMARY

The following equation was used to calculate the technical completeness:

$$\% \text{ Technical Completeness} = \left(\frac{Number\ of\ usable\ results}{Number\ of\ reported\ results}\right) x100$$

The technical completeness attained for Annual and Semi-Annual monitoring activities conducted in 2018 was 100 percent. The completeness results are provided in Table A-4. The analytical results for the required analytes per the Order and Permit were considered usable for the intended purposes and the project DQOs have been met.

Table A-1
Sample Identification - 2018 Annual Monitoring Report
Western Refining Southwest, Inc. - Bloomfield Terminal

Sample ID	Lab ID	Date Collected	Sample Type
MW-13	1804a74-001a	04/18/18	GW
CW 0+60	1804a77-001a	04/18/18	GW
CW 0+60 DUP	1804a77-002a	04/18/18	FD
MW-35	1804a80-001a	04/18/18	GW
Trip Blank	1804a80-002a	04/18/18	TB
MW-52	1804a81-001a	04/18/18	GW
MW-1	1804a83-001a	04/18/18	GW
MW-38	1804a98-001a	04/19/18	GW
MW-37	1804a98-002a	04/19/18	GW
MW-12	1804a98-003a	04/19/18	GW
Rinsate Blank	1804a98-004a	04/19/18	EB
Field Blank	1804a98-005a	04/19/18	FB
Trip Blank	1804a98-006a	04/19/18	TB
OW 3+85	1804a98-007a	04/19/18	GW
OW 25+70	1804a98-008a	04/19/18	GW
OW 22+00	1804b65-001a	04/20/18	GW
CW 25+95	1804b65-002a	04/20/18	GW
TRIP BLANK	1804b65-003a	04/20/18	TB
Outfall #2	1804b65-004a	04/20/18	GW
Outfall #3	1804b65-005a	04/20/18	GW
Upstream	1804b65-006a	04/20/18	SW
North of 46	1804b65-007a	04/20/18	SW
Downstream	1804b65-008a	04/20/18	SW
North of 45	1804b65-009a	04/20/18	SW
Seep 1	1805C34-001A	05/22/18	GW
Upstream	1808248-001a	08/02/18	SW
North of MW#45	1808248-002a	08/02/18	SW
North of MW#46	1808248-003a	08/02/18	SW
Downstream	1808248-004a	08/02/18	SW
Trip Blank	1808248-005a	08/02/18	TB
MW-68	1808248-006a	08/03/18	GW
MW-51	1808248-007a	08/03/18	GW
MW-67	1808248-008a	08/03/18	GW
MW-53	1808248-009a	08/03/18	GW
Trip Blank	1808248-010a	08/03/18	TB
MW-59	1808248-011a	08/03/18	GW
FIELD BLANK #1	1808248-012a	08/03/18	FB
DUPLICATE #1	1808248-013a	08/03/18	FD
Trip Blank	1808248-014a	08/03/18	TB
MW-1	1808322-001a	08/06/18	GW
MW-13	1808322-002a	08/06/18	GW
MW-34	1808322-003a	08/06/18	GW
MW-11	1808322-004a	08/06/18	GW
Trip Blank	1808322-005a	08/06/18	TB
MW-32	1808439-001a	08/07/18	GW
Field Blank #2	1808439-002a	08/07/18	FB
MW-27	1808439-003a	08/07/18	GW

Table A-1
Sample Identification - 2018 Annual Monitoring Report
Western Refining Southwest, Inc. - Bloomfield Terminal

Sample ID	Lab ID	Date Collected	Sample Type
MW-38	1808439-004a	08/07/18	GW
Trip Blank	1808439-005a	08/07/18	TB
MW-37	1808439-006a	08/07/18	GW
MW-35	1808439-007a	08/07/18	GW
Equipment Blank	1808439-008a	08/07/18	EB
MW-12	1808439-009a	08/07/18	GW
MW-64	1808540-001a	08/08/18	GW
MW-63	1808540-002a	08/08/18	GW
MW-31	1808540-003a	08/08/18	GW
MW-62	1808540-004a	08/08/18	GW
Trip Blank	1808540-005a	08/08/18	TB
MW-65	1808540-006a	08/08/18	GW
MW-70	1808540-007a	08/08/18	GW
MW-44	1808540-008a	08/08/18	GW
DUPLICATE #2	1808540-009a	08/08/18	FD
Trip Blank	1808540-010a	08/08/18	TB
MW-52	1808649-001a	08/08/18	GW
MW-29	1808649-002a	08/08/18	GW
CW 0+60	1808649-003a	08/09/18	GW
FIELD BLANK #3	1808649-004a	08/09/18	FB
OW 25+70	1808649-005a	08/09/18	GW
DUPLICATE #3	1808649-006a	08/09/18	FD
Trip Blank	1808649-007a	08/09/18	TB
East Outfall #3	1808728-001a	08/09/18	GW
East Outfall #2	1808728-002a	08/10/18	GW
OW 23+10	1808728-003a	08/10/18	GW
CW 25+95	1808728-004a	08/10/18	GW
Trip Blank	1808728-005a	08/10/18	TB

Notes:

GW = Groundwater
FD = Field Duplicate
SW = Surface Water
TB = Trip Blank
EB = Equipment Blank
FB = Field Blank

Table A-2
Qualified Data - 2018 Annual Monitoring Report
Western Refining Southwest, Inc. - Bloomfield Terminal

SAMPLE ID	DATE COLLECTED	ANALYTE	RESULTS	UNITS	SAMPLE TYPE	QUALIFIER	COMMENTS
OW 3+85	04/19/18	Gasoline Range Organics	3.7	mg/L	GW	J+	Qualified high bias - high recovery in surrogate.
Outfall #2	04/20/18	Total Carbon Dioxide	330	mg CO2/L	GW	J-	Qualified low bias - analysis outside holding time.
Outfall #3	04/20/18	Total Carbon Dioxide	300	mg CO2/L	GW	J-	Qualified low bias - analysis outside holding time.
Upstream	04/20/18	Total Carbon Dioxide	76	mg CO2/L	SW	J-	Qualified low bias - analysis outside holding time.
Upstream	04/20/18	Phosphorus, Orthophosphate (As P)	< 0.50	mg/L	SW	UJ	Qualified low bias - analysis outside holding time.
North of 46	04/20/18	Total Carbon Dioxide	78	mg CO2/L	SW	J-	Qualified low bias - analysis outside holding time.
North of 46	04/20/18	Phosphorus, Orthophosphate (As P)	< 0.50	mg/L	SW	UJ	Qualified low bias - analysis outside holding time.
Downstream	04/20/18	Total Carbon Dioxide	77	mg CO2/L	SW	J-	Qualified low bias - analysis outside holding time.
Downstream	04/20/18	Phosphorus, Orthophosphate (As P)	< 0.50	mg/L	SW	UJ	Qualified low bias - analysis outside holding time.
North of 45	04/20/18	Total Carbon Dioxide	75	mg CO2/L	SW	J-	Qualified low bias - analysis outside holding time.
North of 45	04/20/18	Phosphorus, Orthophosphate (As P)	< 0.50	mg/L	SW	UJ	Qualified low bias - analysis outside holding time.
Seep 1	05/22/18	Total Carbon Dioxide	430	mg CO2/L	GW	J-	Qualified low bias - analysis outside holding time.
Upstream	08/02/18	Sulfate	43	mg/L	SW	J+	Qualified high bias - detection of sulfate in method blank
North of MW#45	08/02/18	Sulfate	42	mg/L	SW	J+	Qualified high bias - detection of sulfate in method blank
North of MW#46	08/02/18	Sulfate	43	mg/L	SW	J+	Qualified high bias - detection of sulfate in method blank
Downstream	08/02/18	Sulfate	44	mg/L	SW	J+	Qualified high bias - detection of sulfate in method blank
MW-68	08/03/18	Sulfate	200	mg/L	GW	J+	Qualified high bias - detection of sulfate in method blank
MW-68	08/03/18	Total Carbon Dioxide	250	mg CO2/L	GW	J-	Qualified low bias - analysis outside holding time.
MW-51	08/03/18	Sulfate	12	mg/L	GW	J+	Qualified high bias - detection of sulfate in method blank
MW-51	08/03/18	Total Carbon Dioxide	230	mg CO2/L	GW	J-	Qualified low bias - analysis outside holding time.
MW-67	08/03/18	Sulfate	240	mg/L	GW	J+	Qualified high bias - detection of sulfate in method blank
MW-67	08/03/18	Total Carbon Dioxide	330	mg CO2/L	GW	J-	Qualified low bias - analysis outside holding time.
MW-53	08/03/18	Total Carbon Dioxide	330	mg CO2/L	GW	J-	Qualified low bias - analysis outside holding time.
MW-59	08/03/18	Sulfate	180	mg/L	GW	J+	Qualified high bias - detection of sulfate in method blank
MW-59	08/03/18	Total Carbon Dioxide	1000	mg CO2/L	GW	J-	Qualified low bias - analysis outside holding time.

Table A-2
Qualified Data - 2018 Annual Monitoring Report
Western Refining Southwest, Inc. - Bloomfield Terminal

SAMPLE ID	DATE COLLECTED	ANALYTE	RESULTS	UNITS	SAMPLE TYPE	QUALIFIER	COMMENTS
FIELD BLANK #1	08/03/18	Total Carbon Dioxide	9.9	mg CO2/L	FB	J-	Qualified low bias - analysis outside holding time.
DUPLICATE #1	08/03/18	Sulfate	180	mg/L	GW	J+	Qualified high bias - detection of sulfate in method blank
DUPLICATE #1	08/03/18	Total Carbon Dioxide	990	mg CO2/L	FD	J-	Qualified low bias - analysis outside holding time.
MW-1	08/06/18	Phosphorus, Orthophosphate (As P)	< 0.50	mg/L	GW	UJ	Qualified low bias - analysis outside holding time.
MW-1	08/06/18	Total Carbon Dioxide	320	mg CO2/L	GW	J-	Qualified low bias - analysis outside holding time.
MW-13	08/06/18	Phosphorus, Orthophosphate (As P)	< 0.50	mg/L	GW	UJ	Qualified low bias - analysis outside holding time.
MW-13	08/06/18	Total Carbon Dioxide	890	mg CO2/L	GW	J-	Qualified low bias - analysis outside holding time.
MW-34	08/06/18	Total Carbon Dioxide	870	mg CO2/L	GW	J-	Qualified low bias - analysis outside holding time.
MW-11	08/06/18	Total Carbon Dioxide	900	mg CO2/L	GW	J-	Qualified low bias - analysis outside holding time.
Trip Blank	08/06/18	Gasoline Range Organics	0.026	mg/L	GW	J+	Qualified high bias - GRO detected in the method blank
MW-32	08/07/18	Phosphorus, Orthophosphate (As P)	< 10	mg/L	GW	UJ	Qualified low bias - analysis outside holding time.
MW-32	08/07/18	Total Carbon Dioxide	170	mg CO2/L	GW	J-	Qualified low bias - analysis outside holding time.
Field Blank #2	08/07/18	Phosphorus, Orthophosphate (As P)	< 0.50	mg/L	FB	UJ	Qualified low bias - analysis outside holding time.
Field Blank #2	08/07/18	Total Carbon Dioxide	7.1	mg CO2/L	FB	J-	Qualified low bias - analysis outside holding time.
Field Blank #2	08/07/18	Zinc	0.049	mg/L	FB	J+	Qualified high bias - Zinc detected in the LCS
MW-27	08/07/18	Phosphorus, Orthophosphate (As P)	< 10	mg/L	GW	UJ	Qualified low bias - analysis outside holding time.
MW-27	08/07/18	Total Carbon Dioxide	260	mg CO2/L	GW	J-	Qualified low bias - analysis outside holding time.
MW-38	08/07/18	Phosphorus, Orthophosphate (As P)	< 0.50	mg/L	GW	UJ	Qualified low bias - analysis outside holding time.
MW-38	08/07/18	Total Carbon Dioxide	630	mg CO2/L	GW	J-	Qualified low bias - analysis outside holding time.
MW-37	08/07/18	Phosphorus, Orthophosphate (As P)	< 0.50	mg/L	GW	UJ	Qualified low bias - analysis outside holding time.
MW-37	08/07/18	Total Carbon Dioxide	640	mg CO2/L	GW	J-	Qualified low bias - analysis outside holding time.
MW-35	08/07/18	Phosphorus, Orthophosphate (As P)	< 2.5	mg/L	GW	UJ	Qualified low bias - analysis outside holding time.
MW-35	08/07/18	Total Carbon Dioxide	940	mg CO2/L	GW	J-	Qualified low bias - analysis outside holding time.
Equipment Blank	08/07/18	Phosphorus, Orthophosphate (As P)	< 0.50	mg/L	EB	UJ	Qualified low bias - analysis outside holding time.
Equipment Blank	08/07/18	Total Carbon Dioxide	9.8	mg CO2/L	EB	J-	Qualified low bias - analysis outside holding time.
MW-12	08/07/18	Phosphorus, Orthophosphate (As P)	< 0.50	mg/L	GW	UJ	Qualified low bias - analysis outside holding time.
MW-12	08/07/18	Total Carbon Dioxide	140	mg CO2/L	GW	J-	Qualified low bias - analysis outside holding time.
MW-64	08/08/18	Total Carbon Dioxide	270	mg CO2/L	GW	J-	Qualified low bias - analysis outside holding time.
MW-63	08/08/18	Total Carbon Dioxide	610	mg CO2/L	GW	J-	Qualified low bias - analysis outside holding time.
MW-31	08/08/18	Total Carbon Dioxide	1100	mg CO2/L	GW	J-	Qualified low bias - analysis outside holding time.

Table A-2
Qualified Data - 2018 Annual Monitoring Report
Western Refining Southwest, Inc. - Bloomfield Terminal

SAMPLE ID	DATE COLLECTED	ANALYTE	RESULTS	UNITS	SAMPLE TYPE	QUALIFIER	COMMENTS
MW-62	08/08/18	Total Carbon Dioxide	600	mg CO2/L	GW	J-	Qualified low bias - analysis outside holding time.
Trip Blank	08/08/18	Gasoline Range Organics	0.037	mg/L	GW	J+	Qualified high bias - GRO detected in the method blank
Trip Blank	08/08/18	Gasoline Range Organics	0.038	mg/L	GW	J+	Qualified high bias - GRO detected in the method blank
MW-65	08/08/18	Total Carbon Dioxide	1200	mg CO2/L	GW	J-	Qualified low bias - analysis outside holding time.
MW-70	08/08/18	Total Carbon Dioxide	790	mg CO2/L	GW	J-	Qualified low bias - analysis outside holding time.
MW-44	08/08/18	Total Carbon Dioxide	350	mg CO2/L	GW	J-	Qualified low bias - analysis outside holding time.
DUPLICATE #2	08/08/18	Total Carbon Dioxide	260	mg CO2/L	FD	J-	Qualified low bias - analysis outside holding time.
MW-52	08/08/18	Phosphorus, Orthophosphate (As P)	1.6	mg/L	GW	J-	Qualified low bias - analysis outside holding time.
MW-52	08/08/18	Total Carbon Dioxide	200	mg CO2/L	GW	J-	Qualified low bias - analysis outside holding time.
MW-29	08/08/18	Phosphorus, Orthophosphate (As P)	1.4	mg/L	GW	J-	Qualified low bias - analysis outside holding time.
MW-29	08/08/18	Total Carbon Dioxide	280	mg CO2/L	GW	J-	Qualified low bias - analysis outside holding time.
Trip Blank	08/09/18	Gasoline Range Organics	0.043	mg/L	GW	J+	Qualified high bias - GRO detected in the method blank
East Outfall #3	08/09/18	Phosphorus, Orthophosphate (As P)	0.33	mg/L	GW	J-	Qualified low bias - analysis outside holding time.
East Outfall #3	08/09/18	Total Carbon Dioxide	86	mg CO2/L	GW	J-	Qualified low bias - analysis outside holding time.
East Outfall #2	08/10/18	Phosphorus, Orthophosphate (As P)	0.64	mg/L	GW	J-	Qualified low bias - analysis outside holding time.
East Outfall #2	08/10/18	Total Carbon Dioxide	210	mg CO2/L	GW	J-	Qualified low bias - analysis outside holding time.
Trip Blank	08/10/18	Gasoline Range Organics	0.074	mg/L	GW	J+	Qualified high bias - GRO detected in the method blank

Notes:
J- = Low bias J+ = High bias UJ - analyte was not detected, but results may be biased low
GW = Groundwater TB = Trip Blank FD = Field Duplicate EB = Equipment Blank
SW = Surface Water FB = Field Blank

Table A-3
Field Duplicate Summary - 2018 Annual Monitoring Report
Western Refining Southwest, Inc. - Bloomfield Terminal

Parameter	CW 0+60	CW 0+60 DUP	RPD %
	1804A7701	1804A7702	
	4/18/2018	4/18/2018	
	Sample Result	Field Duplicate	
Volatile Organic Compounds (ug/L)			
1,1,1,2-Tetrachloroethane	---	---	NC
1,1,1-Trichloroethane	---	---	NC
1,1,2,2-Tetrachloroethane	---	---	NC
1,1,2-Trichloroethane	---	---	NC
1,1-Dichloroethane	---	---	NC
1,1-Dichloroethene	---	---	NC
1,1-Dichloropropene	---	---	NC
1,2,3-Trichlorobenzene	---	---	NC
1,2,3-Trichloropropane	---	---	NC
1,2,4-Trichlorobenzene	---	---	NC
1,2,4-Trimethylbenzene	---	---	NC
1,2-Dibromo-3-chloropropane	---	---	NC
1,2-Dibromoethane (EDB)	---	---	NC
1,2-Dichlorobenzene	---	---	NC
1,2-Dichloroethane (EDC)	---	---	NC
1,2-Dichloropropane	---	---	NC
1,3,5-Trimethylbenzene	---	---	NC
1,3-Dichlorobenzene	---	---	NC
1,3-Dichloropropane	---	---	NC
1,4-Dichlorobenzene	---	---	NC
1-Methylnaphthalene	---	---	NC
2,2-Dichloropropane	---	---	NC
2-Butanone	---	---	NC
2-Chlorotoluene	---	---	NC
2-Hexanone	---	---	NC
2-Methylnaphthalene	---	---	NC
4-Chlorotoluene	---	---	NC
4-Isopropyltoluene	---	---	NC
4-Methyl-2-pentanone	---	---	NC
Acetone	---	---	NC
Benzene	1.2	1.2	0.0
Bromobenzene	---	---	NC
Bromodichloromethane	---	---	NC
Bromoform	---	---	NC
Bromomethane	---	---	NC
Carbon disulfide	---	---	NC
Carbon Tetrachloride	---	---	NC
Chlorobenzene	---	---	NC
Chloroethane	---	---	NC
Chloroform	---	---	NC
Chloromethane	---	---	NC
cis-1,2-DCE	---	---	NC
cis-1,3-Dichloropropene	---	---	NC
Dibromochloromethane	---	---	NC
Dibromomethane	---	---	NC
Dichlorodifluoromethane	---	---	NC
Ethylbenzene	3.7	4	7.8
Hexachlorobutadiene	---	---	NC
Isopropylbenzene	---	---	NC
Methyl tert-butyl ether (MTBE)	<1.0	< 1.0	NC
Methylene Chloride	---	---	NC
Naphthalene	---	---	NC
n-Butylbenzene	---	---	NC
n-Propylbenzene	---	---	NC
sec-Butylbenzene	---	---	NC
Styrene	---	---	NC
tert-Butylbenzene	---	---	NC
Tetrachloroethene (PCE)	---	---	NC

Table A-3
Field Duplicate Summary - 2018 Annual Monitoring Report
Western Refining Southwest, Inc. - Bloomfield Terminal

Parameter	CW 0+60 1804A7701 4/18/2018 Sample Result	CW 0+60 DUP 1804A7702 4/18/2018 Field Duplicate	RPD %
Toluene	< 1.0	< 1.0	NC
trans-1,2-DCE	---	---	NC
trans-1,3-Dichloropropene	---	---	NC
Trichloroethene (TCE)	---	---	NC
Trichlorofluoromethane	---	---	NC
Vinyl chloride	---	---	NC
Xylenes, Total	1.5	1.6	6.5
General Chemistry (mg/l):			
Fluoride	---	---	NC
Chloride	---	---	NC
Nitrite	---	---	NC
Bromide	---	---	NC
Nitrate	---	---	NC
Phosphorus	---	---	NC
Sulfate	---	---	NC
Carbon Dioxide (CO_2)	---	---	NC
Alkalinity ($CaCO_3$)	---	---	NC
Bicarbonate ($CaCO_3$)	---	---	NC
Total Metals (mg/l):			
Arsenic	---	---	NC
Barium	---	---	NC
Cadmium	---	---	NC
Chromium	---	---	NC
Lead	---	---	NC
Selenium	---	---	NC
Silver	---	---	NC
Mercury	---	---	NC
Dissolved Metals (mg/l):			
Arsenic	---	---	NC
Barium	---	---	NC
Cadmium	---	---	NC
Calcium	---	---	NC
Chromium	---	---	NC
Copper	---	---	NC
Iron	---	---	NC
Lead	---	---	NC
Magnesium	---	---	NC
Manganese	---	---	NC
Potassium	---	---	NC
Selenium	---	---	NC
Silver	---	---	NC
Sodium	---	---	NC
Uranium	---	---	NC
Zinc	---	---	NC
Total Petroleum Hydrocarbons (mg/l):			
Diesel Range Organics	1.2	0.92	26.4
Gasoline Range Organics	---	---	NC
Motor Oil Range Organics	<2.5	<2.5	NC

Notes:
RPD = Relative percent difference; [(difference)/(average)]* 100
NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data
ug/L = micrograms per liter
mg/L = milligrams per liter
--- = not analyzed

Table A-3
Field Duplicate Summary - 2018 Annual Monitoring Report
Western Refining Southwest, Inc. - Bloomfield Terminal

Parameter	MW-59	DUPLICATE #1	RPD %
	1808248011	1808248014	
	8/3/2018	8/3/2018	
	Sample Result	Field Duplicate	
Volatile Organic Compounds (ug/L)			
1,1,1,2-Tetrachloroethane	---	---	NC
1,1,1-Trichloroethane	---	---	NC
1,1,2,2-Tetrachloroethane	---	---	NC
1,1,2-Trichloroethane	---	---	NC
1,1-Dichloroethane	---	---	NC
1,1-Dichloroethene	---	---	NC
1,1-Dichloropropene	---	---	NC
1,2,3-Trichlorobenzene	---	---	NC
1,2,3-Trichloropropane	---	---	NC
1,2,4-Trichlorobenzene	---	---	NC
1,2,4-Trimethylbenzene	---	---	NC
1,2-Dibromo-3-chloropropane	---	---	NC
1,2-Dibromoethane (EDB)	---	---	NC
1,2-Dichlorobenzene	---	---	NC
1,2-Dichloroethane (EDC)	---	---	NC
1,2-Dichloropropane	---	---	NC
1,3,5-Trimethylbenzene	---	---	NC
1,3-Dichlorobenzene	---	---	NC
1,3-Dichloropropane	---	---	NC
1,4-Dichlorobenzene	---	---	NC
1-Methylnaphthalene	---	---	NC
2,2-Dichloropropane	---	---	NC
2-Butanone	---	---	NC
2-Chlorotoluene	---	---	NC
2-Hexanone	---	---	NC
2-Methylnaphthalene	---	---	NC
4-Chlorotoluene	---	---	NC
4-Isopropyltoluene	---	---	NC
4-Methyl-2-pentanone	---	---	NC
Acetone	---	---	NC
Benzene	23	23	0.0
Bromobenzene	---	---	NC
Bromodichloromethane	---	---	NC
Bromoform	---	---	NC
Bromomethane	---	---	NC
Carbon disulfide	---	---	NC
Carbon Tetrachloride	---	---	NC
Chlorobenzene	---	---	NC
Chloroethane	---	---	NC
Chloroform	---	---	NC
Chloromethane	---	---	NC
cis-1,2-DCE	---	---	NC
cis-1,3-Dichloropropene	---	---	NC
Dibromochloromethane	---	---	NC
Dibromomethane	---	---	NC
Dichlorodifluoromethane	---	---	NC
Ethylbenzene	76	80	5.1
Hexachlorobutadiene	---	---	NC
Isopropylbenzene	---	---	NC
Methyl tert-butyl ether (MTBE)	1400	1400	0.0
Methylene Chloride	---	---	NC
Naphthalene	---	---	NC
n-Butylbenzene	---	---	NC
n-Propylbenzene	---	---	NC
sec-Butylbenzene	---	---	NC

Table A-3
Field Duplicate Summary - 2018 Annual Monitoring Report
Western Refining Southwest, Inc. - Bloomfield Terminal

Parameter	MW-59	DUPLICATE #1	RPD %
	1808248011	1808248014	
	8/3/2018	8/3/2018	
	Sample Result	Field Duplicate	
Styrene	---	---	NC
tert-Butylbenzene	---	---	NC
Tetrachloroethene (PCE)	---	---	NC
Toluene	< 1.0	< 1.0	NC
trans-1,2-DCE	---	---	NC
trans-1,3-Dichloropropene	---	---	NC
Trichloroethene (TCE)	---	---	NC
Trichlorofluoromethane	---	---	NC
Vinyl chloride	---	---	NC
Xylenes, Total	< 1.5	< 1.5	NC
Semi-Volatile Organic Compounds (ug/L)			
1,2,4-Trichlorobenzene	< 10	< 10	NC
1,2-Dichlorobenzene	< 10	< 10	NC
1,3-Dichlorobenzene	< 10	< 10	NC
1,4-Dichlorobenzene	< 10	< 10	NC
1-Methylnaphthalene	< 10	< 10	NC
2,4,5-Trichlorophenol	< 10	< 10	NC
2,4,6-Trichlorophenol	< 10	< 10	NC
2,4-Dichlorophenol	< 20	< 20	NC
2,4-Dimethylphenol	< 10	< 10	NC
2,4-Dinitrophenol	< 20	< 20	NC
2,4-Dinitrotoluene	< 10	< 10	NC
2,6-Dinitrotoluene	< 10	< 10	NC
2-Chloronaphthalene	< 10	< 10	NC
2-Chlorophenol	< 10	< 10	NC
2-Methylnaphthalene	< 10	< 10	NC
2-Methylphenol	< 10	< 10	NC
2-Nitroaniline	< 10	< 10	NC
2-Nitrophenol	< 10	< 10	NC
3+4-Methylphenol	< 10	< 10	NC
3,3´-Dichlorobenzidine	< 10	< 10	NC
3-Nitroaniline	< 10	< 10	NC
4,6-Dinitro-2-methylphenol	< 20	< 20	NC
4-Bromophenyl phenyl ether	< 10	< 10	NC
4-Chloro-3-methylphenol	< 10	< 10	NC
4-Chloroaniline	< 10	< 10	NC
4-Chlorophenyl phenyl ether	< 10	< 10	NC
4-Nitroaniline	< 10	< 10	NC
4-Nitrophenol	< 10	< 10	NC
Acenaphthene	< 10	< 10	NC
Acenaphthylene	< 10	< 10	NC
Aniline	< 10	< 10	NC
Anthracene	< 10	< 10	NC
Azobenzene	< 10	< 10	NC
Benz(a)anthracene	< 10	< 10	NC
Benzo(a)pyrene	< 10	< 10	NC
Benzo(b)fluoranthene	< 10	< 10	NC
Benzo(g,h,i)perylene	< 10	< 10	NC
Benzo(k)fluoranthene	< 10	< 10	NC
Benzoic acid	< 20	< 20	NC
Benzyl alcohol	< 10	< 10	NC
Bis(2-chloroethoxy)methane	< 10	< 10	NC
Bis(2-chloroethyl)ether	< 10	< 10	NC
Bis(2-chloroisopropyl)ether	< 10	< 10	NC
Bis(2-ethylhexyl)phthalate	< 10	< 10	NC
Butyl benzyl phthalate	< 10	< 10	NC
Carbazole	< 10	< 10	NC
Chrysene	< 10	< 10	NC

Table A-3
Field Duplicate Summary - 2018 Annual Monitoring Report
Western Refining Southwest, Inc. - Bloomfield Terminal

Parameter	MW-59	DUPLICATE #1	RPD %
	1808248011	1808248014	
	8/3/2018	8/3/2018	
	Sample Result	Field Duplicate	
Di-n-butyl phthalate	< 10	< 10	NC
Di-n-octyl phthalate	< 10	< 10	NC
Dibenz(a,h)anthracene	< 10	< 10	NC
Dibenzofuran	< 10	< 10	NC
Diethyl phthalate	< 10	< 10	NC
Dimethyl phthalate	< 10	< 10	NC
Fluoranthene	< 10	< 10	NC
Fluorene	< 10	< 10	NC
Hexachlorobenzene	< 10	< 10	NC
Hexachlorobutadiene	< 10	< 10	NC
Hexachlorocyclopentadiene	< 10	< 10	NC
Hexachloroethane	< 10	< 10	NC
Indeno(1,2,3-cd)pyrene	< 10	< 10	NC
Isophorone	< 10	< 10	NC
N-Nitrosodi-n-propylamine	< 10	< 10	NC
N-Nitrosodimethylamine	< 10	< 10	NC
N-Nitrosodiphenylamine	< 10	< 10	NC
Naphthalene	< 10	< 10	NC
Nitrobenzene	< 10	< 10	NC
Pentachlorophenol	< 20	< 20	NC
Phenanthrene	< 10	< 10	NC
Phenol	< 10	< 10	NC
Pyrene	< 10	< 10	NC
Pyridine	< 10	< 10	NC
General Chemistry (mg/l):			
Fluoride	< 0.10	< 0.10	NC
Chloride	190	190	0.0
Nitrite	< 1.0	< 1.0	NC
Bromide	3.1	3.1	0.0
Nitrate	< 1.0	< 1.0	NC
Phosphorus	< 0.50	< 0.50	NC
Sulfate	180	180	0.0
Carbon Dioxide (CO_2)	1000	990	1.0
Alkalinity ($CaCO_3$)	1050	1052	0.2
Bicarbonate ($CaCO_3$)	1050	1052	0.2
Total Metals (mg/l):			
Arsenic	< 0.020	< 0.0050	NC
Barium	0.12	0.12	0.0
Cadmium	< 0.0020	< 0.0020	NC
Chromium	< 0.0060	< 0.0060	NC
Lead	< 0.0050	< 0.020	NC
Selenium	< 0.050	< 0.0050	NC
Silver	< 0.0050	< 0.050	NC
Mercury	< 0.00020	< 0.00020	NC
Dissolved Metals (mg/l):			
Arsenic	< 0.020	1.6	NC
Barium	0.12	0.12	0.0
Cadmium	< 0.0020	< 0.0020	NC
Calcium	170	< 0.020	NC
Chromium	< 0.0060	< 0.0060	NC
Copper	< 0.0060	< 0.0060	NC
Iron	7.5	7.4	1.3
Lead	0.0090	0.011	20.0
Magnesium	50	50	0.0
Manganese	1.5	< 0.10	NC
Potassium	3.0	2.9	3.4

Table A-3
Field Duplicate Summary - 2018 Annual Monitoring Report
Western Refining Southwest, Inc. - Bloomfield Terminal

Parameter	MW-59	DUPLICATE #1	RPD %
	1808248011	1808248014	
	8/3/2018	8/3/2018	
	Sample Result	Field Duplicate	
Selenium	0.11	0.10	9.5
Silver	< 0.0050	< 0.0050	NC
Sodium	430	180	82.0
Uranium	< 0.10	420	NC
Zinc	< 0.020	< 0.020	NC
Total Petroleum Hydrocarbons (mg/l):			
Diesel Range Organics	< 0.40	< 0.40	NC
Gasoline Range Organics	2.3	2.4	4.3
Motor Oil Range Organics	< 2.5	< 2.5	NC

Notes:
RPD = Relative percent difference; [(difference)/(average)]* 100
NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data
ug/L = micrograms per liter
mg/L = milligrams per liter
--- = not analyzed

Table A-3
Field Duplicate Summary - 2018 Annual Monitoring Report
Western Refining Southwest, Inc. - Bloomfield Terminal

Parameter	MW-64	DUPLICATE #2	RPD %
	1808540001	1808540009	
	8/8/2018	8/8/2018	
	Sample Result	Field Duplicate	
Volatile Organic Compounds (ug/L)			
1,1,1,2-Tetrachloroethane	< 1.0	< 1.0	NC
1,1,1-Trichloroethane	< 1.0	< 1.0	NC
1,1,2,2-Tetrachloroethane	< 2.0	< 2.0	NC
1,1,2-Trichloroethane	< 1.0	< 1.0	NC
1,1-Dichloroethane	< 1.0	< 1.0	NC
1,1-Dichloroethene	< 1.0	< 1.0	NC
1,1-Dichloropropene	< 1.0	< 1.0	NC
1,2,3-Trichlorobenzene	< 1.0	< 1.0	NC
1,2,3-Trichloropropane	< 2.0	< 2.0	NC
1,2,4-Trichlorobenzene	< 1.0	< 1.0	NC
1,2,4-Trimethylbenzene	< 1.0	< 1.0	NC
1,2-Dibromo-3-chloropropane	< 2.0	< 2.0	NC
1,2-Dibromoethane (EDB)	< 1.0	< 1.0	NC
1,2-Dichlorobenzene	< 1.0	< 1.0	NC
1,2-Dichloroethane (EDC)	< 1.0	< 1.0	NC
1,2-Dichloropropane	< 1.0	< 1.0	NC
1,3,5-Trimethylbenzene	< 1.0	< 1.0	NC
1,3-Dichlorobenzene	< 1.0	< 1.0	NC
1,3-Dichloropropane	< 1.0	< 1.0	NC
1,4-Dichlorobenzene	< 1.0	< 1.0	NC
1-Methylnaphthalene	< 4.0	< 4.0	NC
2,2-Dichloropropane	< 2.0	< 2.0	NC
2-Butanone	< 10	< 10	NC
2-Chlorotoluene	< 1.0	< 1.0	NC
2-Hexanone	< 10	< 10	NC
2-Methylnaphthalene	< 4.0	< 4.0	NC
4-Chlorotoluene	< 1.0	< 1.0	NC
4-Isopropyltoluene	< 1.0	< 1.0	NC
4-Methyl-2-pentanone	< 10	< 10	NC
Acetone	< 10	< 10	NC
Benzene	< 1.0	< 1.0	NC
Bromobenzene	< 1.0	< 1.0	NC
Bromodichloromethane	< 1.0	< 1.0	NC
Bromoform	< 1.0	< 1.0	NC
Bromomethane	< 3.0	< 3.0	NC
Carbon disulfide	< 10	< 10	NC
Carbon Tetrachloride	< 1.0	< 1.0	NC
Chlorobenzene	< 1.0	< 1.0	NC
Chloroethane	< 2.0	< 2.0	NC
Chloroform	< 1.0	< 1.0	NC
Chloromethane	< 3.0	< 3.0	NC
cis-1,2-DCE	< 1.0	< 1.0	NC
cis-1,3-Dichloropropene	< 1.0	< 1.0	NC
Dibromochloromethane	< 1.0	< 1.0	NC
Dibromomethane	< 1.0	< 1.0	NC
Dichlorodifluoromethane	< 1.0	< 1.0	NC
Ethylbenzene	< 1.0	< 1.0	NC
Hexachlorobutadiene	< 1.0	< 1.0	NC
Isopropylbenzene	< 1.0	< 1.0	NC
Methyl tert-butyl ether (MTBE)	< 1.0	< 1.0	NC
Methylene Chloride	< 3.0	< 3.0	NC
Naphthalene	< 3.0	< 3.0	NC
n-Butylbenzene	< 1.0	< 1.0	NC
n-Propylbenzene	< 2.0	< 2.0	NC
sec-Butylbenzene	< 1.0	< 1.0	NC

Table A-3
Field Duplicate Summary - 2018 Annual Monitoring Report
Western Refining Southwest, Inc. - Bloomfield Terminal

Parameter	MW-64	DUPLICATE #2	RPD %
	1808540001	1808540009	
	8/8/2018	8/8/2018	
	Sample Result	Field Duplicate	
Styrene	< 1.0	< 1.0	NC
tert-Butylbenzene	< 1.0	< 1.0	NC
Tetrachloroethene (PCE)	< 1.0	< 1.0	NC
Toluene	< 1.0	< 1.0	NC
trans-1,2-DCE	< 1.0	< 1.0	NC
trans-1,3-Dichloropropene	< 1.0	< 1.0	NC
Trichloroethene (TCE)	< 1.0	< 1.0	NC
Trichlorofluoromethane	< 1.0	< 1.0	NC
Vinyl chloride	< 1.0	< 1.0	NC
Xylenes, Total	< 1.5	< 1.5	NC
General Chemistry (mg/l):			
Fluoride	< 2.0	< 0.50	NC
Chloride	840	820	2.4
Nitrite	< 2.0	< 2.0	NC
Bromide	2.5	3.4	30.5
Nitrate	52	51	1.9
Phosphorus	< 10	< 10	NC
Sulfate	1500	1500	0.0
Carbon Dioxide (CO_2)	270	260	3.8
Alkalinity ($CaCO_3$)	275.2	278.7	1.3
Bicarbonate ($CaCO_3$)	275.2	278.7	1.3
Total Metals (mg/l):			
Arsenic	< 0.020	< 0.020	NC
Barium	0.29	0.22	27.5
Cadmium	< 0.0020	< 0.0020	NC
Chromium	0.0097	0.0086	12.0
Lead	< 0.0050	< 0.0050	NC
Selenium	< 0.050	< 0.050	NC
Silver	0.0081	0.010	21.0
Mercury	< 0.00020	< 0.00020	NC
Dissolved Metals (mg/l):			
Arsenic	< 0.020	< 0.020	NC
Barium	< 0.020	< 0.020	NC
Cadmium	< 0.0020	< 0.0020	NC
Calcium	450	440	2.2
Chromium	< 0.0060	< 0.0060	NC
Copper	< 0.0060	< 0.0060	NC
Iron	0.057	0.031	59.1
Lead	< 0.0050	< 0.0050	NC
Magnesium	66	68	3.0
Manganese	< 0.0020	< 0.0020	NC
Mercury	< 0.00020	< 0.00020	NC
Potassium	4.5	4.6	2.2
Selenium	< 0.050	< 0.050	NC
Silver	0.012	0.013	8.0
Sodium	800	740	7.8
Uranium	< 0.10	< 0.10	NC
Zinc	< 0.020	< 0.020	NC
Total Petroleum Hydrocarbons (mg/l):			
Diesel Range Organics	< 0.050	< 0.050	NC
Gasoline Range Organics	< 0.40	< 0.40	NC
Motor Oil Range Organics	< 2.5	< 2.5	NC

Notes:
RPD = Relative percent difference; [(difference)/(average)]* 100
NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data
ug/L = micrograms per liter
mg/L = milligrams per liter
--- = not analyzed

Table A-3
Field Duplicate Summary - 2018 Annual Monitoring Report
Western Refining Southwest, Inc. - Bloomfield Terminal

Parameter	CW 0+60	DUPLICATE #3	RPD %
	1808649003	1808649006	
	8/9/2018	8/9/2018	
	Sample Result	Field Duplicate	
Volatile Organic Compounds (ug/L)			
1,1,1,2-Tetrachloroethane	---	---	NC
1,1,1-Trichloroethane	---	---	NC
1,1,2,2-Tetrachloroethane	---	---	NC
1,1,2-Trichloroethane	---	---	NC
1,1-Dichloroethane	---	---	NC
1,1-Dichloroethene	---	---	NC
1,1-Dichloropropene	---	---	NC
1,2,3-Trichlorobenzene	---	---	NC
1,2,3-Trichloropropane	---	---	NC
1,2,4-Trichlorobenzene	---	---	NC
1,2,4-Trimethylbenzene	---	---	NC
1,2-Dibromo-3-chloropropane	---	---	NC
1,2-Dibromoethane (EDB)	---	---	NC
1,2-Dichlorobenzene	---	---	NC
1,2-Dichloroethane (EDC)	---	---	NC
1,2-Dichloropropane	---	---	NC
1,3,5-Trimethylbenzene	---	---	NC
1,3-Dichlorobenzene	---	---	NC
1,3-Dichloropropane	---	---	NC
1,4-Dichlorobenzene	---	---	NC
1-Methylnaphthalene	---	---	NC
2,2-Dichloropropane	---	---	NC
2-Butanone	---	---	NC
2-Chlorotoluene	---	---	NC
2-Hexanone	---	---	NC
2-Methylnaphthalene	---	---	NC
4-Chlorotoluene	---	---	NC
4-Isopropyltoluene	---	---	NC
4-Methyl-2-pentanone	---	---	NC
Acetone	---	---	NC
Benzene	< 1.0	< 1.0	NC
Bromobenzene	---	---	NC
Bromodichloromethane	---	---	NC
Bromoform	---	---	NC
Bromomethane	---	---	NC
Carbon disulfide	---	---	NC
Carbon Tetrachloride	---	---	NC
Chlorobenzene	---	---	NC
Chloroethane	---	---	NC
Chloroform	---	---	NC
Chloromethane	---	---	NC
cis-1,2-DCE	---	---	NC
cis-1,3-Dichloropropene	---	---	NC
Dibromochloromethane	---	---	NC
Dibromomethane	---	---	NC
Dichlorodifluoromethane	---	---	NC
Ethylbenzene	1.8	1.6	11.8
Hexachlorobutadiene	---	---	NC
Isopropylbenzene	---	---	NC
Methyl tert-butyl ether (MTBE)	< 1.0	< 1.0	NC
Methylene Chloride	---	---	NC
Naphthalene	---	---	NC
n-Butylbenzene	---	---	NC
n-Propylbenzene	---	---	NC

Table A-3
Field Duplicate Summary - 2018 Annual Monitoring Report
Western Refining Southwest, Inc. - Bloomfield Terminal

Parameter	CW 0+60	DUPLICATE #3	RPD %
	1808649003	1808649006	
	8/9/2018	8/9/2018	
	Sample Result	Field Duplicate	
sec-Butylbenzene	---	---	NC
Styrene	---	---	NC
tert-Butylbenzene	---	---	NC
Tetrachloroethene (PCE)	---	---	NC
Toluene	< 1.0	< 1.0	NC
trans-1,2-DCE	---	---	NC
trans-1,3-Dichloropropene	---	---	NC
Trichloroethene (TCE)	---	---	NC
Trichlorofluoromethane	---	---	NC
Vinyl chloride	---	---	NC
Xylenes, Total	< 1.5	< 1.5	NC
General Chemistry (mg/l):			
Fluoride	---	---	NC
Chloride	---	---	NC
Nitrite	---	---	NC
Bromide	---	---	NC
Nitrate	---	---	NC
Phosphorus	---	---	NC
Sulfate	---	---	NC
Carbon Dioxide (CO_2)	---	---	NC
Alkalinity ($CaCO_3$)	---	---	NC
Bicarbonate ($CaCO_3$)	---	---	NC
Total Metals (mg/l):			
Arsenic	---	---	NC
Barium	---	---	NC
Cadmium	---	---	NC
Chromium	---	---	NC
Lead	---	---	NC
Selenium	---	---	NC
Silver	---	---	NC
Mercury	---	---	NC
Dissolved Metals (mg/l):			
Arsenic	---	---	NC
Barium	---	---	NC
Cadmium	---	---	NC
Calcium	---	---	NC
Chromium	---	---	NC
Copper	---	---	NC
Iron	---	---	NC
Lead	---	---	NC
Magnesium	---	---	NC
Manganese	---	---	NC
Potassium	---	---	NC
Selenium	---	---	NC
Silver	---	---	NC
Sodium	---	---	NC
Uranium	---	---	NC
Zinc	---	---	NC
Total Petroleum Hydrocarbons (mg/l):			
Diesel Range Organics	< 0.40	< 0.40	NC
Gasoline Range Organics	---	---	NC
Motor Oil Range Organics	<2.5	<2.5	NC

Notes:
RPD = Relative percent difference; [(difference)/(average)]* 100
NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data
ug/L = micrograms per liter
mg/L = milligrams per liter
--- = not analyzed

Table A-4
Technical Completeness Summary - 2018 Annual Monitoring Report
Western Refining Southwest, Inc. - Bloomfield Terminal

	Parameter	Total Number of Results	Number of Usable Results	Percent Technical Compliance
TPH (mg/L):	Diesel Range Organics (DRO)	51	51	100
	Motor Oil Range Organics (MRO)	50	50	100
	Gasoline Range Organics (GRO)	45	45	100
VOCs (mg/L):	All VOC Analytes	22	22	100
VOCs (mg/L):	BTEX & MTBE only	39	39	100
SVOCs (mg/L):	All SVOC Analytes	9	9	100
Total Recoverable Metals (mg/L):	Arsenic	37	37	100
	Barium	37	37	100
	Cadmium	37	37	100
	Chromium	37	37	100
	Lead	37	37	100
	Selenium	37	37	100
	Silver	37	37	100
Dissolved Metals (mg/L):	Arsenic	37	37	100
	Barium	37	37	100
	Cadmium	37	37	100
	Calcium	37	37	100
	Chromium	37	37	100
	Copper	37	37	100
	Iron	37	37	100
	Lead	37	37	100
	Magnesium	37	37	100
	Manganese	37	37	100
	Mercury	37	37	100
	Potassium	37	37	100
	Selenium	37	37	100
	Silver	37	37	100
	Sodium	37	37	100
	Uranium	37	37	100
	Zinc	37	37	100
Other Parameters:	Bicarbonate (As CaCO3)	38	38	100
	Bromide	37	37	100
	Carbonate (As CaCO3)	38	38	100
	Chloride	37	37	100
	Fluoride	37	37	100
	Nitrate+Nitrite as N	31	31	100
	Nitrogen, Nitrate (As N)	9	9	100
	Nitrogen, Nitrite (As N)	9	9	100
	Phosphorus, Orthophosphate (As P)	37	37	100
	Sulfate	37	37	100
	Total Alkalinity (as CaCO3)	38	38	100
	Total Carbon Dioxide	38	38	100

Notes:

Number of samples used in completeness calculations includes field duplicates, equipment rinsate, and field blanks.

Percent Technial Compliance = (Number of usable results / Number of reported results) * 100

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

April 24, 2018

Allen Hains

Andeavor
50 CR 4990
Bloomfield, NM 87413
TEL: (505) 801-5616
FAX (505) 632-3911

RE: Cross Gradient Wells 4 18 18 OrderNo.: 1804A74

Dear Allen Hains:

Hall Environmental Analysis Laboratory received 1 sample(s) on 4/19/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1804A74**
Date Reported: **4/24/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor
Client Sample ID: MW-13
Project: Cross Gradient Wells 4 18 18
Collection Date: 4/18/2018 10:50:00 AM
Lab ID: 1804A74-001
Matrix: AQUEOUS
Received Date: 4/19/2018 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**
Benzene	ND	1.0		µg/L	1	4/20/2018 2:01:53 PM
Toluene	ND	1.0		µg/L	1	4/20/2018 2:01:53 PM
Ethylbenzene	ND	1.0		µg/L	1	4/20/2018 2:01:53 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/20/2018 2:01:53 PM
Xylenes, Total	ND	1.5		µg/L	1	4/20/2018 2:01:53 PM
Surr: 4-Bromofluorobenzene	114	70-130		%Rec	1	4/20/2018 2:01:53 PM
Surr: Toluene-d8	103	70-130		%Rec	1	4/20/2018 2:01:53 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1804A74**

24-Apr-18

Client: Andeavor

Project: Cross Gradient Wells 4 18 18

Sample ID **100ng lcs**	SampType: **LCS4**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **BatchQC**	Batch ID: **R50722**	RunNo: **50722**
Prep Date:	Analysis Date: **4/20/2018**	SeqNo: **1646068** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	96.6	80	120			
Toluene	21	1.0	20.00	0	104	80	120			
Ethylbenzene	21	1.0	20.00	0	104	80	120			
Methyl tert-butyl ether (MTBE)	18	1.0	20.00	0	91.3	80	120			
Xylenes, Total	62	1.5	60.00	0	104	80	120			
Surr: 4-Bromofluorobenzene	11		10.00		108	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **R50722**	RunNo: **50722**
Prep Date:	Analysis Date: **4/20/2018**	SeqNo: **1646080** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 4-Bromofluorobenzene	11		10.00		113	70	130			
Surr: Toluene-d8	9.8		10.00		98.5	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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Sample Log-In Check List

Client Name: ANDEAVOR BLOOMFIEL Work Order Number: 1804A74 RcptNo: 1

Received By: Isaiah Ortiz 4/19/2018 7:15:00 AM I Ortiz

Completed By: Michelle Garcia 4/19/2018 4:04:06 PM Michelle Garcia

Reviewed By: JMO 4/19/18

LB: ENM

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

ENM 4/19/2018

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.4	Good	Yes			

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **Cross-Gradient Wells**

Date: 4-18-18

Project #: **Semi-Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: ☑ Yes ☐ No

Sample Temperature: 0.6 -0.2(CF) 0.4

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1804A74	BTEX+MTBE+TMB's (8021)	BTEX+MTBE+TPH (Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	**8260B (VOA) BTEX, MTBE only**	8270 (Semi-VOA)					Air Bubbles (Y or N)
4/18/18	1050	H_2O	MW-13	40ml VOA-5	HCl	001										X						

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Date	Time
4/18/18	1415		Christ Wrek	4/18/18	1415
4/18/18	1856	Christian Wade		4/19/18	715

Remarks: See Analytical Methods and Target Analytes.

TABLE 2
Analytical Methods and Target Analytes
Facility-Wide Groundwater Monitoring Plan - June 2017
Western Refining Southwest, Inc. - Bloomfield Refinery

VOCs (EPA Method 8260B) [1]
- Target List
Benzene
Toluene
Ethylbenzene
Xylenes
Methyl tert butyl ether (MTBE)
SVOCs - (EPA Method 8270)
- Method List
TPH-GRO (EPA Method 8015B)
- Gasoline Range Organics
TPH-DRO (EPA Method 8015B)
- Diesel Range Organics
- Motor Oil Range Organics
Total Carbon Dioxide (Laboratory Calculated)
- Dissolved CO2
Specific Conductivity (EPA Method 120.1 or field measurement)
- Specific conductance
TDS (EPA Method 160.1 or field measurement)
- Total dissolved solids
General Chemistry - Anions (EPA Method 300.0)
Fluoride
Chloride
Bromide
Nitrogen, Nitrite (as N)
Nitrogen, Nitrate (as N)
Phosphorous, Orthophosphate (As P)
Sulfate
General Chemistry - Alkalinity (EPA Method 310.1)
Alkalinity, Total
Carbonate
Bicarbonate

Total Recoverable Metals (EPA Method 6010B/7470)	
- Target List (not applicable to River Terrace Sampling Events)	
Arsenic	*Lead*
Barium	*Mercury*
Cadmium	*Selenium*
Chromium	*Silver*
- Target List (for River Terrace Sampling Events Only)	
Lead	
Mercury (DW-1 ONLY)	
Dissolved Metals (EPA Method 6010B / 7470)	
- Target List (for Refinery Complex, Outfalls, and River)	
Arsenic	*Manganese*
Barium	*Mercury*
Cadmium	*Potassium*
Calcium	*Selenium*
Chromium	*Silver*
Copper	*Sodium*
Iron	*Uranium*
Lead	*Zinc*
Magnesium	

TPH = total petroleum hydrocarbons
GRO = gasoline range organics
VOCs = volatile organic compounds
DRO = diesel range organics
TDS = total dissolved solids

NOTES:

(1) VOCs Target List for River Terrace samples are analyzed by EPA Method 8021B per NMED's letter Approval with Direction dated June 16, 2009.

(2) Target List for San Juan River Terrace Monitoring Wells and Piezomenter Wells only, per the River Terrace Bioventing System Monitoring Plan.

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

April 24, 2018

Allen Hains

Andeavor
50 CR 4990
Bloomfield, NM 87413
TEL: (505) 801-5616
FAX

RE: NBB Collection Wells OrderNo.: 1804A77

Dear Allen Hains:

Hall Environmental Analysis Laboratory received 2 sample(s) on 4/19/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor
Client Sample ID: CW 0+60
Project: NBB Collection Wells
Collection Date: 4/18/2018 3:40:00 PM
Lab ID: 1804A77-001
Matrix: AQUEOUS
Received Date: 4/19/2018 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015D: DIESEL RANGE						Analyst: **TOM**
Diesel Range Organics (DRO)	1.2	0.40		mg/L	1	4/23/2018 4:49:03 PM
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	4/23/2018 4:49:03 PM
Surr: DNOP	108	79.2-146		%Rec	1	4/23/2018 4:49:03 PM
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**
Benzene	1.2	1.0		µg/L	1	4/20/2018 11:26:27 AM
Toluene	ND	1.0		µg/L	1	4/20/2018 11:26:27 AM
Ethylbenzene	3.7	1.0		µg/L	1	4/20/2018 11:26:27 AM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/20/2018 11:26:27 AM
Xylenes, Total	1.5	1.5		µg/L	1	4/20/2018 11:26:27 AM
Surr: 4-Bromofluorobenzene	115	70-130		%Rec	1	4/20/2018 11:26:27 AM
Surr: Toluene-d8	102	70-130		%Rec	1	4/20/2018 11:26:27 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor
Client Sample ID: CW 0+60 DUP
Project: NBB Collection Wells
Collection Date: 4/18/2018 3:40:00 PM
Lab ID: 1804A77-002
Matrix: AQUEOUS
Received Date: 4/19/2018 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015D: DIESEL RANGE						Analyst: **TOM**
Diesel Range Organics (DRO)	0.92	0.40		mg/L	1	4/23/2018 6:00:33 PM
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	4/23/2018 6:00:33 PM
Surr: DNOP	109	79.2-146		%Rec	1	4/23/2018 6:00:33 PM
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**
Benzene	1.2	1.0		µg/L	1	4/20/2018 11:03:17 AM
Toluene	ND	1.0		µg/L	1	4/20/2018 11:03:17 AM
Ethylbenzene	4.0	1.0		µg/L	1	4/20/2018 11:03:17 AM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/20/2018 11:03:17 AM
Xylenes, Total	1.6	1.5		µg/L	1	4/20/2018 11:03:17 AM
Surr: 4-Bromofluorobenzene	117	70-130		%Rec	1	4/20/2018 11:03:17 AM
Surr: Toluene-d8	102	70-130		%Rec	1	4/20/2018 11:03:17 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1804A77**

24-Apr-18

Client: Andeavor

Project: NBB Collection Wells

Sample ID	**1804A77-001BMS**	SampType:	**MS**		TestCode:	**EPA Method 8015D: Diesel Range**				
Client ID:	**CW 0+60**	Batch ID:	**37746**		RunNo:	**50757**				
Prep Date:	***4/23/2018***	Analysis Date:	***4/23/2018***		SeqNo:	**1647215**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	4.0	0.40	2.500	1.171	114	89.6	145			
Surr: DNOP	0.26		0.2500		104	79.2	146			

Sample ID	**1804A77-001BMSD**	SampType:	**MSD**		TestCode:	**EPA Method 8015D: Diesel Range**				
Client ID:	**CW 0+60**	Batch ID:	**37746**		RunNo:	**50757**				
Prep Date:	***4/23/2018***	Analysis Date:	***4/23/2018***		SeqNo:	**1647216**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	4.1	0.40	2.500	1.171	118	89.6	145	1.92	20	
Surr: DNOP	0.27		0.2500		109	79.2	146	0	0	

Sample ID	**LCS-37746**	SampType:	**LCS**		TestCode:	**EPA Method 8015D: Diesel Range**				
Client ID:	**LCSW**	Batch ID:	**37746**		RunNo:	**50757**				
Prep Date:	***4/23/2018***	Analysis Date:	***4/23/2018***		SeqNo:	**1647226**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	2.8	0.40	2.500	0	111	76.5	158			
Surr: DNOP	0.25		0.2500		100	79.2	146			

Sample ID	**MB-37746**	SampType:	**MBLK**		TestCode:	**EPA Method 8015D: Diesel Range**				
Client ID:	**PBW**	Batch ID:	**37746**		RunNo:	**50757**				
Prep Date:	***4/23/2018***	Analysis Date:	***4/23/2018***		SeqNo:	**1647227**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	0.40								
Motor Oil Range Organics (MRO)	ND	2.5								
Surr: DNOP	0.55		0.5000		110	79.2	146			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1804A77**

24-Apr-18

Client: Andeavor

Project: NBB Collection Wells

Sample ID **100ng lcs**	SampType: **LCS4**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **BatchQC**	Batch ID: **R50722**	RunNo: **50722**
Prep Date:	Analysis Date: **4/20/2018**	SeqNo: **1646068** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	96.6	80	120			
Toluene	21	1.0	20.00	0	104	80	120			
Ethylbenzene	21	1.0	20.00	0	104	80	120			
Methyl tert-butyl ether (MTBE)	18	1.0	20.00	0	91.3	80	120			
Xylenes, Total	62	1.5	60.00	0	104	80	120			
Surr: 4-Bromofluorobenzene	11		10.00		108	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID **1804a77-002ams**	SampType: **MS4**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **CW 0+60 DUP**	Batch ID: **R50722**	RunNo: **50722**
Prep Date:	Analysis Date: **4/20/2018**	SeqNo: **1646074** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	1.214	87.7	80	120			
Toluene	20	1.0	20.00	0.1426	97.5	80	120			
Ethylbenzene	23	1.0	20.00	4.050	96.1	80	120			
Methyl tert-butyl ether (MTBE)	21	1.0	20.00	0.4660	101	80	120			
Xylenes, Total	59	1.5	60.00	1.639	94.8	80	120			
Surr: 4-Bromofluorobenzene	9.7		10.00		96.7	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Sample ID **1804a77-002amsd**	SampType: **MSD4**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **CW 0+60 DUP**	Batch ID: **R50722**	RunNo: **50722**
Prep Date:	Analysis Date: **4/20/2018**	SeqNo: **1646075** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	1.214	87.9	80	120	0.161	20	
Toluene	20	1.0	20.00	0.1426	99.1	80	120	1.62	20	
Ethylbenzene	24	1.0	20.00	4.050	99.8	80	120	3.12	20	
Methyl tert-butyl ether (MTBE)	23	1.0	20.00	0.4660	115	80	120	12.3	20	
Xylenes, Total	60	1.5	60.00	1.639	98.0	80	120	3.20	20	
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130	0	0	
Surr: Toluene-d8	10		10.00		103	70	130	0	0	

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **R50722**	RunNo: **50722**
Prep Date:	Analysis Date: **4/20/2018**	SeqNo: **1646080** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1804A77**

24-Apr-18

Client: Andeavor

Project: NBB Collection Wells

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **R50722**	RunNo: **50722**
Prep Date:	Analysis Date: **4/20/2018**	SeqNo: **1646080** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 4-Bromofluorobenzene	11		10.00		113	70	130			
Surr: Toluene-d8	9.8		10.00		98.5	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: ANDEAVOR BLOOMFIEL Work Order Number: 1804A77 RcptNo: 1

Received By: Isaiah Ortiz 4/19/2018 7:15:00 AM I Ortiz

Completed By: Michelle Garcia 4/19/2018 4:05:10 PM Michelle Garcia

Reviewed By: IMO 04/19/18

LB:ENM

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: ____ (<2 or >12 unless noted)
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted? ____
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: ____

ENM 4/20/18

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: ____ Date ____

By Whom: ____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: ____

Client Instructions: ____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.4	Good	Yes			

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **NBB - Collection Wells**

Date: ___-___-_____

Project #: **Semi-Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: ☑ Yes ☐ No

Sample Temperature: 0.6-0.2 (CF) = 0.4

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1804A77	BTEX+MTBE+TMB's (8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (DRO EXTENDED ONLY)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA) BTEX, MTBE only	8270 (Semi-VOA)					Air Bubbles (Y or N)
4/18/18	1540	H_2O	CW 0+60	40ml VOA-5	HCl	001										X						
	1540	H_2O	CW 0+60	250 ml amber-1	Neat				X													
	1540	H_2O	CW 0+60 DUP	40 ML VOA 5	HCL	002										X						
↓	1540	H_2O	CW 0+60 DUP	250 ML AMBER-1	NEAT				X													

Date	Time	Relinquished by:	Received by:	Date	Time
4/18/18	1615			4/18/18	1615
4/18/18	2354	Christian Llaneza		4/19/18	715

Remarks: See Analytical Methods and Target Analytes.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

April 24, 2018

Allen Hains

Andeavor
50 CR 4990
Bloomfield, NM 87413
TEL: (505) 801-5616
FAX

RE: Downgradient Wells 4 18 18 OrderNo.: 1804A80

Dear Allen Hains:

Hall Environmental Analysis Laboratory received 2 sample(s) on 4/19/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1804A80**
Date Reported: **4/24/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor
Client Sample ID: MW-35
Project: Downgradient Wells 4 18 18
Collection Date: 4/18/2018 1:15:00 PM
Lab ID: 1804A80-001
Matrix: AQUEOUS
Received Date: 4/19/2018 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**
Benzene	ND	1.0		µg/L	1	4/20/2018 2:24:53 PM
Toluene	ND	1.0		µg/L	1	4/20/2018 2:24:53 PM
Ethylbenzene	ND	1.0		µg/L	1	4/20/2018 2:24:53 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/20/2018 2:24:53 PM
Xylenes, Total	ND	1.5		µg/L	1	4/20/2018 2:24:53 PM
Surr: 4-Bromofluorobenzene	112	70-130		%Rec	1	4/20/2018 2:24:53 PM
Surr: Toluene-d8	97.7	70-130		%Rec	1	4/20/2018 2:24:53 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor
Client Sample ID: Trip Blank
Project: Downgradient Wells 4 18 18
Collection Date: 4/18/2018
Lab ID: 1804A80-002
Matrix: AQUEOUS
Received Date: 4/19/2018 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**
Benzene	ND	1.0		µg/L	1	4/20/2018 2:47:58 PM
Toluene	ND	1.0		µg/L	1	4/20/2018 2:47:58 PM
Ethylbenzene	ND	1.0		µg/L	1	4/20/2018 2:47:58 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/20/2018 2:47:58 PM
Xylenes, Total	ND	1.5		µg/L	1	4/20/2018 2:47:58 PM
Surr: 4-Bromofluorobenzene	117	70-130		%Rec	1	4/20/2018 2:47:58 PM
Surr: Toluene-d8	99.9	70-130		%Rec	1	4/20/2018 2:47:58 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1804A80**

24-Apr-18

Client: Andeavor

Project: Downgradient Wells 4 18 18

Sample ID **100ng lcs**	SampType: **LCS4**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **BatchQC**	Batch ID: **R50722**	RunNo: **50722**
Prep Date:	Analysis Date: **4/20/2018**	SeqNo: **1646068** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	96.6	80	120			
Toluene	21	1.0	20.00	0	104	80	120			
Ethylbenzene	21	1.0	20.00	0	104	80	120			
Methyl tert-butyl ether (MTBE)	18	1.0	20.00	0	91.3	80	120			
Xylenes, Total	62	1.5	60.00	0	104	80	120			
Surr: 4-Bromofluorobenzene	11		10.00		108	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **R50722**	RunNo: **50722**
Prep Date:	Analysis Date: **4/20/2018**	SeqNo: **1646080** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 4-Bromofluorobenzene	11		10.00		113	70	130			
Surr: Toluene-d8	9.8		10.00		98.5	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: ANDEAVOR BLOOMFIEL Work Order Number: 1804A80 RcptNo: 1

Received By: **Isaiah Ortiz** 4/19/2018 7:15:00 AM I Ortiz

Completed By: **Michelle Garcia** 4/19/2018 4:14:41 PM Michelle Garcia

Reviewed By: JNO 04/19/18

LB: ENM

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

ENM 4/20/18

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.4	Good	Yes			

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **Downgradient Wells**

Date: 4-18-18

Project #: **Semi-Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: ☑ Yes ☐ No

Sample Temperature: 0.6-0.2(CF) 0.4

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1804A80	BTEX+MTBE+TMB's (8021)	BTEX+MTBE+TPH (Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	**8260B (VOA) BTEX, MTBE only**	8270 (Semi-VOA)	Air Bubbles (Y or N)
4/18/18	1315	H_2O	MW-35	40ml VOA-5	HCl	001										X		
4/18/18	—	H_2O	TRIP BLANK	40ML VOA	HCL	002										X		

Date:	Time:	Relinquished by:	Received by:	Date	Time
4/18/18	1415			4/18/18	1415
4/18/18	1856			4/19/18	715

Remarks: See Analytical Methods and Target Analytes.

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

April 24, 2018

Allen Hains

Andeavor
50 CR 4990
Bloomfield, NM 87413
TEL: (505) 801-5616
FAX

RE: Refinery Wells 4 18 18 OrderNo.: 1804A81

Dear Allen Hains:

Hall Environmental Analysis Laboratory received 1 sample(s) on 4/19/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1804A81**
Date Reported: **4/24/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor
Client Sample ID: MW-52
Project: Refinery Wells 4 18 18
Collection Date: 4/18/2018 9:35:00 AM
Lab ID: 1804A81-001
Matrix: AQUEOUS
Received Date: 4/19/2018 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**
Benzene	ND	1.0		µg/L	1	4/20/2018 3:11:08 PM
Toluene	ND	1.0		µg/L	1	4/20/2018 3:11:08 PM
Ethylbenzene	ND	1.0		µg/L	1	4/20/2018 3:11:08 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/20/2018 3:11:08 PM
Xylenes, Total	ND	1.5		µg/L	1	4/20/2018 3:11:08 PM
Surr: 4-Bromofluorobenzene	112	70-130		%Rec	1	4/20/2018 3:11:08 PM
Surr: Toluene-d8	99.2	70-130		%Rec	1	4/20/2018 3:11:08 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1804A81**

24-Apr-18

Client: Andeavor

Project: Refinery Wells 4 18 18

Sample ID **100ng lcs**	SampType: **LCS4**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **BatchQC**	Batch ID: **R50722**	RunNo: **50722**
Prep Date:	Analysis Date: **4/20/2018**	SeqNo: **1646068** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	96.6	80	120			
Toluene	21	1.0	20.00	0	104	80	120			
Ethylbenzene	21	1.0	20.00	0	104	80	120			
Methyl tert-butyl ether (MTBE)	18	1.0	20.00	0	91.3	80	120			
Xylenes, Total	62	1.5	60.00	0	104	80	120			
Surr: 4-Bromofluorobenzene	11		10.00		108	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **R50722**	RunNo: **50722**
Prep Date:	Analysis Date: **4/20/2018**	SeqNo: **1646080** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 4-Bromofluorobenzene	11		10.00		113	70	130			
Surr: Toluene-d8	9.8		10.00		98.5	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: ANDEAVOR BLOOMFIEL Work Order Number: 1804A81 RcptNo: 1

Received By: Isaiah Ortiz 4/19/2018 7:15:00 AM I Ortiz

Completed By: Michelle Garcia 4/19/2018 4:21:53 PM Michelle Garcia

Reviewed By: IMO 4/19/18
LB: ENM

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)
Adjusted? _____
Checked by: _____
ENM 4/20/18

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.4	Good	Yes			

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **Refinery Wells**

Date: 4-18-18

Project #: **Semi-Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: ☑ Yes ☐ No

Sample Temperature: 0.6-0.2(CF) 0.4

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1804A81	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	**8260B (VOA) BTEX,MTBE only**	8270 (Semi-VOA)	Air Bubbles (Y or N)
4/18/18	0935	H_2O	MW-52	40ml VOA-5	HCl	-001										X		

Remarks: See Analytical Methods and Target Analytes.

Date:	Time:	Relinquished by:	Received by:	Date	Time
4/18/18	1415			4/18/18	1415
4/18/18	1886	Christian Waller		4/19/18	715

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

April 24, 2018

Allen Hains

Andeavor
50 CR 4990
Bloomfield, NM 87413
TEL: (505) 801-5616
FAX

RE: Cross Gradient Wells 4 18 18 OrderNo.: 1804A83

Dear Allen Hains:

Hall Environmental Analysis Laboratory received 1 sample(s) on 4/19/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1804A83**
Date Reported: **4/24/2018**

CLIENT: Andeavor
Client Sample ID: MW-1
Project: Cross Gradient Wells 4 18 18
Collection Date: 4/18/2018 8:30:00 AM
Lab ID: 1804A83-001
Matrix: AQUEOUS
Received Date: 4/19/2018 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015D: DIESEL RANGE						Analyst: **TOM**
Diesel Range Organics (DRO)	ND	0.40		mg/L	1	4/23/2018 6:24:20 PM
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	4/23/2018 6:24:20 PM
Surr: DNOP	113	79.2-146		%Rec	1	4/23/2018 6:24:20 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	4/20/2018 4:07:30 PM
Surr: BFB	89.3	69.3-150		%Rec	1	4/20/2018 4:07:30 PM
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**
Benzene	ND	1.0		µg/L	1	4/20/2018 3:34:15 PM
Toluene	ND	1.0		µg/L	1	4/20/2018 3:34:15 PM
Ethylbenzene	ND	1.0		µg/L	1	4/20/2018 3:34:15 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/20/2018 3:34:15 PM
Xylenes, Total	ND	1.5		µg/L	1	4/20/2018 3:34:15 PM
Surr: 4-Bromofluorobenzene	114	70-130		%Rec	1	4/20/2018 3:34:15 PM
Surr: Toluene-d8	101	70-130		%Rec	1	4/20/2018 3:34:15 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1804A83**

24-Apr-18

Client: Andeavor

Project: Cross Gradient Wells 4 18 18

Sample ID	**LCS-37746**	SampType:	**LCS**		TestCode:	**EPA Method 8015D: Diesel Range**				
Client ID:	**LCSW**	Batch ID:	**37746**		RunNo:	**50757**				
Prep Date:	**4/23/2018**	Analysis Date:	**4/23/2018**		SeqNo:	**1647226**	Units:	**mg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	2.8	0.40	2.500	0	111	76.5	158			
Surr: DNOP	0.25		0.2500		100	79.2	146			

Sample ID	**MB-37746**	SampType:	**MBLK**		TestCode:	**EPA Method 8015D: Diesel Range**				
Client ID:	**PBW**	Batch ID:	**37746**		RunNo:	**50757**				
Prep Date:	**4/23/2018**	Analysis Date:	**4/23/2018**		SeqNo:	**1647227**	Units:	**mg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	0.40								
Motor Oil Range Organics (MRO)	ND	2.5								
Surr: DNOP	0.55		0.5000		110	79.2	146			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1804A83**

24-Apr-18

Client: Andeavor

Project: Cross Gradient Wells 4 18 18

Sample ID	**RB**	SampType:	**MBLK**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**PBW**	Batch ID:	**A50729**	RunNo:	**50729**					
Prep Date:		Analysis Date:	**4/20/2018**	SeqNo:	**1645982**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	17		20.00		84.5	69.3	150			

Sample ID	**2.5UG GRO LCS**	SampType:	**LCS**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**LCSW**	Batch ID:	**A50729**	RunNo:	**50729**					
Prep Date:		Analysis Date:	**4/20/2018**	SeqNo:	**1645983**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.51	0.050	0.5000	0	103	79.5	127			
Surr: BFB	20		20.00		100	69.3	150			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1804A83**

24-Apr-18

Client: Andeavor

Project: Cross Gradient Wells 4 18 18

Sample ID **100ng lcs**	SampType: **LCS4**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **BatchQC**	Batch ID: **R50722**	RunNo: **50722**
Prep Date:	Analysis Date: **4/20/2018**	SeqNo: **1646068** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	96.6	80	120			
Toluene	21	1.0	20.00	0	104	80	120			
Ethylbenzene	21	1.0	20.00	0	104	80	120			
Methyl tert-butyl ether (MTBE)	18	1.0	20.00	0	91.3	80	120			
Xylenes, Total	62	1.5	60.00	0	104	80	120			
Surr: 4-Bromofluorobenzene	11		10.00		108	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **R50722**	RunNo: **50722**
Prep Date:	Analysis Date: **4/20/2018**	SeqNo: **1646080** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 4-Bromofluorobenzene	11		10.00		113	70	130			
Surr: Toluene-d8	9.8		10.00		98.5	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: ANDEAVOR BLOOMFIEL Work Order Number: 1804A83 RcptNo: 1

Received By: **Isaiah Ortiz** 4/19/2018 ~~2:15:00 PM~~ 0715 4-20-18

Completed By: **Michelle Garcia** 4/19/2018 4:37:26 PM Michelle Garcia

Reviewed By: 4/19/18

LB: ENM

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

ENM 4/20/18

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.4	Good	Yes			

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **Cross-Gradient Wells**

Date: 4-18-18

Project #: **Semi-Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: ☑ Yes ☐ No

Sample Temperature: 0.6-0.2 (CF) 0.4

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1804A83	BTEX+MTBE+TMB's (8021)	BTEX+MTBE+TPH (Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA) BTEX, MTBE only	8270 (Semi-VOA)	Air Bubbles (Y or N)
4/18/18	0830	H_2O	MW-1	40ml VOA-5	HCl	001			X							X		
↓	↓	H_2O	MW-1	250 ml amber-1	Neat				X									

Analysis Request

Relinquished by:	Date	Time	Received by:	Date	Time
	4/18/18	1415	Mist Wolf	4/18/18	1415
Christine Walters	4/18/18	1554		4/19/18	715

Remarks: See Analytical Methods and Target Analytes.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

April 24, 2018

Allen Hains

Andeavor
111 CR 4990
Bloomfield, NM 87413
TEL: (505) 801-5616
FAX

RE: Downgradient/NBB Observation Wells OrderNo.: 1804A98

Dear Allen Hains:

Hall Environmental Analysis Laboratory received 8 sample(s) on 4/20/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor
Client Sample ID: MW-38
Project: Downgradient/NBB Observation Wells
Collection Date: 4/19/2018 8:40:00 AM
Lab ID: 1804A98-001
Matrix: AQUEOUS
Received Date: 4/20/2018 7:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015D: DIESEL RANGE						Analyst: **TOM**
Diesel Range Organics (DRO)	ND	0.40		mg/L	1	4/23/2018 6:48:17 PM
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	4/23/2018 6:48:17 PM
Surr: DNOP	113	79.2-146		%Rec	1	4/23/2018 6:48:17 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	0.058	0.050		mg/L	1	4/20/2018 10:43:26 PM
Surr: BFB	85.8	69.3-150		%Rec	1	4/20/2018 10:43:26 PM
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**
Benzene	ND	1.0		µg/L	1	4/23/2018 3:39:40 PM
Toluene	ND	1.0		µg/L	1	4/23/2018 3:39:40 PM
Ethylbenzene	ND	1.0		µg/L	1	4/23/2018 3:39:40 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/23/2018 3:39:40 PM
Xylenes, Total	ND	1.5		µg/L	1	4/23/2018 3:39:40 PM
Surr: 4-Bromofluorobenzene	112	70-130		%Rec	1	4/23/2018 3:39:40 PM
Surr: Toluene-d8	101	70-130		%Rec	1	4/23/2018 3:39:40 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor
Client Sample ID: MW-37
Project: Downgradient/NBB Observation Wells
Collection Date: 4/19/2018 9:00:00 AM
Lab ID: 1804A98-002
Matrix: AQUEOUS
Received Date: 4/20/2018 7:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015D: DIESEL RANGE						Analyst: **TOM**
Diesel Range Organics (DRO)	ND	0.40		mg/L	1	4/23/2018 7:12:21 PM
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	4/23/2018 7:12:21 PM
Surr: DNOP	112	79.2-146		%Rec	1	4/23/2018 7:12:21 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	4/20/2018 11:06:50 PM
Surr: BFB	87.0	69.3-150		%Rec	1	4/20/2018 11:06:50 PM
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**
Benzene	ND	1.0		µg/L	1	4/23/2018 4:48:58 PM
Toluene	ND	1.0		µg/L	1	4/23/2018 4:48:58 PM
Ethylbenzene	ND	1.0		µg/L	1	4/23/2018 4:48:58 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/23/2018 4:48:58 PM
Xylenes, Total	ND	1.5		µg/L	1	4/23/2018 4:48:58 PM
Surr: 4-Bromofluorobenzene	109	70-130		%Rec	1	4/23/2018 4:48:58 PM
Surr: Toluene-d8	92.9	70-130		%Rec	1	4/23/2018 4:48:58 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor
Client Sample ID: MW-12
Project: Downgradient/NBB Observation Wells
Collection Date: 4/19/2018 9:40:00 AM
Lab ID: 1804A98-003
Matrix: AQUEOUS
Received Date: 4/20/2018 7:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015D: DIESEL RANGE						Analyst: **TOM**
Diesel Range Organics (DRO)	ND	0.40		mg/L	1	4/23/2018 7:36:15 PM
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	4/23/2018 7:36:15 PM
Surr: DNOP	104	79.2-146		%Rec	1	4/23/2018 7:36:15 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	4/20/2018 11:29:59 PM
Surr: BFB	87.9	69.3-150		%Rec	1	4/20/2018 11:29:59 PM
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**
Benzene	ND	1.0		µg/L	1	4/23/2018 5:12:05 PM
Toluene	ND	1.0		µg/L	1	4/23/2018 5:12:05 PM
Ethylbenzene	ND	1.0		µg/L	1	4/23/2018 5:12:05 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/23/2018 5:12:05 PM
Xylenes, Total	ND	1.5		µg/L	1	4/23/2018 5:12:05 PM
Surr: 4-Bromofluorobenzene	114	70-130		%Rec	1	4/23/2018 5:12:05 PM
Surr: Toluene-d8	97.3	70-130		%Rec	1	4/23/2018 5:12:05 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor
Client Sample ID: Rinsate Blank
Project: Downgradient/NBB Observation Wells
Collection Date: 4/19/2018 10:00:00 AM
Lab ID: 1804A98-004
Matrix: AQUEOUS
Received Date: 4/20/2018 7:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015D: DIESEL RANGE						Analyst: **TOM**
Diesel Range Organics (DRO)	ND	0.40		mg/L	1	4/23/2018 8:00:12 PM
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	4/23/2018 8:00:12 PM
Surr: DNOP	106	79.2-146		%Rec	1	4/23/2018 8:00:12 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	4/20/2018 11:53:22 PM
Surr: BFB	90.7	69.3-150		%Rec	1	4/20/2018 11:53:22 PM
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**
Benzene	ND	1.0		µg/L	1	4/23/2018 2:53:35 PM
Toluene	ND	1.0		µg/L	1	4/23/2018 2:53:35 PM
Ethylbenzene	ND	1.0		µg/L	1	4/23/2018 2:53:35 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/23/2018 2:53:35 PM
Xylenes, Total	ND	1.5		µg/L	1	4/23/2018 2:53:35 PM
Surr: 4-Bromofluorobenzene	116	70-130		%Rec	1	4/23/2018 2:53:35 PM
Surr: Toluene-d8	100	70-130		%Rec	1	4/23/2018 2:53:35 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor
Client Sample ID: Field Blank
Project: Downgradient/NBB Observation Wells
Collection Date: 4/19/2018 10:10:00 AM
Lab ID: 1804A98-005
Matrix: AQUEOUS
Received Date: 4/20/2018 7:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015D: DIESEL RANGE						Analyst: **TOM**
Diesel Range Organics (DRO)	ND	0.40		mg/L	1	4/23/2018 8:24:12 PM
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	4/23/2018 8:24:12 PM
Surr: DNOP	106	79.2-146		%Rec	1	4/23/2018 8:24:12 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	4/21/2018 12:16:44 AM
Surr: BFB	84.9	69.3-150		%Rec	1	4/21/2018 12:16:44 AM
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**
Benzene	ND	1.0		µg/L	1	4/23/2018 3:16:40 PM
Toluene	ND	1.0		µg/L	1	4/23/2018 3:16:40 PM
Ethylbenzene	ND	1.0		µg/L	1	4/23/2018 3:16:40 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/23/2018 3:16:40 PM
Xylenes, Total	ND	1.5		µg/L	1	4/23/2018 3:16:40 PM
Surr: 4-Bromofluorobenzene	116	70-130		%Rec	1	4/23/2018 3:16:40 PM
Surr: Toluene-d8	99.9	70-130		%Rec	1	4/23/2018 3:16:40 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor
Client Sample ID: Trip Blank
Project: Downgradient/NBB Observation Wells
Collection Date:
Lab ID: 1804A98-006
Matrix: AQUEOUS
Received Date: 4/20/2018 7:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	4/21/2018 12:40:01 AM
Surr: BFB	89.7	69.3-150		%Rec	1	4/21/2018 12:40:01 AM
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**
Benzene	ND	1.0		µg/L	1	4/23/2018 5:35:10 PM
Toluene	ND	1.0		µg/L	1	4/23/2018 5:35:10 PM
Ethylbenzene	ND	1.0		µg/L	1	4/23/2018 5:35:10 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/23/2018 5:35:10 PM
Xylenes, Total	ND	1.5		µg/L	1	4/23/2018 5:35:10 PM
Surr: 4-Bromofluorobenzene	113	70-130		%Rec	1	4/23/2018 5:35:10 PM
Surr: Toluene-d8	97.8	70-130		%Rec	1	4/23/2018 5:35:10 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor
Client Sample ID: OW 3+85
Project: Downgradient/NBB Observation Wells
Collection Date: 4/19/2018 11:15:00 AM
Lab ID: 1804A98-007
Matrix: AQUEOUS
Received Date: 4/20/2018 7:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015D: DIESEL RANGE						Analyst: **TOM**
Diesel Range Organics (DRO)	7.9	0.40		mg/L	1	4/23/2018 8:48:15 PM
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	4/23/2018 8:48:15 PM
Surr: DNOP	102	79.2-146		%Rec	1	4/23/2018 8:48:15 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	3.7	0.050		mg/L	1	4/21/2018 1:03:25 AM
Surr: BFB	1380	69.3-150	S	%Rec	1	4/21/2018 1:03:25 AM
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**
Benzene	ND	1.0		µg/L	1	4/23/2018 5:58:15 PM
Toluene	ND	1.0		µg/L	1	4/23/2018 5:58:15 PM
Ethylbenzene	ND	1.0		µg/L	1	4/23/2018 5:58:15 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/23/2018 5:58:15 PM
Xylenes, Total	ND	1.5		µg/L	1	4/23/2018 5:58:15 PM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	4/23/2018 5:58:15 PM
Surr: Toluene-d8	98.6	70-130		%Rec	1	4/23/2018 5:58:15 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor
Client Sample ID: OW 25+70
Project: Downgradient/NBB Observation Wells
Collection Date: 4/19/2018 1:40:00 PM
Lab ID: 1804A98-008
Matrix: AQUEOUS
Received Date: 4/20/2018 7:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015D: DIESEL RANGE						Analyst: **TOM**
Diesel Range Organics (DRO)	ND	0.40		mg/L	1	4/23/2018 9:12:22 PM
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	4/23/2018 9:12:22 PM
Surr: DNOP	116	79.2-146		%Rec	1	4/23/2018 9:12:22 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	0.10	0.050		mg/L	1	4/21/2018 1:50:08 AM
Surr: BFB	86.8	69.3-150		%Rec	1	4/21/2018 1:50:08 AM
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**
Benzene	ND	1.0		µg/L	1	4/23/2018 6:44:20 PM
Toluene	ND	1.0		µg/L	1	4/23/2018 6:44:20 PM
Ethylbenzene	ND	1.0		µg/L	1	4/23/2018 6:44:20 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/23/2018 6:44:20 PM
Xylenes, Total	ND	1.5		µg/L	1	4/23/2018 6:44:20 PM
Surr: 4-Bromofluorobenzene	113	70-130		%Rec	1	4/23/2018 6:44:20 PM
Surr: Toluene-d8	95.5	70-130		%Rec	1	4/23/2018 6:44:20 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1804A98**

24-Apr-18

Client: Andeavor

Project: Downgradient/NBB Observation Wells

Sample ID	**LCS-37746**	SampType:	**LCS**		TestCode:	**EPA Method 8015D: Diesel Range**				
Client ID:	**LCSW**	Batch ID:	**37746**		RunNo:	**50757**				
Prep Date:	**4/23/2018**	Analysis Date:	**4/23/2018**		SeqNo:	**1647226**	Units:	**mg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	2.8	0.40	2.500	0	111	76.5	158			
Surr: DNOP	0.25		0.2500		100	79.2	146			

Sample ID	**MB-37746**	SampType:	**MBLK**		TestCode:	**EPA Method 8015D: Diesel Range**				
Client ID:	**PBW**	Batch ID:	**37746**		RunNo:	**50757**				
Prep Date:	**4/23/2018**	Analysis Date:	**4/23/2018**		SeqNo:	**1647227**	Units:	**mg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	0.40								
Motor Oil Range Organics (MRO)	ND	2.5								
Surr: DNOP	0.55		0.5000		110	79.2	146			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1804A98**

24-Apr-18

Client: Andeavor

Project: Downgradient/NBB Observation Wells

Sample ID	**RB**	SampType:	**MBLK**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**PBW**	Batch ID:	**A50729**	RunNo:	**50729**					
Prep Date:		Analysis Date:	**4/20/2018**	SeqNo:	**1645982**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	17		20.00		84.5	69.3	150			

Sample ID	**2.5UG GRO LCS**	SampType:	**LCS**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**LCSW**	Batch ID:	**A50729**	RunNo:	**50729**					
Prep Date:		Analysis Date:	**4/20/2018**	SeqNo:	**1645983**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.51	0.050	0.5000	0	103	79.5	127			
Surr: BFB	20		20.00		100	69.3	150			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1804A98**

24-Apr-18

Client: Andeavor

Project: Downgradient/NBB Observation Wells

Sample ID **100ng lcs**	SampType: **LCS4**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **BatchQC**	Batch ID: **R50782**	RunNo: **50782**
Prep Date:	Analysis Date: **4/23/2018**	SeqNo: **1647245** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	94.2	80	120			
Toluene	20	1.0	20.00	0	99.0	80	120			
Ethylbenzene	20	1.0	20.00	0	101	80	120			
Methyl tert-butyl ether (MTBE)	19	1.0	20.00	0	94.5	80	120			
Xylenes, Total	59	1.5	60.00	0	98.2	80	120			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Sample ID **1804a98-001ams**	SampType: **MS4**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **MW-38**	Batch ID: **R50782**	RunNo: **50782**
Prep Date:	Analysis Date: **4/23/2018**	SeqNo: **1647247** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	97.9	80	120			
Toluene	21	1.0	20.00	0	104	80	120			
Ethylbenzene	21	1.0	20.00	0.1510	104	80	120			
Methyl tert-butyl ether (MTBE)	18	1.0	20.00	0.6526	87.0	80	120			
Xylenes, Total	61	1.5	60.00	0.6312	101	80	120			
Surr: 4-Bromofluorobenzene	9.8		10.00		98.0	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID **1804a98-001amsd**	SampType: **MSD4**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **MW-38**	Batch ID: **R50782**	RunNo: **50782**
Prep Date:	Analysis Date: **4/23/2018**	SeqNo: **1647248** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	93.6	80	120	4.46	20	
Toluene	20	1.0	20.00	0	98.7	80	120	4.80	20	
Ethylbenzene	20	1.0	20.00	0.1510	101	80	120	2.95	20	
Methyl tert-butyl ether (MTBE)	20	1.0	20.00	0.6526	97.1	80	120	10.6	20	
Xylenes, Total	60	1.5	60.00	0.6312	98.3	80	120	2.97	20	
Surr: 4-Bromofluorobenzene	9.6		10.00		95.8	70	130	0	0	
Surr: Toluene-d8	10		10.00		101	70	130	0	0	

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **R50782**	RunNo: **50782**
Prep Date:	Analysis Date: **4/23/2018**	SeqNo: **1647259** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1804A98**

24-Apr-18

Client: Andeavor

Project: Downgradient/NBB Observation Wells

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **R50782**	RunNo: **50782**
Prep Date:	Analysis Date: **4/23/2018**	SeqNo: **1647259** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 4-Bromofluorobenzene	12		10.00		116	70	130			
Surr: Toluene-d8	9.8		10.00		98.4	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: ANDEAVOR BLOOMFIEL Work Order Number: 1804A98 RcptNo: 1

Received By: Anne Thorne 4/20/2018 7:55:00 AM Anne Thorne

Completed By: Anne Thorne 4/20/2018 10:23:19 AM Anne Thorne

Reviewed By: MJ 04/20/18

Chain of Custody

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☑ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
8. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
9. VOA vials have zero headspace? Yes ☑ No ☐ No VOA Vials ☐
10. Were any sample containers received broken? Yes ☐ No ☑
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
13. Is it clear what analyses were requested? Yes ☑ No ☐
14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)
Adjusted? _____
Checked by: _____

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **Downgradient Wells**

Date: 4-19-18

Project #: **Semi-Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1504198	BTEX+MTBE+TMB's (8021)	BTEX+MTBE+TPH (Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA) BTEX, MTBE only	8270 (Semi-VOA)					Air Bubbles (Y or N)
4/19/18	0840	H_2O	MW-38	40ml VOA-5	HCl	-002			X							X						
↓	↓	H_2O	MW-38	250 ml amber-1	Neat	-002			X													

Date: 4/19/18 Time: 1030 Relinquished by: _____ Received by: _____ Date 4/19/18 Time 1030

Date: 4/19/18 Time: 1851 Relinquished by: _____ Received by: _____ Date 04/20/18 Time 07:55

Remarks: See Analytical Methods and Target Analytes.

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **Downgradient Wells**

Date: 4-19-18

Project #: **Semi-Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1804498	BTEX+MTBE+TMB's (8021)	BTEX+MTBE+TPH (Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA) BTEX, MTBE only	8270 (Semi-VOA)					Air Bubbles (Y or N)
4/19/18	0900	H_2O	MW-37	40ml VOA-5	HCl	-002			X							X						
↓	↓	H_2O	MW-37	250 ml amber-1	Neat	-002			X													

Analysis Request

Date	Time	Relinquished by:	Received by:	Date	Time
4/19/18	1030			4/19/18	1030
4/19/18	1851	Christine Walters		4/20/18	0755

Remarks: See Analytical Methods and Target Analytes.

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **Downgradient Wells**

Date: 4-19-18

Project #: **Semi-Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY
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4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1804198	BTEX+MTBE+TMB's (8021)	BTEX+MTBE+TPH (Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA) BTEX, MTBE only	8270 (Semi-VOA)					Air Bubbles (Y or N)
4/19/18	0940	H_2O	MW-12	40ml VOA-5	HCl	-003			X							X						
↓	↓	H_2O	MW-12	250 ml amber-1	Neat	003			X													
	1000	H_2O	RINSATE BLANK	40 mL VOA-5	HCL	004			X							X						
	↓	H_2O	↓	250 mL AMBER-1	NEAT	004			X													
	1010	H_2O	~~EQUIPMENT~~ BLANK / FIELD	40 mL VOA-5	HCL	-005			X							X						
↓	↓	H_2O	↓	250 mL AMBER-1	NEAT	-005			X													
4/19/18	—	H_2O	TRIP BLANK	40mL VOA-3	HCL	-006										X						

Date:	Time:	Relinquished by:	Received by:	Date	Time
4/19/18	1030		Christy Waller	4/19/18	1030
4/19/18	1851	Christy Waller		04/20/18	0755

Remarks: See Analytical Methods and Target Analytes.

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **NBB-Observation Wells**

Date: 4-19-18

Project #: **Semi-Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: ~~☑~~ Yes ☐ No

Sample Temperature: 1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY
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4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1804A98	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA) BTEX,MTBE only	8270 (Semi-VOA)					Air Bubbles (Y or N)
4/9/18	1115	H_2O	OW 3+85	40ml VOA-5	HCl	007 ~~003~~			X							X						
↓	↓	H_2O	OW 3+85	250 ml amber-1	Neat	007 003			X													
						A 04/20/18																

Date	Time	Relinquished by	Received by	Date	Time
4/19/18	1400			4/19/18	1400
4/19/18	1851			04/20/18	0755

Remarks: See Analytical Methods and Target Analytes.

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **NBB - Observation Wells**

Date: 4-19-18

Project #: **Semi-Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1804A98	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA) BTEX,MTBE only	8270 (Semi-VOA)					Air Bubbles (Y or N)
4/19/18	1340	H_2O	OW 25+70	40ml VOA-5	HCl	008			X							X						
↓	1340	H_2O	OW 25+70	250 ml amber-1	Neat	008			X													

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Date	Time	Remarks: See Analytical Methods and Target Analytes.
4/19/18	1400			4/19/18	1400	
4/19/18	1851			04/20/18	0755	

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

May 15, 2018

Allen Hains

Andeavor
111 CR 4990
Bloomfield, NM 87413
TEL: (505) 801-5616
FAX

RE: NBB Observation/Collection Wells, Outfalls, San Juan River OrderNo.: 1804B65

Dear Allen Hains:

Hall Environmental Analysis Laboratory received 9 sample(s) on 4/21/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor
Client Sample ID: OW 22+00
Project: NBB Observation/Collection Wells, Outf
Collection Date: 4/20/2018 8:45:00 AM
Lab ID: 1804B65-001 **Matrix:** AQUEOUS **Received Date:** 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.40		mg/L	1	4/26/2018 2:36:58 PM	37811
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	4/26/2018 2:36:58 PM	37811
Surr: DNOP	97.1	79.2-146		%Rec	1	4/26/2018 2:36:58 PM	37811
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	4/25/2018 1:25:01 PM	W50821
Surr: BFB	109	70-130		%Rec	1	4/25/2018 1:25:01 PM	W50821
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	4/25/2018 1:25:01 PM	A50821
Toluene	ND	1.0		µg/L	1	4/25/2018 1:25:01 PM	A50821
Ethylbenzene	ND	1.0		µg/L	1	4/25/2018 1:25:01 PM	A50821
Methyl tert-butyl ether (MTBE)	5.9	1.0		µg/L	1	4/25/2018 1:25:01 PM	A50821
Xylenes, Total	ND	1.5		µg/L	1	4/25/2018 1:25:01 PM	A50821
Surr: 4-Bromofluorobenzene	118	70-130		%Rec	1	4/25/2018 1:25:01 PM	A50821
Surr: Toluene-d8	102	70-130		%Rec	1	4/25/2018 1:25:01 PM	A50821

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor
Client Sample ID: CW 25+95
Project: NBB Observation/Collection Wells, Outf
Collection Date: 4/20/2018 9:05:00 AM
Lab ID: 1804B65-002
Matrix: AQUEOUS
Received Date: 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.40		mg/L	1	4/26/2018 3:43:33 PM	37811
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	4/26/2018 3:43:33 PM	37811
Surr: DNOP	105	79.2-146		%Rec	1	4/26/2018 3:43:33 PM	37811
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	4/25/2018 2:57:38 PM	A50821
Toluene	ND	1.0		µg/L	1	4/25/2018 2:57:38 PM	A50821
Ethylbenzene	ND	1.0		µg/L	1	4/25/2018 2:57:38 PM	A50821
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/25/2018 2:57:38 PM	A50821
Xylenes, Total	ND	1.5		µg/L	1	4/25/2018 2:57:38 PM	A50821
Surr: 4-Bromofluorobenzene	115	70-130		%Rec	1	4/25/2018 2:57:38 PM	A50821
Surr: Toluene-d8	102	70-130		%Rec	1	4/25/2018 2:57:38 PM	A50821

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor
Client Sample ID: TRIP BLANK
Project: NBB Observation/Collection Wells, Outf
Collection Date:
Lab ID: 1804B65-003
Matrix: TRIP BLANK
Received Date: 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	4/25/2018 3:43:57 PM	A50821
Toluene	ND	1.0		µg/L	1	4/25/2018 3:43:57 PM	A50821
Ethylbenzene	ND	1.0		µg/L	1	4/25/2018 3:43:57 PM	A50821
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/25/2018 3:43:57 PM	A50821
Xylenes, Total	ND	1.5		µg/L	1	4/25/2018 3:43:57 PM	A50821
Surr: 4-Bromofluorobenzene	111	70-130		%Rec	1	4/25/2018 3:43:57 PM	A50821
Surr: Toluene-d8	100	70-130		%Rec	1	4/25/2018 3:43:57 PM	A50821

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor
Client Sample ID: Outfall #2
Project: NBB Observation/Collection Wells, Outf
Collection Date: 4/20/2018 10:40:00 AM
Lab ID: 1804B65-004 **Matrix:** AQUEOUS **Received Date:** 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
CARBON DIOXIDE						Analyst: **JRR**	
Total Carbon Dioxide	330	1.0	H	mg CO2/L	1	4/26/2018 3:55:15 PM	R50879
SM2320B: ALKALINITY						Analyst: **JRR**	
Bicarbonate (As CaCO3)	354.6	20.00		mg/L CaCO3	1	4/26/2018 3:55:15 PM	R50879
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	4/26/2018 3:55:15 PM	R50879
Total Alkalinity (as CaCO3)	354.6	20.00		mg/L CaCO3	1	4/26/2018 3:55:15 PM	R50879
EPA METHOD 7470: MERCURY						Analyst: **rde**	
Mercury	ND	0.00020		mg/L	1	4/27/2018 10:16:58 AM	37815
EPA METHOD 7470: MERCURY						Analyst: **rde**	
Mercury	ND	0.00020		mg/L	1	4/27/2018 10:19:20 AM	37815
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **JLF**	
Arsenic	ND	0.020		mg/L	1	5/9/2018 4:31:57 PM	A51158
Barium	0.065	0.020		mg/L	1	5/4/2018 2:23:35 PM	A51071
Cadmium	ND	0.0020		mg/L	1	5/9/2018 4:31:57 PM	A51158
Calcium	110	5.0		mg/L	5	5/9/2018 4:40:08 PM	A51158
Chromium	ND	0.0060		mg/L	1	5/9/2018 4:31:57 PM	A51158
Copper	ND	0.0060		mg/L	1	5/4/2018 2:23:35 PM	A51071
Iron	ND	0.020		mg/L	1	5/4/2018 2:23:35 PM	A51071
Lead	ND	0.0050		mg/L	1	5/9/2018 4:31:57 PM	A51158
Magnesium	22	1.0		mg/L	1	5/4/2018 2:23:35 PM	A51071
Manganese	ND	0.0020		mg/L	1	5/4/2018 2:23:35 PM	A51071
Potassium	1.4	1.0		mg/L	1	5/4/2018 2:23:35 PM	A51071
Selenium	ND	0.050		mg/L	1	5/9/2018 4:31:57 PM	A51158
Silver	ND	0.0050		mg/L	1	5/4/2018 2:23:35 PM	A51071
Sodium	61	1.0		mg/L	1	5/4/2018 2:23:35 PM	A51071
Uranium	ND	0.10		mg/L	1	5/4/2018 2:23:35 PM	A51071
Zinc	ND	0.020		mg/L	1	5/9/2018 4:31:57 PM	A51158
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **JLF**	
Arsenic	ND	0.020		mg/L	1	4/30/2018 4:22:35 PM	37785
Barium	0.11	0.020		mg/L	1	4/29/2018 10:04:09 AM	37785
Cadmium	ND	0.0020		mg/L	1	4/30/2018 4:22:35 PM	37785
Chromium	ND	0.0060		mg/L	1	4/29/2018 10:04:09 AM	37785
Lead	0.0054	0.0050		mg/L	1	4/30/2018 4:22:35 PM	37785
Selenium	ND	0.050		mg/L	1	4/30/2018 4:22:35 PM	37785
Silver	0.0056	0.0050		mg/L	1	4/30/2018 4:22:35 PM	37785
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	4/25/2018 4:07:06 PM	A50821

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor
Client Sample ID: Outfall #2
Project: NBB Observation/Collection Wells, Outf
Collection Date: 4/20/2018 10:40:00 AM
Lab ID: 1804B65-004
Matrix: AQUEOUS
Received Date: 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Toluene	ND	1.0		µg/L	1	4/25/2018 4:07:06 PM	A50821
Ethylbenzene	ND	1.0		µg/L	1	4/25/2018 4:07:06 PM	A50821
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/25/2018 4:07:06 PM	A50821
Xylenes, Total	ND	1.5		µg/L	1	4/25/2018 4:07:06 PM	A50821
Surr: 4-Bromofluorobenzene	113	70-130		%Rec	1	4/25/2018 4:07:06 PM	A50821
Surr: Toluene-d8	100	70-130		%Rec	1	4/25/2018 4:07:06 PM	A50821

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor
Client Sample ID: Outfall #3
Project: NBB Observation/Collection Wells, Outf
Collection Date: 4/20/2018 9:45:00 AM
Lab ID: 1804B65-005
Matrix: AQUEOUS
Received Date: 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
CARBON DIOXIDE						Analyst: **JRR**	
Total Carbon Dioxide	300	1.0	H	mg CO2/L	1	4/26/2018 4:11:09 PM	R50879
SM2320B: ALKALINITY						Analyst: **JRR**	
Bicarbonate (As CaCO3)	319.9	20.00		mg/L CaCO3	1	4/26/2018 4:11:09 PM	R50879
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	4/26/2018 4:11:09 PM	R50879
Total Alkalinity (as CaCO3)	319.9	20.00		mg/L CaCO3	1	4/26/2018 4:11:09 PM	R50879
EPA METHOD 7470: MERCURY						Analyst: **rde**	
Mercury	ND	0.00020		mg/L	1	4/27/2018 10:21:31 AM	37815
EPA METHOD 7470: MERCURY						Analyst: **rde**	
Mercury	ND	0.00020		mg/L	1	4/27/2018 10:23:42 AM	37815
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **JLF**	
Arsenic	ND	0.020		mg/L	1	5/9/2018 5:47:00 PM	B51158
Barium	0.090	0.020		mg/L	1	5/4/2018 2:25:35 PM	A51071
Cadmium	ND	0.0020		mg/L	1	5/9/2018 4:42:24 PM	A51158
Calcium	130	5.0		mg/L	5	5/9/2018 4:44:40 PM	A51158
Chromium	ND	0.0060		mg/L	1	5/9/2018 4:42:24 PM	A51158
Copper	ND	0.0060		mg/L	1	5/4/2018 2:25:35 PM	A51071
Iron	ND	0.020		mg/L	1	5/4/2018 2:25:35 PM	A51071
Lead	ND	0.0050		mg/L	1	5/9/2018 4:42:24 PM	A51158
Magnesium	25	1.0		mg/L	1	5/4/2018 2:25:35 PM	A51071
Manganese	ND	0.0020		mg/L	1	5/4/2018 2:25:35 PM	A51071
Potassium	2.2	1.0		mg/L	1	5/4/2018 2:25:35 PM	A51071
Selenium	ND	0.050		mg/L	1	5/9/2018 4:42:24 PM	A51158
Silver	ND	0.0050		mg/L	1	5/4/2018 2:25:35 PM	A51071
Sodium	80	1.0		mg/L	1	5/4/2018 2:25:35 PM	A51071
Uranium	ND	0.10		mg/L	1	5/4/2018 2:25:35 PM	A51071
Zinc	ND	0.020		mg/L	1	5/9/2018 4:42:24 PM	A51158
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **JLF**	
Arsenic	ND	0.020		mg/L	1	4/30/2018 4:24:22 PM	37785
Barium	0.10	0.020		mg/L	1	4/29/2018 10:05:50 AM	37785
Cadmium	ND	0.0020		mg/L	1	4/30/2018 4:24:22 PM	37785
Chromium	ND	0.0060		mg/L	1	4/29/2018 10:05:50 AM	37785
Lead	0.0052	0.0050		mg/L	1	4/30/2018 4:24:22 PM	37785
Selenium	ND	0.050		mg/L	1	4/30/2018 4:24:22 PM	37785
Silver	0.0059	0.0050		mg/L	1	4/30/2018 4:24:22 PM	37785
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	4/25/2018 4:30:14 PM	A50821

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor
Client Sample ID: Outfall #3
Project: NBB Observation/Collection Wells, Outf
Collection Date: 4/20/2018 9:45:00 AM
Lab ID: 1804B65-005
Matrix: AQUEOUS
Received Date: 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Toluene	ND	1.0		µg/L	1	4/25/2018 4:30:14 PM	A50821
Ethylbenzene	ND	1.0		µg/L	1	4/25/2018 4:30:14 PM	A50821
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/25/2018 4:30:14 PM	A50821
Xylenes, Total	ND	1.5		µg/L	1	4/25/2018 4:30:14 PM	A50821
Surr: 4-Bromofluorobenzene	111	70-130		%Rec	1	4/25/2018 4:30:14 PM	A50821
Surr: Toluene-d8	90.6	70-130		%Rec	1	4/25/2018 4:30:14 PM	A50821

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor
Client Sample ID: Upstream
Project: NBB Observation/Collection Wells, Outf
Collection Date: 4/20/2018 12:20:00 PM
Lab ID: 1804B65-006
Matrix: AQUEOUS
Received Date: 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	0.40		mg/L	1	4/26/2018 4:05:48 PM	37811
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	4/26/2018 4:05:48 PM	37811
Surr: DNOP	108	79.2-146		%Rec	1	4/26/2018 4:05:48 PM	37811
CARBON DIOXIDE						Analyst:	**JRR**
Total Carbon Dioxide	76	1.0	H	mg CO2/L	1	4/26/2018 4:25:42 PM	R50879
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Fluoride	0.15	0.10		mg/L	1	4/29/2018 5:11:29 PM	R50914
Chloride	2.8	0.50		mg/L	1	4/29/2018 5:11:29 PM	R50914
Bromide	ND	0.10		mg/L	1	4/29/2018 5:11:29 PM	R50914
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	4/29/2018 5:11:29 PM	R50914
Sulfate	50	10		mg/L	20	4/29/2018 5:24:21 PM	R50914
Nitrate+Nitrite as N	ND	1.0		mg/L	5	4/30/2018 4:08:12 PM	R50944
SM2320B: ALKALINITY						Analyst:	**JRR**
Bicarbonate (As CaCO3)	84.20	20.00		mg/L CaCO3	1	4/26/2018 4:25:42 PM	R50879
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	4/26/2018 4:25:42 PM	R50879
Total Alkalinity (as CaCO3)	84.20	20.00		mg/L CaCO3	1	4/26/2018 4:25:42 PM	R50879
EPA METHOD 7470: MERCURY						Analyst:	**rde**
Mercury	ND	0.00020		mg/L	1	4/27/2018 10:25:55 AM	37815
EPA METHOD 7470: MERCURY						Analyst:	**rde**
Mercury	ND	0.00020		mg/L	1	4/27/2018 10:28:07 AM	37815
EPA METHOD 6010B: DISSOLVED METALS						Analyst:	**JLF**
Arsenic	ND	0.020		mg/L	1	5/9/2018 5:48:49 PM	B51158
Barium	0.058	0.020		mg/L	1	5/4/2018 2:27:35 PM	A51071
Cadmium	ND	0.0020		mg/L	1	5/9/2018 4:46:47 PM	A51158
Calcium	32	1.0		mg/L	1	5/4/2018 2:27:35 PM	A51071
Chromium	ND	0.0060		mg/L	1	5/9/2018 4:46:47 PM	A51158
Copper	ND	0.0060		mg/L	1	5/4/2018 2:27:35 PM	A51071
Iron	ND	0.020		mg/L	1	5/4/2018 2:27:35 PM	A51071
Lead	ND	0.0050		mg/L	1	5/9/2018 4:46:47 PM	A51158
Magnesium	5.7	1.0		mg/L	1	5/4/2018 2:27:35 PM	A51071
Manganese	0.0074	0.0020		mg/L	1	5/4/2018 2:27:35 PM	A51071
Potassium	1.7	1.0		mg/L	1	5/4/2018 2:27:35 PM	A51071
Selenium	ND	0.050		mg/L	1	5/9/2018 4:46:47 PM	A51158
Silver	ND	0.0050		mg/L	1	5/4/2018 2:27:35 PM	A51071
Sodium	20	1.0		mg/L	1	5/4/2018 2:27:35 PM	A51071
Uranium	ND	0.10		mg/L	1	5/4/2018 2:27:35 PM	A51071

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor
Client Sample ID: Upstream
Project: NBB Observation/Collection Wells, Outf
Collection Date: 4/20/2018 12:20:00 PM
Lab ID: 1804B65-006
Matrix: AQUEOUS
Received Date: 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **JLF**	
Zinc	ND	0.020		mg/L	1	5/9/2018 4:46:47 PM	A51158
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **JLF**	
Arsenic	ND	0.020		mg/L	1	4/30/2018 4:26:17 PM	37785
Barium	0.079	0.020		mg/L	1	4/29/2018 10:07:38 AM	37785
Cadmium	ND	0.0020		mg/L	1	4/30/2018 4:26:17 PM	37785
Chromium	ND	0.0060		mg/L	1	4/29/2018 10:07:38 AM	37785
Lead	ND	0.0050		mg/L	1	4/30/2018 4:26:17 PM	37785
Selenium	ND	0.050		mg/L	1	4/30/2018 4:26:17 PM	37785
Silver	ND	0.0050		mg/L	1	4/30/2018 4:26:17 PM	37785
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	4/25/2018 4:53:18 PM	W50821
Surr: BFB	106	70-130		%Rec	1	4/25/2018 4:53:18 PM	W50821
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	4/25/2018 4:53:18 PM	A50821
Toluene	ND	1.0		µg/L	1	4/25/2018 4:53:18 PM	A50821
Ethylbenzene	ND	1.0		µg/L	1	4/25/2018 4:53:18 PM	A50821
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/25/2018 4:53:18 PM	A50821
Xylenes, Total	ND	1.5		µg/L	1	4/25/2018 4:53:18 PM	A50821
Surr: 4-Bromofluorobenzene	115	70-130		%Rec	1	4/25/2018 4:53:18 PM	A50821
Surr: Toluene-d8	100	70-130		%Rec	1	4/25/2018 4:53:18 PM	A50821

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor
Client Sample ID: North of 46
Project: NBB Observation/Collection Wells, Outf
Collection Date: 4/20/2018 12:50:00 PM
Lab ID: 1804B65-007
Matrix: AQUEOUS
Received Date: 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	0.40		mg/L	1	4/26/2018 4:27:45 PM	37811
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	4/26/2018 4:27:45 PM	37811
Surr: DNOP	109	79.2-146		%Rec	1	4/26/2018 4:27:45 PM	37811
CARBON DIOXIDE						Analyst:	**JRR**
Total Carbon Dioxide	78	1.0	H	mg CO2/L	1	4/26/2018 4:34:14 PM	R50879
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Fluoride	0.15	0.10		mg/L	1	4/29/2018 5:37:13 PM	R50914
Chloride	3.0	0.50		mg/L	1	4/29/2018 5:37:13 PM	R50914
Bromide	ND	0.10		mg/L	1	4/29/2018 5:37:13 PM	R50914
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	4/29/2018 5:37:13 PM	R50914
Sulfate	59	10		mg/L	20	4/29/2018 5:50:05 PM	R50914
Nitrate+Nitrite as N	ND	1.0		mg/L	5	4/30/2018 4:59:38 PM	R50944
SM2320B: ALKALINITY						Analyst:	**JRR**
Bicarbonate (As CaCO3)	87.48	20.00		mg/L CaCO3	1	4/26/2018 4:34:14 PM	R50879
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	4/26/2018 4:34:14 PM	R50879
Total Alkalinity (as CaCO3)	87.48	20.00		mg/L CaCO3	1	4/26/2018 4:34:14 PM	R50879
EPA METHOD 7470: MERCURY						Analyst:	**rde**
Mercury	ND	0.00020		mg/L	1	4/27/2018 10:30:20 AM	37815
EPA METHOD 7470: MERCURY						Analyst:	**rde**
Mercury	ND	0.00020		mg/L	1	4/27/2018 10:32:33 AM	37815
EPA METHOD 6010B: DISSOLVED METALS						Analyst:	**JLF**
Arsenic	ND	0.020		mg/L	1	5/9/2018 5:50:37 PM	B51158
Barium	0.057	0.020		mg/L	1	5/4/2018 2:29:46 PM	A51071
Cadmium	ND	0.0020		mg/L	1	5/9/2018 4:48:56 PM	A51158
Calcium	35	1.0		mg/L	1	5/4/2018 2:29:46 PM	A51071
Chromium	ND	0.0060		mg/L	1	5/9/2018 4:48:56 PM	A51158
Copper	ND	0.0060		mg/L	1	5/4/2018 2:29:46 PM	A51071
Iron	0.033	0.020		mg/L	1	5/4/2018 2:29:46 PM	A51071
Lead	ND	0.0050		mg/L	1	5/9/2018 4:48:56 PM	A51158
Magnesium	5.9	1.0		mg/L	1	5/4/2018 2:29:46 PM	A51071
Manganese	0.044	0.0020		mg/L	1	5/4/2018 2:29:46 PM	A51071
Potassium	1.7	1.0		mg/L	1	5/4/2018 2:29:46 PM	A51071
Selenium	ND	0.050		mg/L	1	5/9/2018 4:48:56 PM	A51158
Silver	ND	0.0050		mg/L	1	5/4/2018 2:29:46 PM	A51071
Sodium	22	1.0		mg/L	1	5/4/2018 2:29:46 PM	A51071
Uranium	ND	0.10		mg/L	1	5/4/2018 2:29:46 PM	A51071

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor
Client Sample ID: North of 46
Project: NBB Observation/Collection Wells, Outf
Collection Date: 4/20/2018 12:50:00 PM
Lab ID: 1804B65-007
Matrix: AQUEOUS
Received Date: 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **JLF**	
Zinc	ND	0.020		mg/L	1	5/9/2018 4:48:56 PM	A51158
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **JLF**	
Arsenic	ND	0.020		mg/L	1	4/30/2018 4:28:15 PM	37785
Barium	0.074	0.020		mg/L	1	4/29/2018 10:17:53 AM	37785
Cadmium	ND	0.0020		mg/L	1	4/30/2018 4:28:15 PM	37785
Chromium	ND	0.0060		mg/L	1	4/29/2018 10:17:53 AM	37785
Lead	ND	0.0050		mg/L	1	4/30/2018 4:28:15 PM	37785
Selenium	ND	0.050		mg/L	1	4/30/2018 4:28:15 PM	37785
Silver	ND	0.0050		mg/L	1	4/30/2018 4:28:15 PM	37785
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	4/25/2018 6:02:43 PM	W50821
Surr: BFB	106	70-130		%Rec	1	4/25/2018 6:02:43 PM	W50821
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	4/25/2018 6:02:43 PM	A50821
Toluene	ND	1.0		µg/L	1	4/25/2018 6:02:43 PM	A50821
Ethylbenzene	ND	1.0		µg/L	1	4/25/2018 6:02:43 PM	A50821
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/25/2018 6:02:43 PM	A50821
Xylenes, Total	ND	1.5		µg/L	1	4/25/2018 6:02:43 PM	A50821
Surr: 4-Bromofluorobenzene	116	70-130		%Rec	1	4/25/2018 6:02:43 PM	A50821
Surr: Toluene-d8	99.4	70-130		%Rec	1	4/25/2018 6:02:43 PM	A50821

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor
Client Sample ID: Downstream
Project: NBB Observation/Collection Wells, Outf
Collection Date: 4/20/2018 1:20:00 PM
Lab ID: 1804B65-008
Matrix: AQUEOUS
Received Date: 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	0.40		mg/L	1	4/26/2018 5:02:47 PM	37811
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	4/26/2018 5:02:47 PM	37811
Surr: DNOP	110	79.2-146		%Rec	1	4/26/2018 5:02:47 PM	37811
CARBON DIOXIDE						Analyst:	**JRR**
Total Carbon Dioxide	77	1.0	H	mg CO2/L	1	4/26/2018 4:42:13 PM	R50879
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Fluoride	0.15	0.10		mg/L	1	4/29/2018 6:02:57 PM	R50914
Chloride	2.9	0.50		mg/L	1	4/29/2018 6:02:57 PM	R50914
Bromide	ND	0.10		mg/L	1	4/29/2018 6:02:57 PM	R50914
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	4/29/2018 6:02:57 PM	R50914
Sulfate	58	10		mg/L	20	4/29/2018 6:15:48 PM	R50914
Nitrate+Nitrite as N	ND	1.0		mg/L	5	4/30/2018 5:12:30 PM	R50944
SM2320B: ALKALINITY						Analyst:	**JRR**
Bicarbonate (As CaCO3)	86.16	20.00		mg/L CaCO3	1	4/26/2018 4:42:13 PM	R50879
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	4/26/2018 4:42:13 PM	R50879
Total Alkalinity (as CaCO3)	86.16	20.00		mg/L CaCO3	1	4/26/2018 4:42:13 PM	R50879
EPA METHOD 7470: MERCURY						Analyst:	**rde**
Mercury	ND	0.00020		mg/L	1	4/27/2018 10:34:47 AM	37815
EPA METHOD 7470: MERCURY						Analyst:	**rde**
Mercury	ND	0.00020		mg/L	1	4/27/2018 10:37:02 AM	37815
EPA METHOD 6010B: DISSOLVED METALS						Analyst:	**JLF**
Arsenic	ND	0.020		mg/L	1	5/9/2018 5:57:41 PM	B51158
Barium	0.058	0.020		mg/L	1	5/4/2018 2:31:56 PM	A51071
Cadmium	ND	0.0020		mg/L	1	5/9/2018 4:51:10 PM	A51158
Calcium	35	1.0		mg/L	1	5/4/2018 2:31:56 PM	A51071
Chromium	ND	0.0060		mg/L	1	5/9/2018 4:51:10 PM	A51158
Copper	ND	0.0060		mg/L	1	5/4/2018 2:31:56 PM	A51071
Iron	ND	0.020		mg/L	1	5/4/2018 2:31:56 PM	A51071
Lead	ND	0.0050		mg/L	1	5/9/2018 4:51:10 PM	A51158
Magnesium	5.9	1.0		mg/L	1	5/4/2018 2:31:56 PM	A51071
Manganese	0.016	0.0020		mg/L	1	5/4/2018 2:31:56 PM	A51071
Potassium	1.7	1.0		mg/L	1	5/4/2018 2:31:56 PM	A51071
Selenium	ND	0.050		mg/L	1	5/9/2018 4:51:10 PM	A51158
Silver	ND	0.0050		mg/L	1	5/4/2018 2:31:56 PM	A51071
Sodium	22	1.0		mg/L	1	5/4/2018 2:31:56 PM	A51071
Uranium	ND	0.10		mg/L	1	5/4/2018 2:31:56 PM	A51071

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor
Client Sample ID: Downstream
Project: NBB Observation/Collection Wells, Outf
Collection Date: 4/20/2018 1:20:00 PM
Lab ID: 1804B65-008
Matrix: AQUEOUS
Received Date: 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **JLF**	
Zinc	ND	0.020		mg/L	1	5/9/2018 4:51:10 PM	A51158
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **JLF**	
Arsenic	ND	0.0200		mg/L	1	4/30/2018 4:36:44 PM	37785
Barium	0.078	0.020		mg/L	1	4/29/2018 10:19:48 AM	37785
Cadmium	ND	0.00200		mg/L	1	4/30/2018 4:36:44 PM	37785
Chromium	ND	0.0060		mg/L	1	4/29/2018 10:19:48 AM	37785
Lead	ND	0.00500		mg/L	1	4/30/2018 4:36:44 PM	37785
Selenium	ND	0.0500		mg/L	1	4/30/2018 4:36:44 PM	37785
Silver	ND	0.00500		mg/L	1	4/30/2018 4:36:44 PM	37785
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	4/25/2018 6:25:49 PM	W50821
Surr: BFB	106	70-130		%Rec	1	4/25/2018 6:25:49 PM	W50821
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	4/25/2018 6:25:49 PM	A50821
Toluene	ND	1.0		µg/L	1	4/25/2018 6:25:49 PM	A50821
Ethylbenzene	ND	1.0		µg/L	1	4/25/2018 6:25:49 PM	A50821
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/25/2018 6:25:49 PM	A50821
Xylenes, Total	ND	1.5		µg/L	1	4/25/2018 6:25:49 PM	A50821
Surr: 4-Bromofluorobenzene	115	70-130		%Rec	1	4/25/2018 6:25:49 PM	A50821
Surr: Toluene-d8	98.6	70-130		%Rec	1	4/25/2018 6:25:49 PM	A50821

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor
Client Sample ID: North of 45
Project: NBB Observation/Collection Wells, Outf
Collection Date: 4/20/2018 1:55:00 PM
Lab ID: 1804B65-009
Matrix: AQUEOUS
Received Date: 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE						Analyst:	**TOM**
Diesel Range Organics (DRO)	ND	0.40		mg/L	1	4/26/2018 5:24:47 PM	37811
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	4/26/2018 5:24:47 PM	37811
Surr: DNOP	110	79.2-146		%Rec	1	4/26/2018 5:24:47 PM	37811
CARBON DIOXIDE						Analyst:	**JRR**
Total Carbon Dioxide	75	1.0	H	mg CO2/L	1	4/26/2018 4:50:08 PM	R50879
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Fluoride	0.15	0.10		mg/L	1	4/29/2018 6:28:40 PM	R50914
Chloride	2.8	0.50		mg/L	1	4/29/2018 6:28:40 PM	R50914
Bromide	ND	0.10		mg/L	1	4/29/2018 6:28:40 PM	R50914
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	4/29/2018 6:28:40 PM	R50914
Sulfate	49	10		mg/L	20	4/29/2018 6:41:32 PM	R50914
Nitrate+Nitrite as N	ND	1.0		mg/L	5	4/30/2018 5:25:21 PM	R50944
SM2320B: ALKALINITY						Analyst:	**JRR**
Bicarbonate (As CaCO3)	84.32	20.00		mg/L CaCO3	1	4/26/2018 4:50:08 PM	R50879
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	4/26/2018 4:50:08 PM	R50879
Total Alkalinity (as CaCO3)	84.32	20.00		mg/L CaCO3	1	4/26/2018 4:50:08 PM	R50879
EPA METHOD 7470: MERCURY						Analyst:	**rde**
Mercury	ND	0.00020		mg/L	1	4/27/2018 10:43:54 AM	37815
EPA METHOD 7470: MERCURY						Analyst:	**rde**
Mercury	ND	0.00020		mg/L	1	4/27/2018 10:46:10 AM	37815
EPA METHOD 6010B: DISSOLVED METALS						Analyst:	**JLF**
Arsenic	ND	0.020		mg/L	1	5/9/2018 5:59:31 PM	B51158
Barium	0.055	0.020		mg/L	1	5/4/2018 2:34:07 PM	A51071
Cadmium	ND	0.0020		mg/L	1	5/9/2018 4:53:18 PM	A51158
Calcium	32	1.0		mg/L	1	5/4/2018 2:34:07 PM	A51071
Chromium	ND	0.0060		mg/L	1	5/9/2018 4:53:18 PM	A51158
Copper	ND	0.0060		mg/L	1	5/4/2018 2:34:07 PM	A51071
Iron	ND	0.020		mg/L	1	5/4/2018 2:34:07 PM	A51071
Lead	ND	0.0050		mg/L	1	5/9/2018 4:53:18 PM	A51158
Magnesium	5.7	1.0		mg/L	1	5/4/2018 2:34:07 PM	A51071
Manganese	0.0065	0.0020		mg/L	1	5/4/2018 2:34:07 PM	A51071
Potassium	1.8	1.0		mg/L	1	5/4/2018 2:34:07 PM	A51071
Selenium	ND	0.050		mg/L	1	5/9/2018 4:53:18 PM	A51158
Silver	ND	0.0050		mg/L	1	5/4/2018 2:34:07 PM	A51071
Sodium	20	1.0		mg/L	1	5/4/2018 2:34:07 PM	A51071
Uranium	ND	0.10		mg/L	1	5/4/2018 2:34:07 PM	A51071

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor
Client Sample ID: North of 45
Project: NBB Observation/Collection Wells, Outf
Collection Date: 4/20/2018 1:55:00 PM
Lab ID: 1804B65-009
Matrix: AQUEOUS
Received Date: 4/21/2018 9:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **JLF**	
Zinc	ND	0.020		mg/L	1	5/9/2018 4:53:18 PM	A51158
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **JLF**	
Arsenic	ND	0.0200		mg/L	1	4/30/2018 4:38:43 PM	37785
Barium	0.13	0.020		mg/L	1	4/29/2018 10:21:39 AM	37785
Cadmium	ND	0.00200		mg/L	1	4/30/2018 4:38:43 PM	37785
Chromium	ND	0.0060		mg/L	1	4/29/2018 10:21:39 AM	37785
Lead	ND	0.00500		mg/L	1	4/30/2018 4:38:43 PM	37785
Selenium	ND	0.0500		mg/L	1	4/30/2018 4:38:43 PM	37785
Silver	ND	0.00500		mg/L	1	4/30/2018 4:38:43 PM	37785
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	4/25/2018 6:48:57 PM	W50821
Surr: BFB	111	70-130		%Rec	1	4/25/2018 6:48:57 PM	W50821
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	4/25/2018 6:48:57 PM	A50821
Toluene	ND	1.0		µg/L	1	4/25/2018 6:48:57 PM	A50821
Ethylbenzene	ND	1.0		µg/L	1	4/25/2018 6:48:57 PM	A50821
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/25/2018 6:48:57 PM	A50821
Xylenes, Total	ND	1.5		µg/L	1	4/25/2018 6:48:57 PM	A50821
Surr: 4-Bromofluorobenzene	121	70-130		%Rec	1	4/25/2018 6:48:57 PM	A50821
Surr: Toluene-d8	94.0	70-130		%Rec	1	4/25/2018 6:48:57 PM	A50821

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1804B65**
15-May-18

Client: Andeavor
Project: NBB Observation/Collection Wells, Outfalls, Sa

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R50914**	RunNo: **50914**
Prep Date:	Analysis Date: **4/29/2018**	SeqNo: **1652910** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R50914**	RunNo: **50914**
Prep Date:	Analysis Date: **4/29/2018**	SeqNo: **1652911** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.49	0.10	0.5000	0	98.9	90	110			
Chloride	4.6	0.50	5.000	0	92.7	90	110			
Bromide	2.4	0.10	2.500	0	95.7	90	110			
Phosphorus, Orthophosphate (As P	4.8	0.50	5.000	0	95.2	90	110			
Sulfate	9.2	0.50	10.00	0	91.8	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R50944**	RunNo: **50944**
Prep Date:	Analysis Date: **4/30/2018**	SeqNo: **1653920** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R50944**	RunNo: **50944**
Prep Date:	Analysis Date: **4/30/2018**	SeqNo: **1653921** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.3	0.20	3.500	0	94.9	90	110			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1804B65**

15-May-18

Client: Andeavor

Project: NBB Observation/Collection Wells, Outfalls, Sa

Sample ID **1804B65-001BMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Diesel Range**
Client ID: **OW 22+00**	Batch ID: **37811**	RunNo: **50846**
Prep Date: **4/26/2018**	Analysis Date: **4/26/2018**	SeqNo: **1650684** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	2.7	0.40	2.500	0	108	89.6	145			
Surr: DNOP	0.27		0.2500		108	79.2	146			

Sample ID **1804B65-001BMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Diesel Range**
Client ID: **OW 22+00**	Batch ID: **37811**	RunNo: **50846**
Prep Date: **4/26/2018**	Analysis Date: **4/26/2018**	SeqNo: **1650685** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	3.0	0.40	2.500	0	120	89.6	145	10.8	20	
Surr: DNOP	0.28		0.2500		112	79.2	146	0	0	

Sample ID **LCS-37811**	SampType: **LCS**	TestCode: **EPA Method 8015D: Diesel Range**
Client ID: **LCSW**	Batch ID: **37811**	RunNo: **50846**
Prep Date: **4/26/2018**	Analysis Date: **4/26/2018**	SeqNo: **1650691** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	2.6	0.40	2.500	0	105	76.5	158			
Surr: DNOP	0.27		0.2500		108	79.2	146			

Sample ID **MB-37811**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Diesel Range**
Client ID: **PBW**	Batch ID: **37811**	RunNo: **50846**
Prep Date: **4/26/2018**	Analysis Date: **4/26/2018**	SeqNo: **1650692** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	0.40								
Motor Oil Range Organics (MRO)	ND	2.5								
Surr: DNOP	0.53		0.5000		106	79.2	146			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1804B65**

15-May-18

Client: Andeavor

Project: NBB Observation/Collection Wells, Outfalls, Sa

Sample ID **100ng lcs**	SampType: **LCS4**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **BatchQC**	Batch ID: **A50821**	RunNo: **50821**
Prep Date:	Analysis Date: **4/25/2018**	SeqNo: **1649367** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	100	80	120			
Toluene	21	1.0	20.00	0	103	80	120			
Ethylbenzene	21	1.0	20.00	0	105	80	120			
Methyl tert-butyl ether (MTBE)	18	1.0	20.00	0	87.9	80	120			
Xylenes, Total	61	1.5	60.00	0	102	80	120			
Surr: 4-Bromofluorobenzene	9.7		10.00		96.7	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **A50821**	RunNo: **50821**
Prep Date:	Analysis Date: **4/25/2018**	SeqNo: **1649369** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 4-Bromofluorobenzene	12		10.00		119	70	130			
Surr: Toluene-d8	10		10.00		99.6	70	130			

Sample ID **1804b65-006ams**	SampType: **MS4**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **Upstream**	Batch ID: **A50821**	RunNo: **50821**
Prep Date:	Analysis Date: **4/25/2018**	SeqNo: **1649856** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	91.3	80	120			
Toluene	20	1.0	20.00	0	98.8	80	120			
Ethylbenzene	20	1.0	20.00	0	98.8	80	120			
Methyl tert-butyl ether (MTBE)	18	1.0	20.00	0.3706	87.0	80	120			
Xylenes, Total	58	1.5	60.00	0	96.8	80	120			
Surr: 4-Bromofluorobenzene	9.7		10.00		97.0	70	130			
Surr: Toluene-d8	9.9		10.00		98.7	70	130			

Sample ID **1804b65-006amsd**	SampType: **MSD4**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **Upstream**	Batch ID: **A50821**	RunNo: **50821**
Prep Date:	Analysis Date: **4/25/2018**	SeqNo: **1649857** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	90.6	80	120	0.781	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1804B65**

15-May-18

Client: Andeavor

Project: NBB Observation/Collection Wells, Outfalls, Sa

Sample ID	**1804b65-006amsd**	SampType:	**MSD4**	TestCode:	**EPA Method 8260: Volatiles Short List**
Client ID:	**Upstream**	Batch ID:	**A50821**	RunNo:	**50821**
Prep Date:		Analysis Date:	**4/25/2018**	SeqNo:	**1649857** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Toluene	19	1.0	20.00	0	94.5	80	120	4.42	20	
Ethylbenzene	19	1.0	20.00	0	94.4	80	120	4.52	20	
Methyl tert-butyl ether (MTBE)	16	1.0	20.00	0.3706	80.1	80	120	8.04	20	
Xylenes, Total	55	1.5	60.00	0	91.7	80	120	5.45	20	
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130	0	0	
Surr: Toluene-d8	9.9		10.00		98.8	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1804B65**

15-May-18

Client: Andeavor

Project: NBB Observation/Collection Wells, Outfalls, Sa

Sample ID	**MB-37815**	SampType:	**MBLK**	TestCode:	**EPA Method 7470: Mercury**					
Client ID:	**PBW**	Batch ID:	**37815**	RunNo:	**50885**					
Prep Date:	**4/26/2018**	Analysis Date:	**4/27/2018**	SeqNo:	**1651661**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	**LCS-37815**	SampType:	**LCS**	TestCode:	**EPA Method 7470: Mercury**					
Client ID:	**LCSW**	Batch ID:	**37815**	RunNo:	**50885**					
Prep Date:	**4/26/2018**	Analysis Date:	**4/27/2018**	SeqNo:	**1651662**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0052	0.00020	0.005000	0	105	80	120			

Sample ID	**LCSD-37815**	SampType:	**LCSD**	TestCode:	**EPA Method 7470: Mercury**					
Client ID:	**LCSS02**	Batch ID:	**37815**	RunNo:	**50885**					
Prep Date:	**4/26/2018**	Analysis Date:	**4/27/2018**	SeqNo:	**1651663**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0053	0.00020	0.005000	0	107	80	120	1.89	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1804B65**

15-May-18

Client: Andeavor

Project: NBB Observation/Collection Wells, Outfalls, Sa

Sample ID	**MB-A**	SampType: **MBLK**			TestCode: **EPA Method 6010B: Dissolved Metals**					
Client ID:	**PBW**	Batch ID: **A51071**			RunNo: **51071**					
Prep Date:		Analysis Date: **5/4/2018**			SeqNo: **1658828**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.020								
Calcium	ND	1.0								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Uranium	ND	0.10								

Sample ID	**LCS-A**	SampType: **LCS**			TestCode: **EPA Method 6010B: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID: **A51071**			RunNo: **51071**					
Prep Date:		Analysis Date: **5/4/2018**			SeqNo: **1658830**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.020	0.5000	0	99.1	80	120			
Calcium	46	1.0	50.00	0	92.2	80	120			
Copper	0.47	0.0060	0.5000	0	94.2	80	120			
Iron	0.47	0.020	0.5000	0	93.8	80	120			
Magnesium	49	1.0	50.00	0	97.2	80	120			
Manganese	0.46	0.0020	0.5000	0	91.6	80	120			
Potassium	48	1.0	50.00	0	96.1	80	120			
Silver	0.11	0.0050	0.1000	0	107	80	120			
Sodium	49	1.0	50.00	0	98.6	80	120			
Uranium	0.47	0.10	0.5000	0	94.8	80	120			

Sample ID	**LCSD-A**	SampType: **LCS**			TestCode: **EPA Method 6010B: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID: **A51071**			RunNo: **51071**					
Prep Date:		Analysis Date: **5/4/2018**			SeqNo: **1658831**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.020	0.5000	0	98.6	80	120			
Calcium	45	1.0	50.00	0	90.6	80	120			
Copper	0.47	0.0060	0.5000	0	93.3	80	120			
Iron	0.46	0.020	0.5000	0	92.2	80	120			
Magnesium	48	1.0	50.00	0	95.5	80	120			
Manganese	0.45	0.0020	0.5000	0	90.5	80	120			
Potassium	47	1.0	50.00	0	94.4	80	120			
Silver	0.11	0.0050	0.1000	0	108	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1804B65**
15-May-18

Client: Andeavor
Project: NBB Observation/Collection Wells, Outfalls, Sa

Sample ID	**LCSD-A**	SampType: **LCS**			TestCode: **EPA Method 6010B: Dissolved Metals**				
Client ID:	**LCSW**	Batch ID: **A51071**			RunNo: **51071**				
Prep Date:		Analysis Date: **5/4/2018**			SeqNo: **1658831**	Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	48	1.0	50.00	0	96.6	80	120			
Uranium	0.46	0.10	0.5000	0	93.0	80	120			

Sample ID	**MB-A**	SampType: **MBLK**			TestCode: **EPA Method 6010B: Dissolved Metals**				
Client ID:	**PBW**	Batch ID: **A51158**			RunNo: **51158**				
Prep Date:		Analysis Date: **5/9/2018**			SeqNo: **1662080**	Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Lead	ND	0.0050								
Selenium	ND	0.050								
Zinc	ND	0.020								

Sample ID	**LCS-A**	SampType: **LCS**			TestCode: **EPA Method 6010B: Dissolved Metals**				
Client ID:	**LCSW**	Batch ID: **A51158**			RunNo: **51158**				
Prep Date:		Analysis Date: **5/9/2018**			SeqNo: **1662082**	Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.50	0.020	0.5000	0	99.5	80	120			
Cadmium	0.53	0.0020	0.5000	0	105	80	120			
Calcium	50	1.0	50.00	0	99.4	80	120			
Chromium	0.49	0.0060	0.5000	0	97.8	80	120			
Lead	0.50	0.0050	0.5000	0	100	80	120			
Selenium	0.50	0.050	0.5000	0	100	80	120			
Zinc	0.49	0.020	0.5000	0	97.1	80	120			

Sample ID	**MB-B**	SampType: **MBLK**			TestCode: **EPA Method 6010B: Dissolved Metals**				
Client ID:	**PBW**	Batch ID: **B51158**			RunNo: **51158**				
Prep Date:		Analysis Date: **5/9/2018**			SeqNo: **1662172**	Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.020								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1804B65**

15-May-18

Client: Andeavor

Project: NBB Observation/Collection Wells, Outfalls, Sa

Sample ID	**LCS-B**	SampType:	**LCS**	TestCode:	**EPA Method 6010B: Dissolved Metals**
Client ID:	**LCSW**	Batch ID:	**B51158**	RunNo:	**51158**
Prep Date:		Analysis Date:	**5/9/2018**	SeqNo:	**1662174** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.48	0.020	0.5000	0	95.5	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1804B65**

15-May-18

Client: Andeavor

Project: NBB Observation/Collection Wells, Outfalls, Sa

Sample ID	**MB-37785**	SampType:	**MBLK**	TestCode:	**EPA 6010B: Total Recoverable Metals**					
Client ID:	**PBW**	Batch ID:	**37785**	RunNo:	**50899**					
Prep Date:	**4/25/2018**	Analysis Date:	**4/29/2018**	SeqNo:	**1652037**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.020								
Chromium	ND	0.0060								

Sample ID	**LCS-37785**	SampType:	**LCS**	TestCode:	**EPA 6010B: Total Recoverable Metals**					
Client ID:	**LCSW**	Batch ID:	**37785**	RunNo:	**50899**					
Prep Date:	**4/25/2018**	Analysis Date:	**4/29/2018**	SeqNo:	**1652038**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.53	0.020	0.5000	0	107	80	120			
Chromium	0.53	0.0060	0.5000	0	105	80	120			

Sample ID	**MB-37785**	SampType:	**MBLK**	TestCode:	**EPA 6010B: Total Recoverable Metals**					
Client ID:	**PBW**	Batch ID:	**37785**	RunNo:	**50899**					
Prep Date:	**4/25/2018**	Analysis Date:	**4/29/2018**	SeqNo:	**1652180**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	ND	0.0050								

Sample ID	**LCS-37785**	SampType:	**LCS**	TestCode:	**EPA 6010B: Total Recoverable Metals**					
Client ID:	**LCSW**	Batch ID:	**37785**	RunNo:	**50899**					
Prep Date:	**4/25/2018**	Analysis Date:	**4/29/2018**	SeqNo:	**1652181**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.10	0.0050	0.1000	0	102	80	120			

Sample ID	**MB-37785**	SampType:	**MBLK**	TestCode:	**EPA 6010B: Total Recoverable Metals**					
Client ID:	**PBW**	Batch ID:	**37785**	RunNo:	**50922**					
Prep Date:	**4/25/2018**	Analysis Date:	**4/30/2018**	SeqNo:	**1653138**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0200								
Cadmium	ND	0.00200								
Lead	ND	0.00500								
Selenium	ND	0.0500								
Silver	ND	0.00500								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1804B65**
15-May-18

Client: Andeavor
Project: NBB Observation/Collection Wells, Outfalls, Sa

Sample ID	**LCS-37785**	SampType: **LCS**		TestCode: **EPA 6010B: Total Recoverable Metals**						
Client ID:	**LCSW**	Batch ID: **37785**		RunNo: **50922**						
Prep Date:	**4/25/2018**	Analysis Date: **4/30/2018**		SeqNo: **1653140**		Units: **mg/L**				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.543	0.0200	0.5000	0	109	80	120			
Cadmium	0.537	0.00200	0.5000	0	107	80	120			
Lead	0.508	0.00500	0.5000	0	102	80	120			
Selenium	0.507	0.0500	0.5000	0	101	80	120			
Silver	0.106	0.00500	0.1000	0	106	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1804B65**

15-May-18

Client: Andeavor

Project: NBB Observation/Collection Wells, Outfalls, Sa

Sample ID	**2.5ug gro lcs**	SampType:	**LCS**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**LCSW**	Batch ID:	**W50821**		RunNo:	**50821**				
Prep Date:		Analysis Date:	**4/25/2018**		SeqNo:	**1649844**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.51	0.050	0.5000	0	101	70	130			
Surr: BFB	9.8		10.00		98.4	70	130			

Sample ID	**rb**	SampType:	**MBLK**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**PBW**	Batch ID:	**W50821**		RunNo:	**50821**				
Prep Date:		Analysis Date:	**4/25/2018**		SeqNo:	**1649845**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	11		10.00		109	70	130			

Sample ID	**1804b65-001ams**	SampType:	**MS**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**OW 22+00**	Batch ID:	**W50821**		RunNo:	**50821**				
Prep Date:		Analysis Date:	**4/25/2018**		SeqNo:	**1649939**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.50	0.050	0.5000	0	100	70	130			
Surr: BFB	9.9		10.00		99.3	70	130			

Sample ID	**1804b65-001amsd**	SampType:	**MSD**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**OW 22+00**	Batch ID:	**W50821**		RunNo:	**50821**				
Prep Date:		Analysis Date:	**4/25/2018**		SeqNo:	**1649940**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.46	0.050	0.5000	0	91.3	70	130	9.60	20	
Surr: BFB	9.7		10.00		96.8	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1804B65**
15-May-18

Client: Andeavor
Project: NBB Observation/Collection Wells, Outfalls, Sa

Sample ID	**mb-1 alk**	SampType:	**MBLK**	TestCode:	**SM2320B: Alkalinity**					
Client ID:	**PBW**	Batch ID:	**R50879**	RunNo:	**50879**					
Prep Date:		Analysis Date:	**4/26/2018**	SeqNo:	**1651059**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID	**lcs-1 alk**	SampType:	**LCS**	TestCode:	**SM2320B: Alkalinity**					
Client ID:	**LCSW**	Batch ID:	**R50879**	RunNo:	**50879**					
Prep Date:		Analysis Date:	**4/26/2018**	SeqNo:	**1651060**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79.84	20.00	80.00	0	99.8	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: ANDEAVOR BLOOMFIEL Work Order Number: 1804B65 RcptNo: 1

Received By: Isaiah Ortiz 4/21/2018 9:40:00 AM

Completed By: Erin Melendrez 4/23/2018 4:32:13 PM

Reviewed By: MW 4/23/18

LB: ENM

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☒ 4/5/18	No ☐	No VOA Vials ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: 18

(<2 or >12 unless noted)

Adjusted? NO

Checked by: ENM

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: ____ Date: ____

By Whom: ____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: ____

Client Instructions: ____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.5	Good	Yes			

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **NBB - Observation Wells**

Date: 4-20-18

Project #: **Semi-Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: ☑ Yes ☐ No

Sample Temperature: 0.5

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www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1804B65	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	**TPH 8015B (GRO/DRO/MRO)**	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	**8260B (VOA) BTEX,MTBE only**	8270 (Semi-VOA)					Air Bubbles (Y or N)
4.20.18	0845	H_2O	OW 22+00	40ml VOA-5	HCl	-001			X							X						
4.20.18	0845	H_2O	OW 22+00	250 ml amber-1	Neat				X													

Date:	Time:	Relinquished by:	Received by:	Date	Time
4/20/18	1100		Christ Ward	4/20/18	1110
4/20/18	1844	Christa Waller		4/21/18	940

Remarks: See Analytical Methods and Target Analytes.
* Project Name: SanJuan Outfall NBB Collection and Observation Well per Tracy Payne (8 pages - 1 project)

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **NBB - Collection Wells**

Date: 4-20-18

Project #: **Semi-Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: ☑ Yes ☐ No

Sample Temperature: 0.5

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1804B05	BTEX+MTBE+TMB's (8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (DRO EXTENDED ONLY)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA) BTEX, MTBE only	8270 (Semi-VOA)					Air Bubbles (Y or N)
4/20/18	0905	H_2O	CW 25+95	40ml VOA-5	HCl	-002										X						
↓	↓	H_2O	CW 25+95	250 ml amber-1	Neat				X													
4/20/18	—	H_2O	TRIP BLANK	40 mL VOA-3	HCL	-003										X						

Date: 4/20/18 Time: 1100 Relinquished by: [signature]
Received by: [signature] Date: 4/20/18 Time: 1100

Date: 4/20/18 Time: 1841 Relinquished by: [signature]
Received by: [signature] Date: 4/21/18 Time: 940

Remarks: See Analytical Methods and Target Analytes.

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **Outfalls**

Date: 4-20-18

Project #: **Semi-Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: ☑ Yes ☐ No

Sample Temperature: 0.5

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4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1804B05	BTEX+MTBE+TMB's (8021)	BTEX+MTBE+TPH (Gas only)	TPH 8015B (GRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals - TOTALS	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B(VOA)BTEX, MTBE only	8270 (Semi-VOA)	Alk., CO_2	Dissolved Metals			Air Bubbles (Y or N)
4/20/18	1040	H_2O	Outfall #2	40 ml VOA - 5	HCl	-004										X						
		H_2O	Outfall #2	250 ml plastic-1	HNO_3								X									
		H_2O	Outfall #2	125 ml plastic-1	HNO_3														X			
		H_2O	Outfall #2	125 ml plastic-1	H_2SO_4									X								
		H_2O	Outfall #2	500 ml plastic-1	NEAT													X				

Date	Time	Relinquished by:	Received by:	Date	Time
4/20/18	1100			4/20/18	1100
4/20/18	1846	Christian Walls	I. Ow	4/21/18	940

Remarks: See Analytical Methods and Target Analytes.

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush

Project Name: **Outfalls**

Date: **4-20-18**

Project #: **Semi-Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: ☑ Yes ☐ No

Sample Temperature: **0.5**

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1804B105
4/20/18	0945	H_2O	Outfall #3	40 ml VOA - 5	HCl	-005
		H_2O	Outfall #3	250 ml plastic-1	HNO_3	
		H_2O	Outfall #3	125 ml plastic-1	HNO_3	
		H_2O	Outfall #3	125 ml plastic-1	H_2SO_4	
		H_2O	Outfall #3	500 ml plastic-1	NEAT	

Analysis Request

BTEX+MTBE+TMB's (8021)	BTEX+MTBE+TPH (Gas only)	TPH 8015B (GRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals - TOTALS	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B(VOA) BTEX, MTBE only	8270 (Semi-VOA)	Alk., CO_2	Dissolved Metals			Air Bubbles (Y or N)
									X						
						X									
												X			
							X								
											X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
4/20/18	1100			4/20/18	1100
4/20/18	1846			4/21/18	940

Remarks: See Analytical Methods and Target Analytes.

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **San Juan River** (OUTfall)
Date: 4-20-18 NBB Collection + observation

Project #: **Semi-Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**
On Ice: ☑ Yes ☐ No
Sample Temperature: 0.5

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4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1804B165
4/20/18	1220	H_2O	Upstream	40ml VOA-5	HCl	-001
		H_2O	Upstream	250 ml amber-1	Neat	
		H_2O	Upstream	250 ml plastic-1	HNO_3	
		H_2O	Upstream	125 ml plastic-1	HNO_3	
		H_2O	Upstream	125 ml plastic-1	H_2SO_4	
		H_2O	Upstream	500 ml plastic-1	Neat	

Analysis Request

BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals Total	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA) BTEX,MTBE only	8270 (Semi-VOA)	Dissolved Metals	General Chem.-Anions&CO_2	General Chem. - Alkalinity		Air Bubbles (Y or N)
		X							X						
		X													
						X									
											X	X			
												X			
													X		

Date:	Time:	Relinquished by:	Received by:	Date	Time
4/20/18	1430			4/20/18	1430
4/20/18	1846			4/21/18	940

Remarks: See Analytical Methods and Target Analytes.

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **San Juan River**

Date: ___-___-_____

Project #: **Semi-Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**
On Ice: ☐ Yes ☐ No
Sample Temperature: 0.5

HALL ENVIRONMENTAL ANALYSIS LABORATORY
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Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1804B605	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals Total	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA) BTEX,MTBE only	8270 (Semi-VOA)	Dissolved Metals	General Chem.-Anions&CO_2	General Chem. - Alkalinity		Air Bubbles (Y or N)
4/20/18	1250	H_2O	North of 46	40ml VOA-5	HCl	-007			X							X						
		H_2O	North of 46	250 ml amber-1	Neat				X													
		H_2O	North of 46	250 ml plastic-1	HNO_3								X									
		H_2O	North of 46	125 ml plastic-1	HNO_3													X	X			
		H_2O	North of 46	125 ml plastic-1	H_2SO_4														X			
		H_2O	North of 46	500 ml plastic-1	Neat															X		

Date	Time	Relinquished by:	Received by:	Date	Time
4/20/18	1430			4/20/18	1430
4/20/18	1846	Christian Waclaw		4/21/18	940

Remarks: See Analytical Methods and Target Analytes.

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **San Juan River**

Date: 4-20-18

Project #: **Semi-Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: ☒ Yes ☐ No

Sample Temperature: 0.5

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1804B05	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals Total	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA) BTEX,MTBE only	8270 (Semi-VOA)	Dissolved Metals	General Chem.-Anions&CO_2	General Chem. - Alkalinity		Air Bubbles (Y or N)
4/20/18	1320	H_2O	Downstream	40ml VOA-5	HCl	-008			X							X						
		H_2O	Downstream	250 ml amber-1	Neat				X													
		H_2O	Downstream	250 ml plastic-1	HNO_3								X									
		H_2O	Downstream	125 ml plastic-1	HNO_3													X	X			
		H_2O	Downstream	125 ml plastic-1	H_2SO_4														X			
		H_2O	Downstream	500 ml plastic-1	Neat															X		

Date:	Time:	Relinquished by:	Received by:	Date	Time
4/20/18	1430			4/20/18	1430
4/20/18	1846			4/21/18	940

Remarks: See Analytical Methods and Target Analytes.

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **San Juan River**

Date: 4-20-18

Project #: **Semi-Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: ☑ Yes ☐ No

Sample Temperature: 0.5

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals Total	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA) BTEX,MTBE only	8270 (Semi-VOA)	Dissolved Metals	General Chem.-Anions&CO_2	General Chem. - Alkalinity		Air Bubbles (Y or N)
	1355					1804B105																
4/20/18	~~1360~~	H_2O	North of 45	40ml VOA-5	HCl	-009			X							X						
		H_2O	North of 45	250 ml amber-1	Neat				X													
		H_2O	North of 45	250 ml plastic-1	HNO_3								X									
		H_2O	North of 45	125 ml plastic-1	HNO_3													X	X			
		H_2O	North of 45	125 ml plastic-1	H_2SO_4														X			
		H_2O	North of 45	500 ml plastic-1	Neat															X		

Date:	Time:	Relinquished by:	Received by:	Date	Time
4/20/18	1430			4/20/18	1430
4/20/18	1842			4/21/18	940

Remarks: See Analytical Methods and Target Analytes.

TABLE 2
Analytical Methods and Target Analytes
Facility-Wide Groundwater Monitoring Plan - June 2014
Western Refining Southwest, Inc. - Bloomfield Terminal

VOCs (EPA Method 8260B) [1]
- Target List
Benzene
Toluene
Ethylbenzene
Xylenes
Methyl tert butyl ether (MTBE)
SVOCs - (EPA Method 8270)
- Method List
TPH-GRO (EPA Method 8015B)
- Gasoline Range Organics
TPH-DRO (EPA Method 8015B)
- Diesel Range Organics
- Motor Oil Range Organics
Total Carbon Dioxide (Laboratory Calculated)
- Dissolved CO2
Specific Conductivity (EPA Method 120.1 or field measurement)
- Specific conductance
TDS (EPA Method 160.1 or field measurement)
- Total dissolved solids
General Chemistry - Anions (EPA Method 300.0)
Fluoride
Chloride
Bromide
Nitrogen, Nitrite (as N)
Nitrogen, Nitrate (as N)
Phosphorous, Orthophosphate (As P)
Sulfate
General Chemistry - Alkalinity (EPA Method 310.1)
Alkalinity, Total
Carbonate
Bicarbonate

Total Recoverable Metals (EPA Method 6010B/7470)	
- Target List (not applicable to River Terrace Sampling Events)	
Arsenic	*Lead*
Barium	*Mercury*
Cadmium	*Selenium*
Chromium	*Silver*
- Target List (for River Terrace Sampling Events Only)	
Lead	
Mercury (DW-1 ONLY)	
Dissolved Metals (EPA Method 6010B / 7470)	
- Target List (for Refinery Complex, Outfalls, and River)	
Arsenic	*Manganese*
Barium	*Mercury*
Cadmium	*Potassium*
Calcium	*Selenium*
Chromium	*Silver*
Copper	*Sodium*
Iron	*Uranium*
Lead	*Zinc*
Magnesium	

TPH = total petroleum hydrocarbons
GRO = gasoline range organics
VOCs = volatile organic compounds
DRO = diesel range organics
TDS = total dissolved solids

NOTES:

(1) VOCs Target List for River Terrace samples are analyzed by EPA Method 8021B per NMED's letter Approval with Direction dated June 16, 2009.

(2) Target List for San Juan River Terrace Monitoring Wells and Piezomenter Wells only, per the River Terrace Bioventing System Monitoring Plan.

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

June 19, 2018

Allen Hains
Andeavor
111 CR 4990
Bloomfield, NM 87413
TEL: (505) 801-5616
FAX

RE: Semi Annual Groundwater OrderNo.: 1805C34

Dear Allen Hains:

Hall Environmental Analysis Laboratory received 1 sample(s) on 5/23/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1805C34**
Date Reported: **6/19/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor
Client Sample ID: Seep 1
Project: Semi Annual Groundwater
Collection Date: 5/22/2018 2:15:00 PM
Lab ID: 1805C34-001
Matrix: AQUEOUS
Received Date: 5/23/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
CARBON DIOXIDE						Analyst: **MRA**	
Total Carbon Dioxide	430	1.0	H	mg CO2/	1	5/29/2018 8:39:18 PM	R51585
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Fluoride	ND	0.50		mg/L	5	5/23/2018 11:42:57 PM	A51498
Chloride	270	10	*	mg/L	20	5/23/2018 11:55:21 PM	A51498
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	5/23/2018 11:42:57 PM	A51498
Bromide	3.9	0.50		mg/L	5	5/23/2018 11:42:57 PM	A51498
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	5/23/2018 11:42:57 PM	A51498
Phosphorus, Orthophosphate (As P)	ND	10		mg/L	20	5/23/2018 11:55:21 PM	A51498
Sulfate	1000	25	*	mg/L	50	6/5/2018 8:01:03 PM	R51773
SM2320B: ALKALINITY						Analyst: **MRA**	
Bicarbonate (As CaCO3)	453.2	20.00		mg/L Ca	1	5/29/2018 8:39:18 PM	R51585
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	5/29/2018 8:39:18 PM	R51585
Total Alkalinity (as CaCO3)	453.2	20.00		mg/L Ca	1	5/29/2018 8:39:18 PM	R51585

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1805C34**

19-Jun-18

Client: Andeavor

Project: Semi Annual Groundwater

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **A51498**	RunNo: **51498**
Prep Date:	Analysis Date: **5/23/2018**	SeqNo: **1677899** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **A51498**	RunNo: **51498**
Prep Date:	Analysis Date: **5/23/2018**	SeqNo: **1677900** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.50	0.10	0.5000	0	99.8	90	110			
Chloride	4.6	0.50	5.000	0	92.1	90	110			
Nitrogen, Nitrite (As N)	0.94	0.10	1.000	0	93.9	90	110			
Bromide	2.4	0.10	2.500	0	94.2	90	110			
Nitrogen, Nitrate (As N)	2.4	0.10	2.500	0	96.6	90	110			
Phosphorus, Orthophosphate (As P	4.7	0.50	5.000	0	94.7	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R51773**	RunNo: **51773**
Prep Date:	Analysis Date: **6/5/2018**	SeqNo: **1690242** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	ND	0.50								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R51773**	RunNo: **51773**
Prep Date:	Analysis Date: **6/5/2018**	SeqNo: **1690243** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	9.2	0.50	10.00	0	91.8	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1805C34**

19-Jun-18

Client: Andeavor

Project: Semi Annual Groundwater

Sample ID	**mb-1 alk**	SampType:	**mblk**		TestCode:	**SM2320B: Alkalinity**					
Client ID:	**PBW**	Batch ID:	**R51585**		RunNo:	**51585**					
Prep Date:		Analysis Date:	**5/29/2018**		SeqNo:	**1681637**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Alkalinity (as CaCO3)	ND	20.00									

Sample ID	**lcs-1 alk**	SampType:	**lcs**		TestCode:	**SM2320B: Alkalinity**					
Client ID:	**LCSW**	Batch ID:	**R51585**		RunNo:	**51585**					
Prep Date:		Analysis Date:	**5/29/2018**		SeqNo:	**1681638**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Alkalinity (as CaCO3)	79.52	20.00	80.00	0	99.4	90	110				

Sample ID	**mb-2 alk**	SampType:	**mblk**		TestCode:	**SM2320B: Alkalinity**					
Client ID:	**PBW**	Batch ID:	**R51585**		RunNo:	**51585**					
Prep Date:		Analysis Date:	**5/29/2018**		SeqNo:	**1681662**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Alkalinity (as CaCO3)	ND	20.00									

Sample ID	**lcs-2 alk**	SampType:	**lcs**		TestCode:	**SM2320B: Alkalinity**					
Client ID:	**LCSW**	Batch ID:	**R51585**		RunNo:	**51585**					
Prep Date:		Analysis Date:	**5/29/2018**		SeqNo:	**1681663**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Alkalinity (as CaCO3)	80.16	20.00	80.00	0	100	90	110				

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: ANDEAVOR BLOOMFIEL Work Order Number: 1805C34 RptNo: 1

Received By: Anne Thorne 5/23/2018 7:00:00 AM Anne Thorne

Completed By: Michelle Garcia 5/23/2018 9:24:29 AM Michelle Garcia

Reviewed By: JB 05/23/18 Labeled by: MW 5/23/18

Chain of Custody

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☑ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
8. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
9. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☑
10. Were any sample containers received broken? Yes ☐ No ☑
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
13. Is it clear what analyses were requested? Yes ☑ No ☐
14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: (<2 or >12 unless noted)
Adjusted?
Checked by: MW 5/23/18

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

Chain-of-Custody Record

Client: Allen Hains, Western
50 CR 4990
Mailing Address: Bloomfield, NM 87413
Phone #: (915) 490-1594
email or Fax#: Allen.S.Hains@Andeavor.com
QA/QC Package:
☐ Standard ☑ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush
Project Name: Semi-Annual Groundwater
Project #: PO# 126233266
Project Manager: Allen Hains
Sampler: Michael A Wicker
On Ice: ☑ Yes ☐ No
Sample Temperature: 1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1805C34
5-22-18	1415	GW	Seep 1	1-Poly	Cool	-001

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Anions 300.0	Alkalinity / CO2 310.1			Air Bubbles (Y or N)
							X				X	X			

Date	Time	Relinquished by:	Received by:	Date	Time
5-22-18	1520			5/22/18	1520
5/22/18	1820			05/23/18	0700

Remarks: L4 Verified analysis with Allen and Matt. MW 05/23/18

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

TABLE 2
Analytical Methods and Target Analytes
Facility-Wide Groundwater Monitoring Plan - June 2018
Western Refining Southwest, Inc. - Bloomfield Refinery

VOCs (EPA Method 8260B) [1]
- Target List
  - *Benzene*
  - *Toluene*
  - *Ethylbenzene*
  - *Xylenes*
  - *Methyl tert butyl ether (MTBE)*

SVOCs - (EPA Method 8270)
- Method List

TPH-GRO (EPA Method 8015B)
- Gasoline Range Organics

TPH-DRO (EPA Method 8015B)
- Diesel Range Organics
- Motor Oil Range Organics

Total Carbon Dioxide (Laboratory Calculated)
- Dissolved CO2

Specific Conductivity (EPA Method 120.1 or field measurement)
- Specific conductance

TDS (EPA Method 160.1 or field measurement)
- Total dissolved solids

General Chemistry - Anions (EPA Method 300.0)
- *Fluoride*
- *Chloride*
- *Bromide*
- *Nitrogen, Nitrite (as N)*
- *Nitrogen, Nitrate (as N)*
- *Phosphorous, Orthophosphate (As P)*
- *Sulfate*

General Chemistry - Alkalinity (EPA Method 310.1)
- *Alkalinity, Total*
- *Carbonate*
- *Bicarbonate*

Total Recoverable Metals (EPA Method 6010B/7470)
- Target List (not applicable to River Terrace Sampling Events)
  - *Arsenic*
  - *Barium*
  - *Cadmium*
  - *Chromium*
  - *Lead*
  - *Mercury*
  - *Selenium*
  - *Silver*
- Target List (for River Terrace Sampling Events Only)
  - *Lead*
  - *Mercury (DW-1 ONLY)*

Dissolved Metals (EPA Method 6010B / 7470)
- Target List (for Refinery Complex, Outfalls, and River)
  - *Arsenic*
  - *Barium*
  - *Cadmium*
  - *Calcium*
  - *Chromium*
  - *Copper*
  - *Iron*
  - *Lead*
  - *Magnesium*
  - *Manganese*
  - *Mercury*
  - *Potassium*
  - *Selenium*
  - *Silver*
  - *Sodium*
  - *Uranium*
  - *Zinc*

TPH = total petroleum hydrocarbons
GRO = gasoline range organics
VOCs = volatile organic compounds
DRO = diesel range organics
TDS = total dissolved solids

NOTES:

(1) VOCs Target List for River Terrace samples are analyzed by EPA Method 8021B per NMED's letter Approval with Direction dated June 16, 2009.

(2) Target List for San Juan River Terrace Monitoring Wells and Piezometer Wells only, per the River Terrace Bioventing System Monitoring Plan.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

August 22, 2018

Allen Hains

Andeavor Bloomfield
111 CR 4990
Bloomfield, NM 87413
TEL: (915) 534-1483
FAX

RE: San Juan River and RCRA Wells OrderNo.: 1808248

Dear Allen Hains:

Hall Environmental Analysis Laboratory received 14 sample(s) on 8/4/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: Upstream
Project: San Juan River and RCRA Wells
Collection Date: 8/2/2018 2:45:00 PM
Lab ID: 1808248-001 **Matrix:** AQUEOUS **Received Date:** 8/4/2018 10:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	0.40		mg/L	1	8/9/2018 4:50:23 PM	39667
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	8/9/2018 4:50:23 PM	39667
Surr: DNOP	79.3	76.6-135		%Rec	1	8/9/2018 4:50:23 PM	39667
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Fluoride	0.13	0.10		mg/L	1	8/7/2018 4:34:24 PM	R53287
Chloride	2.5	0.50		mg/L	1	8/7/2018 4:34:24 PM	R53287
Bromide	ND	0.10		mg/L	1	8/7/2018 4:34:24 PM	R53287
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	8/7/2018 4:34:24 PM	R53287
Sulfate	43	0.50		mg/L	1	8/7/2018 4:34:24 PM	R53287
Nitrate+Nitrite as N	ND	1.0		mg/L	5	8/7/2018 11:52:16 PM	R53285
SM2320B: ALKALINITY						Analyst: **sat**	
Bicarbonate (As CaCO3)	82.16	20.00		mg/L Ca	1	8/8/2018 2:05:45 PM	R53305
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	8/8/2018 2:05:45 PM	R53305
Total Alkalinity (as CaCO3)	82.16	20.00		mg/L Ca	1	8/8/2018 2:05:45 PM	R53305
EPA METHOD 7470: MERCURY						Analyst: **rde**	
Mercury	ND	0.00020		mg/L	1	8/6/2018 6:45:14 PM	39609
EPA METHOD 7470: MERCURY						Analyst: **rde**	
Mercury	ND	0.00020		mg/L	1	8/17/2018 11:30:30 AM	39834
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **pmf**	
Arsenic	ND	0.020		mg/L	1	8/13/2018 4:56:46 PM	B53393
Barium	0.066	0.020		mg/L	1	8/13/2018 1:52:57 PM	A53393
Cadmium	ND	0.0020		mg/L	1	8/13/2018 1:52:57 PM	A53393
Calcium	30	1.0		mg/L	1	8/13/2018 1:52:57 PM	A53393
Chromium	ND	0.0060		mg/L	1	8/13/2018 1:52:57 PM	A53393
Copper	ND	0.0060		mg/L	1	8/13/2018 1:52:57 PM	A53393
Iron	ND	0.020		mg/L	1	8/13/2018 1:52:57 PM	A53393
Lead	ND	0.0050		mg/L	1	8/13/2018 1:52:57 PM	A53393
Magnesium	5.3	1.0		mg/L	1	8/13/2018 1:52:57 PM	A53393
Manganese	0.0022	0.0020		mg/L	1	8/13/2018 1:52:57 PM	A53393
Potassium	1.6	1.0		mg/L	1	8/13/2018 1:52:57 PM	A53393
Selenium	ND	0.050		mg/L	1	8/13/2018 1:52:57 PM	A53393
Silver	ND	0.0050		mg/L	1	8/13/2018 1:52:57 PM	A53393
Sodium	15	1.0		mg/L	1	8/13/2018 1:52:57 PM	A53393
Uranium	ND	0.10		mg/L	1	8/13/2018 6:27:38 PM	A53387
Zinc	0.086	0.020		mg/L	1	8/13/2018 1:52:57 PM	A53393
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **pmf**	

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: Upstream
Project: San Juan River and RCRA Wells
Collection Date: 8/2/2018 2:45:00 PM
Lab ID: 1808248-001 **Matrix:** AQUEOUS **Received Date:** 8/4/2018 10:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **pmf**	
Arsenic	ND	0.020		mg/L	1	8/8/2018 11:39:25 AM	39612
Barium	0.16	0.020		mg/L	1	8/7/2018 6:55:30 PM	39612
Cadmium	ND	0.0020		mg/L	1	8/7/2018 6:55:30 PM	39612
Chromium	ND	0.0060		mg/L	1	8/7/2018 6:55:30 PM	39612
Lead	ND	0.0050		mg/L	1	8/7/2018 6:55:30 PM	39612
Selenium	ND	0.050		mg/L	1	8/7/2018 6:55:30 PM	39612
Silver	ND	0.0050		mg/L	1	8/7/2018 6:55:30 PM	39612
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	8/7/2018 12:16:41 AM	A53243
Surr: BFB	103	70-130		%Rec	1	8/7/2018 12:16:41 AM	A53243
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	8/7/2018 12:16:41 AM	B53243
Toluene	ND	1.0		µg/L	1	8/7/2018 12:16:41 AM	B53243
Ethylbenzene	ND	1.0		µg/L	1	8/7/2018 12:16:41 AM	B53243
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/7/2018 12:16:41 AM	B53243
Xylenes, Total	ND	1.5		µg/L	1	8/7/2018 12:16:41 AM	B53243
Surr: 4-Bromofluorobenzene	117	70-130		%Rec	1	8/7/2018 12:16:41 AM	B53243
Surr: Toluene-d8	104	70-130		%Rec	1	8/7/2018 12:16:41 AM	B53243

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: North of MW#45
Project: San Juan River and RCRA Wells
Collection Date: 8/2/2018 3:45:00 PM
Lab ID: 1808248-002 **Matrix:** AQUEOUS **Received Date:** 8/4/2018 10:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	0.40		mg/L	1	8/9/2018 5:56:46 PM	39667
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	8/9/2018 5:56:46 PM	39667
Surr: DNOP	79.8	76.6-135		%Rec	1	8/9/2018 5:56:46 PM	39667
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Fluoride	0.14	0.10		mg/L	1	8/7/2018 5:48:51 PM	R53287
Chloride	2.7	0.50		mg/L	1	8/7/2018 5:48:51 PM	R53287
Bromide	ND	0.10		mg/L	1	8/7/2018 5:48:51 PM	R53287
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	8/7/2018 5:48:51 PM	R53287
Sulfate	42	0.50		mg/L	1	8/7/2018 5:48:51 PM	R53287
Nitrate+Nitrite as N	ND	1.0		mg/L	5	8/8/2018 12:04:41 AM	R53285
SM2320B: ALKALINITY						Analyst: **sat**	
Bicarbonate (As CaCO3)	82.08	20.00		mg/L Ca	1	8/8/2018 2:13:08 PM	R53305
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	8/8/2018 2:13:08 PM	R53305
Total Alkalinity (as CaCO3)	82.08	20.00		mg/L Ca	1	8/8/2018 2:13:08 PM	R53305
EPA METHOD 7470: MERCURY						Analyst: **rde**	
Mercury	ND	0.00020		mg/L	1	8/6/2018 6:47:31 PM	39609
EPA METHOD 7470: MERCURY						Analyst: **rde**	
Mercury	ND	0.00020		mg/L	1	8/17/2018 11:32:46 AM	39834
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **pmf**	
Arsenic	ND	0.020		mg/L	1	8/13/2018 5:05:28 PM	B53393
Barium	0.065	0.020		mg/L	1	8/13/2018 2:02:14 PM	A53393
Cadmium	ND	0.0020		mg/L	1	8/13/2018 2:02:14 PM	A53393
Calcium	30	1.0		mg/L	1	8/13/2018 2:02:14 PM	A53393
Chromium	ND	0.0060		mg/L	1	8/13/2018 2:02:14 PM	A53393
Copper	ND	0.0060		mg/L	1	8/13/2018 2:02:14 PM	A53393
Iron	ND	0.020		mg/L	1	8/13/2018 2:02:14 PM	A53393
Lead	ND	0.0050		mg/L	1	8/13/2018 2:02:14 PM	A53393
Magnesium	5.2	1.0		mg/L	1	8/13/2018 2:02:14 PM	A53393
Manganese	0.0028	0.0020		mg/L	1	8/13/2018 2:02:14 PM	A53393
Potassium	1.7	1.0		mg/L	1	8/13/2018 2:02:14 PM	A53393
Selenium	ND	0.050		mg/L	1	8/13/2018 2:02:14 PM	A53393
Silver	ND	0.0050		mg/L	1	8/13/2018 2:02:14 PM	A53393
Sodium	15	1.0		mg/L	1	8/13/2018 2:02:14 PM	A53393
Uranium	ND	0.10		mg/L	1	8/13/2018 6:31:06 PM	A53387
Zinc	0.11	0.020		mg/L	1	8/13/2018 2:02:14 PM	A53393
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **pmf**	

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: North of MW#45
Project: San Juan River and RCRA Wells
Collection Date: 8/2/2018 3:45:00 PM
Lab ID: 1808248-002 **Matrix:** AQUEOUS **Received Date:** 8/4/2018 10:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **pmf**	
Arsenic	ND	0.020		mg/L	1	8/8/2018 11:40:59 AM	39612
Barium	0.17	0.020		mg/L	1	8/7/2018 6:56:57 PM	39612
Cadmium	ND	0.0020		mg/L	1	8/7/2018 6:56:57 PM	39612
Chromium	ND	0.0060		mg/L	1	8/7/2018 6:56:57 PM	39612
Lead	0.0056	0.0050		mg/L	1	8/7/2018 6:56:57 PM	39612
Selenium	ND	0.050		mg/L	1	8/7/2018 6:56:57 PM	39612
Silver	ND	0.0050		mg/L	1	8/7/2018 6:56:57 PM	39612
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	8/7/2018 1:25:58 AM	A53243
Surr: BFB	104	70-130		%Rec	1	8/7/2018 1:25:58 AM	A53243
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	8/7/2018 1:25:58 AM	B53243
Toluene	ND	1.0		µg/L	1	8/7/2018 1:25:58 AM	B53243
Ethylbenzene	ND	1.0		µg/L	1	8/7/2018 1:25:58 AM	B53243
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/7/2018 1:25:58 AM	B53243
Xylenes, Total	ND	1.5		µg/L	1	8/7/2018 1:25:58 AM	B53243
Surr: 4-Bromofluorobenzene	117	70-130		%Rec	1	8/7/2018 1:25:58 AM	B53243
Surr: Toluene-d8	104	70-130		%Rec	1	8/7/2018 1:25:58 AM	B53243

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: North of MW#46
Project: San Juan River and RCRA Wells
Collection Date: 8/2/2018 4:35:00 PM
Lab ID: 1808248-003 **Matrix:** AQUEOUS **Received Date:** 8/4/2018 10:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	0.40		mg/L	1	8/9/2018 6:19:02 PM	39667
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	8/9/2018 6:19:02 PM	39667
Surr: DNOP	78.0	76.6-135		%Rec	1	8/9/2018 6:19:02 PM	39667
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Fluoride	0.14	0.10		mg/L	1	8/7/2018 6:13:40 PM	R53287
Chloride	2.5	0.50		mg/L	1	8/7/2018 6:13:40 PM	R53287
Bromide	ND	0.10		mg/L	1	8/7/2018 6:13:40 PM	R53287
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	8/7/2018 6:13:40 PM	R53287
Sulfate	43	0.50		mg/L	1	8/7/2018 6:13:40 PM	R53287
Nitrate+Nitrite as N	ND	1.0		mg/L	5	8/8/2018 12:54:20 AM	R53285
SM2320B: ALKALINITY						Analyst: **sat**	
Bicarbonate (As CaCO3)	82.52	20.00		mg/L Ca	1	8/8/2018 2:20:31 PM	R53305
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	8/8/2018 2:20:31 PM	R53305
Total Alkalinity (as CaCO3)	82.52	20.00		mg/L Ca	1	8/8/2018 2:20:31 PM	R53305
EPA METHOD 7470: MERCURY						Analyst: **rde**	
Mercury	ND	0.00020		mg/L	1	8/6/2018 6:54:26 PM	39609
EPA METHOD 7470: MERCURY						Analyst: **rde**	
Mercury	ND	0.00020		mg/L	1	8/17/2018 11:44:16 AM	39834
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **pmf**	
Arsenic	ND	0.020		mg/L	1	8/13/2018 5:06:54 PM	B53393
Barium	0.065	0.020		mg/L	1	8/13/2018 2:04:03 PM	A53393
Cadmium	ND	0.0020		mg/L	1	8/13/2018 2:04:03 PM	A53393
Calcium	31	1.0		mg/L	1	8/13/2018 2:04:03 PM	A53393
Chromium	ND	0.0060		mg/L	1	8/13/2018 2:04:03 PM	A53393
Copper	ND	0.0060		mg/L	1	8/13/2018 2:04:03 PM	A53393
Iron	0.021	0.020		mg/L	1	8/13/2018 2:04:03 PM	A53393
Lead	ND	0.0050		mg/L	1	8/13/2018 2:04:03 PM	A53393
Magnesium	5.2	1.0		mg/L	1	8/13/2018 2:04:03 PM	A53393
Manganese	0.0079	0.0020		mg/L	1	8/13/2018 2:04:03 PM	A53393
Potassium	1.7	1.0		mg/L	1	8/13/2018 2:04:03 PM	A53393
Selenium	ND	0.050		mg/L	1	8/13/2018 2:04:03 PM	A53393
Silver	ND	0.0050		mg/L	1	8/13/2018 2:04:03 PM	A53393
Sodium	15	1.0		mg/L	1	8/13/2018 2:04:03 PM	A53393
Uranium	ND	0.10		mg/L	1	8/13/2018 6:32:14 PM	A53387
Zinc	0.081	0.020		mg/L	1	8/13/2018 2:04:03 PM	A53393
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **pmf**	

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: North of MW#46
Project: San Juan River and RCRA Wells
Collection Date: 8/2/2018 4:35:00 PM
Lab ID: 1808248-003 **Matrix:** AQUEOUS **Received Date:** 8/4/2018 10:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **pmf**	
Arsenic	ND	0.020		mg/L	1	8/8/2018 11:42:35 AM	39612
Barium	0.13	0.020		mg/L	1	8/7/2018 7:02:48 PM	39612
Cadmium	ND	0.0020		mg/L	1	8/7/2018 7:02:48 PM	39612
Chromium	ND	0.0060		mg/L	1	8/7/2018 7:02:48 PM	39612
Lead	ND	0.0050		mg/L	1	8/7/2018 7:02:48 PM	39612
Selenium	ND	0.050		mg/L	1	8/7/2018 7:02:48 PM	39612
Silver	ND	0.0050		mg/L	1	8/7/2018 7:02:48 PM	39612
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	8/7/2018 2:35:09 AM	A53243
Surr: BFB	103	70-130		%Rec	1	8/7/2018 2:35:09 AM	A53243
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	8/7/2018 2:35:09 AM	B53243
Toluene	ND	1.0		µg/L	1	8/7/2018 2:35:09 AM	B53243
Ethylbenzene	ND	1.0		µg/L	1	8/7/2018 2:35:09 AM	B53243
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/7/2018 2:35:09 AM	B53243
Xylenes, Total	ND	1.5		µg/L	1	8/7/2018 2:35:09 AM	B53243
Surr: 4-Bromofluorobenzene	115	70-130		%Rec	1	8/7/2018 2:35:09 AM	B53243
Surr: Toluene-d8	105	70-130		%Rec	1	8/7/2018 2:35:09 AM	B53243

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: Downstream
Project: San Juan River and RCRA Wells
Collection Date: 8/2/2018 5:10:00 PM
Lab ID: 1808248-004
Matrix: AQUEOUS
Received Date: 8/4/2018 10:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	0.40		mg/L	1	8/9/2018 6:41:11 PM	39667
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	8/9/2018 6:41:11 PM	39667
Surr: DNOP	78.4	76.6-135		%Rec	1	8/9/2018 6:41:11 PM	39667
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Fluoride	0.14	0.10		mg/L	1	8/7/2018 6:38:29 PM	R53287
Chloride	2.5	0.50		mg/L	1	8/7/2018 6:38:29 PM	R53287
Bromide	ND	0.10		mg/L	1	8/7/2018 6:38:29 PM	R53287
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	8/7/2018 6:38:29 PM	R53287
Sulfate	44	0.50		mg/L	1	8/7/2018 6:38:29 PM	R53287
Nitrate+Nitrite as N	ND	1.0		mg/L	5	8/8/2018 1:06:45 AM	R53285
SM2320B: ALKALINITY						Analyst: **sat**	
Bicarbonate (As CaCO3)	82.04	20.00		mg/L Ca	1	8/8/2018 2:27:57 PM	R53305
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	8/8/2018 2:27:57 PM	R53305
Total Alkalinity (as CaCO3)	82.04	20.00		mg/L Ca	1	8/8/2018 2:27:57 PM	R53305
EPA METHOD 7470: MERCURY						Analyst: **rde**	
Mercury	ND	0.00020		mg/L	1	8/6/2018 6:56:44 PM	39609
EPA METHOD 7470: MERCURY						Analyst: **rde**	
Mercury	ND	0.00020		mg/L	1	8/17/2018 11:46:34 AM	39834
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **pmf**	
Arsenic	ND	0.020		mg/L	1	8/13/2018 5:08:20 PM	B53393
Barium	0.065	0.020		mg/L	1	8/13/2018 2:05:51 PM	A53393
Cadmium	ND	0.0020		mg/L	1	8/13/2018 2:05:51 PM	A53393
Calcium	31	1.0		mg/L	1	8/13/2018 2:05:51 PM	A53393
Chromium	ND	0.0060		mg/L	1	8/13/2018 2:05:51 PM	A53393
Copper	ND	0.0060		mg/L	1	8/13/2018 2:05:51 PM	A53393
Iron	0.023	0.020		mg/L	1	8/13/2018 2:05:51 PM	A53393
Lead	ND	0.0050		mg/L	1	8/13/2018 2:05:51 PM	A53393
Magnesium	5.2	1.0		mg/L	1	8/13/2018 2:05:51 PM	A53393
Manganese	0.0041	0.0020		mg/L	1	8/13/2018 2:05:51 PM	A53393
Potassium	1.6	1.0		mg/L	1	8/13/2018 2:05:51 PM	A53393
Selenium	ND	0.050		mg/L	1	8/13/2018 2:05:51 PM	A53393
Silver	ND	0.0050		mg/L	1	8/13/2018 2:05:51 PM	A53393
Sodium	15	1.0		mg/L	1	8/13/2018 2:05:51 PM	A53393
Uranium	ND	0.10		mg/L	1	8/13/2018 6:33:22 PM	A53387
Zinc	0.040	0.020		mg/L	1	8/13/2018 2:05:51 PM	A53393
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **pmf**	

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: Downstream
Project: San Juan River and RCRA Wells
Collection Date: 8/2/2018 5:10:00 PM
Lab ID: 1808248-004 **Matrix:** AQUEOUS **Received Date:** 8/4/2018 10:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **pmf**	
Arsenic	ND	0.020		mg/L	1	8/8/2018 11:44:10 AM	39612
Barium	0.11	0.020		mg/L	1	8/7/2018 7:04:17 PM	39612
Cadmium	ND	0.0020		mg/L	1	8/7/2018 7:04:17 PM	39612
Chromium	ND	0.0060		mg/L	1	8/7/2018 7:04:17 PM	39612
Lead	0.0059	0.0050		mg/L	1	8/7/2018 7:04:17 PM	39612
Selenium	ND	0.050		mg/L	1	8/7/2018 7:04:17 PM	39612
Silver	ND	0.0050		mg/L	1	8/7/2018 7:04:17 PM	39612
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	8/7/2018 11:34:23 AM	A53276
Surr: BFB	103	70-130		%Rec	1	8/7/2018 11:34:23 AM	A53276
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	8/7/2018 11:34:23 AM	B53276
Toluene	ND	1.0		µg/L	1	8/7/2018 11:34:23 AM	B53276
Ethylbenzene	ND	1.0		µg/L	1	8/7/2018 11:34:23 AM	B53276
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/7/2018 11:34:23 AM	B53276
Xylenes, Total	ND	1.5		µg/L	1	8/7/2018 11:34:23 AM	B53276
Surr: 4-Bromofluorobenzene	116	70-130		%Rec	1	8/7/2018 11:34:23 AM	B53276
Surr: Toluene-d8	98.7	70-130		%Rec	1	8/7/2018 11:34:23 AM	B53276

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: Trip Blank
Project: San Juan River and RCRA Wells
Collection Date:
Lab ID: 1808248-005
Matrix: AQUEOUS
Received Date: 8/4/2018 10:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	8/7/2018 12:43:49 PM	A53276
Surr: BFB	106	70-130		%Rec	1	8/7/2018 12:43:49 PM	A53276
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	8/7/2018 12:43:49 PM	B53276
Toluene	ND	1.0		µg/L	1	8/7/2018 12:43:49 PM	B53276
Ethylbenzene	ND	1.0		µg/L	1	8/7/2018 12:43:49 PM	B53276
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/7/2018 12:43:49 PM	B53276
Xylenes, Total	ND	1.5		µg/L	1	8/7/2018 12:43:49 PM	B53276
Surr: 4-Bromofluorobenzene	118	70-130		%Rec	1	8/7/2018 12:43:49 PM	B53276
Surr: Toluene-d8	106	70-130		%Rec	1	8/7/2018 12:43:49 PM	B53276

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-68
Project: San Juan River and RCRA Wells
Collection Date: 8/3/2018 8:30:00 AM
Lab ID: 1808248-006 **Matrix:** AQUEOUS **Received Date:** 8/4/2018 10:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	0.40		mg/L	1	8/9/2018 7:25:36 PM	39667
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	8/9/2018 7:25:36 PM	39667
Surr: DNOP	85.9	76.6-135		%Rec	1	8/9/2018 7:25:36 PM	39667
CARBON DIOXIDE						Analyst:	**sat**
Total Carbon Dioxide	250	1.0	H	mg CO2/	1	8/8/2018 2:35:25 PM	R53305
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Fluoride	0.27	0.10		mg/L	1	8/7/2018 7:03:18 PM	R53287
Chloride	60	10		mg/L	20	8/7/2018 7:15:43 PM	R53287
Bromide	0.23	0.10		mg/L	1	8/7/2018 7:03:18 PM	R53287
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	8/7/2018 7:03:18 PM	R53287
Sulfate	200	10		mg/L	20	8/7/2018 7:15:43 PM	R53287
Nitrate+Nitrite as N	4.5	1.0		mg/L	5	8/8/2018 1:19:10 AM	R53285
SM2320B: ALKALINITY						Analyst:	**sat**
Bicarbonate (As CaCO3)	264.4	20.00		mg/L Ca	1	8/8/2018 2:35:25 PM	R53305
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	8/8/2018 2:35:25 PM	R53305
Total Alkalinity (as CaCO3)	264.4	20.00		mg/L Ca	1	8/8/2018 2:35:25 PM	R53305
EPA METHOD 7470: MERCURY						Analyst:	**rde**
Mercury	ND	0.00020		mg/L	1	8/6/2018 6:58:55 PM	39609
EPA METHOD 7470: MERCURY						Analyst:	**rde**
Mercury	ND	0.00020		mg/L	1	8/17/2018 11:48:45 AM	39834
EPA METHOD 6010B: DISSOLVED METALS						Analyst:	**pmf**
Arsenic	ND	0.020		mg/L	1	8/13/2018 5:09:46 PM	B53393
Barium	0.027	0.020		mg/L	1	8/13/2018 2:07:40 PM	A53393
Cadmium	ND	0.0020		mg/L	1	8/13/2018 2:07:40 PM	A53393
Calcium	130	5.0		mg/L	5	8/13/2018 2:25:53 PM	A53393
Chromium	ND	0.0060		mg/L	1	8/13/2018 2:07:40 PM	A53393
Copper	ND	0.0060		mg/L	1	8/13/2018 2:07:40 PM	A53393
Iron	ND	0.020		mg/L	1	8/13/2018 2:07:40 PM	A53393
Lead	ND	0.0050		mg/L	1	8/13/2018 2:07:40 PM	A53393
Magnesium	27	1.0		mg/L	1	8/13/2018 2:07:40 PM	A53393
Manganese	0.0041	0.0020		mg/L	1	8/13/2018 2:07:40 PM	A53393
Potassium	2.8	1.0		mg/L	1	8/13/2018 2:07:40 PM	A53393
Selenium	ND	0.050		mg/L	1	8/13/2018 2:07:40 PM	A53393
Silver	ND	0.0050		mg/L	1	8/13/2018 2:07:40 PM	A53393
Sodium	120	5.0		mg/L	5	8/13/2018 2:25:53 PM	A53393
Uranium	ND	0.10		mg/L	1	8/13/2018 6:34:30 PM	A53387

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-68
Project: San Juan River and RCRA Wells
Collection Date: 8/3/2018 8:30:00 AM
Lab ID: 1808248-006 **Matrix:** AQUEOUS **Received Date:** 8/4/2018 10:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **pmf**	
Zinc	ND	0.020		mg/L	1	8/13/2018 2:07:40 PM	A53393
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **pmf**	
Arsenic	ND	0.020		mg/L	1	8/8/2018 11:45:44 AM	39612
Barium	0.038	0.020		mg/L	1	8/7/2018 7:05:44 PM	39612
Cadmium	ND	0.0020		mg/L	1	8/7/2018 7:05:44 PM	39612
Chromium	ND	0.0060		mg/L	1	8/7/2018 7:05:44 PM	39612
Lead	ND	0.0050		mg/L	1	8/7/2018 7:05:44 PM	39612
Selenium	ND	0.050		mg/L	1	8/7/2018 7:05:44 PM	39612
Silver	ND	0.0050		mg/L	1	8/7/2018 7:05:44 PM	39612
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	8/7/2018 1:07:04 PM	A53276
Surr: BFB	106	70-130		%Rec	1	8/7/2018 1:07:04 PM	A53276
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	8/7/2018 1:07:04 PM	B53276
Toluene	ND	1.0		µg/L	1	8/7/2018 1:07:04 PM	B53276
Ethylbenzene	ND	1.0		µg/L	1	8/7/2018 1:07:04 PM	B53276
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/7/2018 1:07:04 PM	B53276
Xylenes, Total	ND	1.5		µg/L	1	8/7/2018 1:07:04 PM	B53276
Surr: 4-Bromofluorobenzene	119	70-130		%Rec	1	8/7/2018 1:07:04 PM	B53276
Surr: Toluene-d8	104	70-130		%Rec	1	8/7/2018 1:07:04 PM	B53276

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-51
Project: San Juan River and RCRA Wells
Collection Date: 8/3/2018 9:40:00 AM
Lab ID: 1808248-007
Matrix: AQUEOUS
Received Date: 8/4/2018 10:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	0.40		mg/L	1	8/9/2018 7:47:49 PM	39667
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	8/9/2018 7:47:49 PM	39667
Surr: DNOP	87.0	76.6-135		%Rec	1	8/9/2018 7:47:49 PM	39667
CARBON DIOXIDE						Analyst: **sat**	
Total Carbon Dioxide	230	1.0	H	mg CO2/	1	8/8/2018 2:48:38 PM	R53305
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Fluoride	0.40	0.10		mg/L	1	8/7/2018 7:52:56 PM	R53287
Chloride	8.3	0.50		mg/L	1	8/7/2018 7:52:56 PM	R53287
Bromide	ND	0.10		mg/L	1	8/7/2018 7:52:56 PM	R53287
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	8/7/2018 7:52:56 PM	R53287
Sulfate	12	0.50		mg/L	1	8/7/2018 7:52:56 PM	R53287
Nitrate+Nitrite as N	ND	1.0		mg/L	5	8/8/2018 1:31:34 AM	R53285
SM2320B: ALKALINITY						Analyst: **sat**	
Bicarbonate (As CaCO3)	254.1	20.00		mg/L Ca	1	8/8/2018 2:48:38 PM	R53305
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	8/8/2018 2:48:38 PM	R53305
Total Alkalinity (as CaCO3)	254.1	20.00		mg/L Ca	1	8/8/2018 2:48:38 PM	R53305
EPA METHOD 7470: MERCURY						Analyst: **rde**	
Mercury	ND	0.00020		mg/L	1	8/6/2018 7:01:06 PM	39609
EPA METHOD 7470: MERCURY						Analyst: **rde**	
Mercury	ND	0.00020		mg/L	1	8/17/2018 11:50:57 AM	39834
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **pmf**	
Arsenic	0.020	0.020		mg/L	1	8/13/2018 5:11:12 PM	B53393
Barium	0.12	0.020		mg/L	1	8/13/2018 2:14:55 PM	A53393
Cadmium	ND	0.0020		mg/L	1	8/13/2018 2:14:55 PM	A53393
Calcium	60	1.0		mg/L	1	8/13/2018 2:14:55 PM	A53393
Chromium	ND	0.0060		mg/L	1	8/13/2018 2:14:55 PM	A53393
Copper	ND	0.0060		mg/L	1	8/13/2018 2:14:55 PM	A53393
Iron	0.075	0.020		mg/L	1	8/13/2018 2:14:55 PM	A53393
Lead	0.0086	0.0050		mg/L	1	8/13/2018 2:14:55 PM	A53393
Magnesium	12	1.0		mg/L	1	8/13/2018 2:14:55 PM	A53393
Manganese	2.5	0.010		mg/L	5	8/13/2018 2:27:43 PM	A53393
Potassium	1.5	1.0		mg/L	1	8/13/2018 2:14:55 PM	A53393
Selenium	ND	0.050		mg/L	1	8/13/2018 2:14:55 PM	A53393
Silver	ND	0.0050		mg/L	1	8/13/2018 2:14:55 PM	A53393
Sodium	37	1.0		mg/L	1	8/13/2018 2:14:55 PM	A53393
Uranium	ND	0.10		mg/L	1	8/13/2018 6:38:35 PM	A53387

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-51
Project: San Juan River and RCRA Wells
Collection Date: 8/3/2018 9:40:00 AM
Lab ID: 1808248-007 **Matrix:** AQUEOUS **Received Date:** 8/4/2018 10:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **pmf**	
Zinc	ND	0.020		mg/L	1	8/13/2018 2:14:55 PM	A53393
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **pmf**	
Arsenic	ND	0.020		mg/L	1	8/8/2018 11:47:19 AM	39612
Barium	0.17	0.020		mg/L	1	8/7/2018 7:07:11 PM	39612
Cadmium	ND	0.0020		mg/L	1	8/7/2018 7:07:11 PM	39612
Chromium	ND	0.0060		mg/L	1	8/7/2018 7:07:11 PM	39612
Lead	ND	0.0050		mg/L	1	8/7/2018 7:07:11 PM	39612
Selenium	ND	0.050		mg/L	1	8/7/2018 7:07:11 PM	39612
Silver	ND	0.0050		mg/L	1	8/7/2018 7:07:11 PM	39612
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	8/7/2018 2:16:50 PM	A53276
Surr: BFB	99.4	70-130		%Rec	1	8/7/2018 2:16:50 PM	A53276
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**	
Acenaphthene	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
Acenaphthylene	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
Aniline	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
Anthracene	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
Azobenzene	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
Benz(a)anthracene	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
Benzo(a)pyrene	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
Benzo(b)fluoranthene	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
Benzo(g,h,i)perylene	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
Benzo(k)fluoranthene	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
Benzoic acid	ND	20		µg/L	1	8/13/2018 9:51:57 PM	39686
Benzyl alcohol	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
Bis(2-chloroethyl)ether	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
4-Bromophenyl phenyl ether	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
Butyl benzyl phthalate	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
Carbazole	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
4-Chloro-3-methylphenol	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
4-Chloroaniline	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
2-Chloronaphthalene	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
2-Chlorophenol	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
Chrysene	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-51
Project: San Juan River and RCRA Wells
Collection Date: 8/3/2018 9:40:00 AM
Lab ID: 1808248-007 **Matrix:** AQUEOUS **Received Date:** 8/4/2018 10:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**	
Di-n-butyl phthalate	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
Di-n-octyl phthalate	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
Dibenz(a,h)anthracene	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
Dibenzofuran	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
1,2-Dichlorobenzene	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
1,3-Dichlorobenzene	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
1,4-Dichlorobenzene	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
3,3´-Dichlorobenzidine	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
Diethyl phthalate	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
Dimethyl phthalate	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
2,4-Dichlorophenol	ND	20		µg/L	1	8/13/2018 9:51:57 PM	39686
2,4-Dimethylphenol	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	8/13/2018 9:51:57 PM	39686
2,4-Dinitrophenol	ND	20		µg/L	1	8/13/2018 9:51:57 PM	39686
2,4-Dinitrotoluene	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
2,6-Dinitrotoluene	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
Fluoranthene	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
Fluorene	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
Hexachlorobenzene	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
Hexachlorobutadiene	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
Hexachlorocyclopentadiene	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
Hexachloroethane	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
Isophorone	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
1-Methylnaphthalene	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
2-Methylnaphthalene	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
2-Methylphenol	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
3+4-Methylphenol	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
N-Nitrosodimethylamine	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
N-Nitrosodiphenylamine	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
Naphthalene	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
2-Nitroaniline	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
3-Nitroaniline	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
4-Nitroaniline	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
Nitrobenzene	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
2-Nitrophenol	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
4-Nitrophenol	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
Pentachlorophenol	ND	20		µg/L	1	8/13/2018 9:51:57 PM	39686

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-51
Project: San Juan River and RCRA Wells
Collection Date: 8/3/2018 9:40:00 AM
Lab ID: 1808248-007
Matrix: AQUEOUS
Received Date: 8/4/2018 10:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**	
Phenanthrene	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
Phenol	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
Pyrene	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
Pyridine	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
1,2,4-Trichlorobenzene	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
2,4,5-Trichlorophenol	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
2,4,6-Trichlorophenol	ND	10		µg/L	1	8/13/2018 9:51:57 PM	39686
Surr: 2-Fluorophenol	45.2	15-74.1		%Rec	1	8/13/2018 9:51:57 PM	39686
Surr: Phenol-d5	35.1	15-59.8		%Rec	1	8/13/2018 9:51:57 PM	39686
Surr: 2,4,6-Tribromophenol	68.5	22.1-112		%Rec	1	8/13/2018 9:51:57 PM	39686
Surr: Nitrobenzene-d5	62.0	33.2-94		%Rec	1	8/13/2018 9:51:57 PM	39686
Surr: 2-Fluorobiphenyl	60.9	34-90.9		%Rec	1	8/13/2018 9:51:57 PM	39686
Surr: 4-Terphenyl-d14	86.6	15-149		%Rec	1	8/13/2018 9:51:57 PM	39686
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	8/7/2018 2:16:50 PM	B53276
Toluene	ND	1.0		µg/L	1	8/7/2018 2:16:50 PM	B53276
Ethylbenzene	ND	1.0		µg/L	1	8/7/2018 2:16:50 PM	B53276
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/7/2018 2:16:50 PM	B53276
Xylenes, Total	ND	1.5		µg/L	1	8/7/2018 2:16:50 PM	B53276
Surr: 4-Bromofluorobenzene	113	70-130		%Rec	1	8/7/2018 2:16:50 PM	B53276
Surr: Toluene-d8	100	70-130		%Rec	1	8/7/2018 2:16:50 PM	B53276

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-67
Project: San Juan River and RCRA Wells
Collection Date: 8/3/2018 11:15:00 AM
Lab ID: 1808248-008 **Matrix:** AQUEOUS **Received Date:** 8/4/2018 10:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	0.40		mg/L	1	8/9/2018 8:10:01 PM	39667
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	8/9/2018 8:10:01 PM	39667
Surr: DNOP	81.9	76.6-135		%Rec	1	8/9/2018 8:10:01 PM	39667
CARBON DIOXIDE						Analyst:	**sat**
Total Carbon Dioxide	330	1.0	H	mg CO2/	1	8/8/2018 3:00:40 PM	R53305
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Fluoride	0.62	0.10		mg/L	1	8/7/2018 8:17:45 PM	R53287
Chloride	16	0.50		mg/L	1	8/7/2018 8:17:45 PM	R53287
Bromide	0.16	0.10		mg/L	1	8/7/2018 8:17:45 PM	R53287
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	8/7/2018 8:17:45 PM	R53287
Sulfate	240	10		mg/L	20	8/7/2018 8:30:09 PM	R53287
Nitrate+Nitrite as N	8.6	1.0		mg/L	5	8/8/2018 1:43:59 AM	R53285
SM2320B: ALKALINITY						Analyst:	**sat**
Bicarbonate (As CaCO3)	351.6	20.00		mg/L Ca	1	8/8/2018 3:00:40 PM	R53305
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	8/8/2018 3:00:40 PM	R53305
Total Alkalinity (as CaCO3)	351.6	20.00		mg/L Ca	1	8/8/2018 3:00:40 PM	R53305
EPA METHOD 7470: MERCURY						Analyst:	**rde**
Mercury	ND	0.00020		mg/L	1	8/6/2018 7:03:18 PM	39609
EPA METHOD 7470: MERCURY						Analyst:	**rde**
Mercury	ND	0.00020		mg/L	1	8/17/2018 11:53:09 AM	39834
EPA METHOD 6010B: DISSOLVED METALS						Analyst:	**pmf**
Arsenic	ND	0.020		mg/L	1	8/13/2018 5:12:38 PM	B53393
Barium	0.026	0.020		mg/L	1	8/13/2018 2:16:46 PM	A53393
Cadmium	ND	0.0020		mg/L	1	8/13/2018 2:16:46 PM	A53393
Calcium	130	5.0		mg/L	5	8/13/2018 2:29:33 PM	A53393
Chromium	ND	0.0060		mg/L	1	8/13/2018 2:16:46 PM	A53393
Copper	ND	0.0060		mg/L	1	8/13/2018 2:16:46 PM	A53393
Iron	ND	0.020		mg/L	1	8/13/2018 2:16:46 PM	A53393
Lead	ND	0.0050		mg/L	1	8/13/2018 2:16:46 PM	A53393
Magnesium	27	1.0		mg/L	1	8/13/2018 2:16:46 PM	A53393
Manganese	0.16	0.0020		mg/L	1	8/13/2018 2:16:46 PM	A53393
Potassium	2.8	1.0		mg/L	1	8/13/2018 2:16:46 PM	A53393
Selenium	ND	0.050		mg/L	1	8/13/2018 2:16:46 PM	A53393
Silver	ND	0.0050		mg/L	1	8/13/2018 2:16:46 PM	A53393
Sodium	80	1.0		mg/L	1	8/13/2018 2:16:46 PM	A53393
Uranium	ND	0.10		mg/L	1	8/13/2018 6:39:46 PM	A53387

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-67
Project: San Juan River and RCRA Wells
Collection Date: 8/3/2018 11:15:00 AM
Lab ID: 1808248-008 **Matrix:** AQUEOUS **Received Date:** 8/4/2018 10:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **pmf**	
Zinc	ND	0.020		mg/L	1	8/13/2018 2:16:46 PM	A53393
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **pmf**	
Arsenic	ND	0.020		mg/L	1	8/8/2018 11:49:13 AM	39612
Barium	0.081	0.020		mg/L	1	8/7/2018 7:08:38 PM	39612
Cadmium	ND	0.0020		mg/L	1	8/7/2018 7:08:38 PM	39612
Chromium	ND	0.0060		mg/L	1	8/7/2018 7:08:38 PM	39612
Lead	ND	0.0050		mg/L	1	8/7/2018 7:08:38 PM	39612
Selenium	ND	0.050		mg/L	1	8/7/2018 7:08:38 PM	39612
Silver	ND	0.0050		mg/L	1	8/7/2018 7:08:38 PM	39612
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	8/7/2018 2:40:09 PM	A53276
Surr: BFB	103	70-130		%Rec	1	8/7/2018 2:40:09 PM	A53276
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	8/7/2018 2:40:09 PM	B53276
Toluene	ND	1.0		µg/L	1	8/7/2018 2:40:09 PM	B53276
Ethylbenzene	ND	1.0		µg/L	1	8/7/2018 2:40:09 PM	B53276
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/7/2018 2:40:09 PM	B53276
Xylenes, Total	ND	1.5		µg/L	1	8/7/2018 2:40:09 PM	B53276
Surr: 4-Bromofluorobenzene	114	70-130		%Rec	1	8/7/2018 2:40:09 PM	B53276
Surr: Toluene-d8	108	70-130		%Rec	1	8/7/2018 2:40:09 PM	B53276

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-53
Project: San Juan River and RCRA Wells
Collection Date: 8/3/2018 12:30:00 PM
Lab ID: 1808248-009 **Matrix:** AQUEOUS **Received Date:** 8/4/2018 10:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	0.40		mg/L	1	8/9/2018 8:32:17 PM	39667
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	8/9/2018 8:32:17 PM	39667
Surr: DNOP	84.4	76.6-135		%Rec	1	8/9/2018 8:32:17 PM	39667
CARBON DIOXIDE						Analyst:	**sat**
Total Carbon Dioxide	330	1.0	H	mg CO2/	1	8/8/2018 3:15:40 PM	R53305
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Fluoride	ND	2.0		mg/L	20	8/7/2018 8:54:57 PM	R53287
Chloride	890	50		mg/L	100	8/17/2018 1:05:26 PM	R53556
Bromide	2.2	0.10		mg/L	1	8/7/2018 8:42:33 PM	R53287
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	8/7/2018 8:42:33 PM	R53287
Sulfate	900	50		mg/L	100	8/17/2018 1:05:26 PM	R53556
Nitrate+Nitrite as N	15	1.0	*	mg/L	5	8/8/2018 1:56:24 AM	R53285
SM2320B: ALKALINITY						Analyst:	**sat**
Bicarbonate (As CaCO3)	350.6	20.00		mg/L Ca	1	8/8/2018 3:15:40 PM	R53305
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	8/8/2018 3:15:40 PM	R53305
Total Alkalinity (as CaCO3)	350.6	20.00		mg/L Ca	1	8/8/2018 3:15:40 PM	R53305
EPA METHOD 7470: MERCURY						Analyst:	**rde**
Mercury	ND	0.00020		mg/L	1	8/6/2018 7:05:31 PM	39609
EPA METHOD 7470: MERCURY						Analyst:	**rde**
Mercury	ND	0.00020		mg/L	1	8/17/2018 11:55:22 AM	39834
EPA METHOD 6010B: DISSOLVED METALS						Analyst:	**pmf**
Arsenic	ND	0.020		mg/L	1	8/13/2018 5:14:04 PM	B53393
Barium	ND	0.020		mg/L	1	8/13/2018 2:18:36 PM	A53393
Cadmium	ND	0.0020		mg/L	1	8/13/2018 2:18:36 PM	A53393
Calcium	380	5.0		mg/L	5	8/13/2018 2:31:23 PM	A53393
Chromium	ND	0.0060		mg/L	1	8/13/2018 2:18:36 PM	A53393
Copper	ND	0.0060		mg/L	1	8/13/2018 2:18:36 PM	A53393
Iron	ND	0.020		mg/L	1	8/13/2018 2:18:36 PM	A53393
Lead	ND	0.0050		mg/L	1	8/13/2018 2:18:36 PM	A53393
Magnesium	52	1.0		mg/L	1	8/13/2018 2:18:36 PM	A53393
Manganese	0.48	0.0020		mg/L	1	8/13/2018 2:18:36 PM	A53393
Potassium	4.1	1.0		mg/L	1	8/13/2018 2:18:36 PM	A53393
Selenium	ND	0.050		mg/L	1	8/13/2018 2:18:36 PM	A53393
Silver	0.011	0.0050		mg/L	1	8/13/2018 2:18:36 PM	A53393
Sodium	770	10		mg/L	10	8/13/2018 2:38:51 PM	A53393
Uranium	ND	0.10		mg/L	1	8/13/2018 6:40:57 PM	A53387

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-53
Project: San Juan River and RCRA Wells
Collection Date: 8/3/2018 12:30:00 PM
Lab ID: 1808248-009
Matrix: AQUEOUS
Received Date: 8/4/2018 10:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **pmf**	
Zinc	ND	0.020		mg/L	1	8/13/2018 2:18:36 PM	A53393
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **pmf**	
Arsenic	ND	0.020		mg/L	1	8/8/2018 11:50:49 AM	39612
Barium	ND	0.020		mg/L	1	8/7/2018 7:10:05 PM	39612
Cadmium	ND	0.0020		mg/L	1	8/7/2018 7:10:05 PM	39612
Chromium	ND	0.0060		mg/L	1	8/7/2018 7:10:05 PM	39612
Lead	ND	0.0050		mg/L	1	8/7/2018 7:10:05 PM	39612
Selenium	ND	0.050		mg/L	1	8/7/2018 7:10:05 PM	39612
Silver	0.010	0.0050		mg/L	1	8/7/2018 7:10:05 PM	39612
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	8/7/2018 3:03:17 PM	A53276
Surr: BFB	101	70-130		%Rec	1	8/7/2018 3:03:17 PM	A53276
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	8/7/2018 3:03:17 PM	B53276
Toluene	ND	1.0		µg/L	1	8/7/2018 3:03:17 PM	B53276
Ethylbenzene	ND	1.0		µg/L	1	8/7/2018 3:03:17 PM	B53276
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/7/2018 3:03:17 PM	B53276
Xylenes, Total	ND	1.5		µg/L	1	8/7/2018 3:03:17 PM	B53276
Surr: 4-Bromofluorobenzene	114	70-130		%Rec	1	8/7/2018 3:03:17 PM	B53276
Surr: Toluene-d8	100	70-130		%Rec	1	8/7/2018 3:03:17 PM	B53276

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: Trip Blank
Project: San Juan River and RCRA Wells
Collection Date:
Lab ID: 1808248-010
Matrix: AQUEOUS
Received Date: 8/4/2018 10:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	8/7/2018 3:26:34 PM	A53276
Surr: BFB	101	70-130		%Rec	1	8/7/2018 3:26:34 PM	A53276
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	8/7/2018 3:26:34 PM	B53276
Toluene	ND	1.0		µg/L	1	8/7/2018 3:26:34 PM	B53276
Ethylbenzene	ND	1.0		µg/L	1	8/7/2018 3:26:34 PM	B53276
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/7/2018 3:26:34 PM	B53276
Xylenes, Total	ND	1.5		µg/L	1	8/7/2018 3:26:34 PM	B53276
Surr: 4-Bromofluorobenzene	114	70-130		%Rec	1	8/7/2018 3:26:34 PM	B53276
Surr: Toluene-d8	101	70-130		%Rec	1	8/7/2018 3:26:34 PM	B53276

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-59
Project: San Juan River and RCRA Wells
Collection Date: 8/3/2018 1:50:00 PM
Lab ID: 1808248-011 **Matrix:** AQUEOUS **Received Date:** 8/4/2018 10:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	0.40		mg/L	1	8/9/2018 8:54:25 PM	39667
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	8/9/2018 8:54:25 PM	39667
Surr: DNOP	80.4	76.6-135		%Rec	1	8/9/2018 8:54:25 PM	39667
CARBON DIOXIDE						Analyst:	**sat**
Total Carbon Dioxide	1000	1.0	H	mg CO2/	1	8/8/2018 3:31:07 PM	R53305
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Fluoride	ND	0.10		mg/L	1	8/7/2018 9:07:22 PM	R53287
Chloride	190	10		mg/L	20	8/7/2018 9:19:47 PM	R53287
Bromide	3.1	0.10		mg/L	1	8/7/2018 9:07:22 PM	R53287
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	8/7/2018 9:07:22 PM	R53287
Sulfate	180	10		mg/L	20	8/7/2018 9:19:47 PM	R53287
Nitrate+Nitrite as N	ND	1.0		mg/L	5	8/8/2018 2:08:49 AM	R53285
SM2320B: ALKALINITY						Analyst:	**sat**
Bicarbonate (As CaCO3)	1050	20.00		mg/L Ca	1	8/8/2018 3:31:07 PM	R53305
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	8/8/2018 3:31:07 PM	R53305
Total Alkalinity (as CaCO3)	1050	20.00		mg/L Ca	1	8/8/2018 3:31:07 PM	R53305
EPA METHOD 7470: MERCURY						Analyst:	**rde**
Mercury	ND	0.00020		mg/L	1	8/6/2018 7:07:43 PM	39609
EPA METHOD 7470: MERCURY						Analyst:	**rde**
Mercury	ND	0.00020		mg/L	1	8/17/2018 11:57:34 AM	39834
EPA METHOD 6010B: DISSOLVED METALS						Analyst:	**pmf**
Arsenic	ND	0.020		mg/L	1	8/13/2018 5:15:31 PM	B53393
Barium	0.073	0.020		mg/L	1	8/13/2018 2:20:32 PM	A53393
Cadmium	ND	0.0020		mg/L	1	8/13/2018 2:20:32 PM	A53393
Calcium	170	5.0		mg/L	5	8/13/2018 2:40:41 PM	A53393
Chromium	ND	0.0060		mg/L	1	8/13/2018 2:20:32 PM	A53393
Copper	ND	0.0060		mg/L	1	8/13/2018 2:20:32 PM	A53393
Iron	7.5	0.20		mg/L	10	8/15/2018 11:54:24 AM	A53449
Lead	0.0090	0.0050		mg/L	1	8/13/2018 2:20:32 PM	A53393
Magnesium	50	1.0		mg/L	1	8/13/2018 2:20:32 PM	A53393
Manganese	1.5	0.010		mg/L	5	8/13/2018 2:40:41 PM	A53393
Potassium	3.0	1.0		mg/L	1	8/13/2018 2:20:32 PM	A53393
Selenium	0.11	0.050		mg/L	1	8/13/2018 2:20:32 PM	A53393
Silver	ND	0.0050		mg/L	1	8/13/2018 2:20:32 PM	A53393
Sodium	430	5.0		mg/L	5	8/13/2018 2:40:41 PM	A53393
Uranium	ND	0.10		mg/L	1	8/13/2018 6:42:06 PM	A53387

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-59
Project: San Juan River and RCRA Wells
Collection Date: 8/3/2018 1:50:00 PM
Lab ID: 1808248-011 **Matrix:** AQUEOUS **Received Date:** 8/4/2018 10:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **pmf**	
Zinc	ND	0.020		mg/L	1	8/13/2018 2:20:32 PM	A53393
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **pmf**	
Arsenic	ND	0.020		mg/L	1	8/8/2018 11:58:15 AM	39612
Barium	0.12	0.020		mg/L	1	8/7/2018 7:11:32 PM	39612
Cadmium	ND	0.0020		mg/L	1	8/7/2018 7:11:32 PM	39612
Chromium	ND	0.0060		mg/L	1	8/7/2018 7:11:32 PM	39612
Lead	ND	0.0050		mg/L	1	8/8/2018 11:58:15 AM	39612
Selenium	ND	0.050		mg/L	1	8/7/2018 7:11:32 PM	39612
Silver	ND	0.0050		mg/L	1	8/7/2018 7:11:32 PM	39612
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	2.3	0.050		mg/L	1	8/7/2018 3:49:51 PM	A53276
Surr: BFB	107	70-130		%Rec	1	8/7/2018 3:49:51 PM	A53276
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**	
Acenaphthene	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
Acenaphthylene	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
Aniline	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
Anthracene	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
Azobenzene	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
Benz(a)anthracene	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
Benzo(a)pyrene	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
Benzo(b)fluoranthene	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
Benzo(g,h,i)perylene	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
Benzo(k)fluoranthene	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
Benzoic acid	ND	20		µg/L	1	8/13/2018 10:21:42 PM	39686
Benzyl alcohol	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
Bis(2-chloroethyl)ether	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
4-Bromophenyl phenyl ether	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
Butyl benzyl phthalate	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
Carbazole	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
4-Chloro-3-methylphenol	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
4-Chloroaniline	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
2-Chloronaphthalene	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
2-Chlorophenol	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
Chrysene	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-59
Project: San Juan River and RCRA Wells
Collection Date: 8/3/2018 1:50:00 PM
Lab ID: 1808248-011 **Matrix:** AQUEOUS **Received Date:** 8/4/2018 10:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**	
Di-n-butyl phthalate	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
Di-n-octyl phthalate	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
Dibenz(a,h)anthracene	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
Dibenzofuran	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
1,2-Dichlorobenzene	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
1,3-Dichlorobenzene	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
1,4-Dichlorobenzene	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
3,3´-Dichlorobenzidine	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
Diethyl phthalate	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
Dimethyl phthalate	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
2,4-Dichlorophenol	ND	20		µg/L	1	8/13/2018 10:21:42 PM	39686
2,4-Dimethylphenol	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	8/13/2018 10:21:42 PM	39686
2,4-Dinitrophenol	ND	20		µg/L	1	8/13/2018 10:21:42 PM	39686
2,4-Dinitrotoluene	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
2,6-Dinitrotoluene	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
Fluoranthene	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
Fluorene	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
Hexachlorobenzene	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
Hexachlorobutadiene	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
Hexachlorocyclopentadiene	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
Hexachloroethane	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
Isophorone	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
1-Methylnaphthalene	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
2-Methylnaphthalene	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
2-Methylphenol	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
3+4-Methylphenol	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
N-Nitrosodimethylamine	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
N-Nitrosodiphenylamine	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
Naphthalene	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
2-Nitroaniline	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
3-Nitroaniline	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
4-Nitroaniline	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
Nitrobenzene	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
2-Nitrophenol	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
4-Nitrophenol	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
Pentachlorophenol	ND	20		µg/L	1	8/13/2018 10:21:42 PM	39686

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-59
Project: San Juan River and RCRA Wells
Collection Date: 8/3/2018 1:50:00 PM
Lab ID: 1808248-011
Matrix: AQUEOUS
Received Date: 8/4/2018 10:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**	
Phenanthrene	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
Phenol	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
Pyrene	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
Pyridine	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
1,2,4-Trichlorobenzene	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
2,4,5-Trichlorophenol	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
2,4,6-Trichlorophenol	ND	10		µg/L	1	8/13/2018 10:21:42 PM	39686
Surr: 2-Fluorophenol	51.1	15-74.1		%Rec	1	8/13/2018 10:21:42 PM	39686
Surr: Phenol-d5	43.8	15-59.8		%Rec	1	8/13/2018 10:21:42 PM	39686
Surr: 2,4,6-Tribromophenol	77.6	22.1-112		%Rec	1	8/13/2018 10:21:42 PM	39686
Surr: Nitrobenzene-d5	67.4	33.2-94		%Rec	1	8/13/2018 10:21:42 PM	39686
Surr: 2-Fluorobiphenyl	71.3	34-90.9		%Rec	1	8/13/2018 10:21:42 PM	39686
Surr: 4-Terphenyl-d14	88.6	15-149		%Rec	1	8/13/2018 10:21:42 PM	39686
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	23	1.0		µg/L	1	8/7/2018 3:49:51 PM	B53276
Toluene	ND	1.0		µg/L	1	8/7/2018 3:49:51 PM	B53276
Ethylbenzene	76	1.0		µg/L	1	8/7/2018 3:49:51 PM	B53276
Methyl tert-butyl ether (MTBE)	1400	100		µg/L	100	8/8/2018 2:17:28 PM	B53308
Xylenes, Total	ND	1.5		µg/L	1	8/7/2018 3:49:51 PM	B53276
Surr: 4-Bromofluorobenzene	120	70-130		%Rec	1	8/7/2018 3:49:51 PM	B53276
Surr: Toluene-d8	99.6	70-130		%Rec	1	8/7/2018 3:49:51 PM	B53276

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: FIELD BLANK #1
Project: San Juan River and RCRA Wells
Collection Date: 8/3/2018 2:40:00 PM
Lab ID: 1808248-012 **Matrix:** AQUEOUS **Received Date:** 8/4/2018 10:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	0.40		mg/L	1	8/9/2018 9:16:43 PM	39667
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	8/9/2018 9:16:43 PM	39667
Surr: DNOP	84.9	76.6-135		%Rec	1	8/9/2018 9:16:43 PM	39667
CARBON DIOXIDE						Analyst: **sat**	
Total Carbon Dioxide	9.9	1.0	H	mg CO2/	1	8/8/2018 4:06:51 PM	R53305
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Fluoride	ND	0.10		mg/L	1	8/7/2018 9:32:12 PM	R53287
Chloride	ND	0.50		mg/L	1	8/7/2018 9:32:12 PM	R53287
Bromide	ND	0.10		mg/L	1	8/7/2018 9:32:12 PM	R53287
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	8/7/2018 9:32:12 PM	R53287
Sulfate	ND	0.50		mg/L	1	8/7/2018 9:32:12 PM	R53287
Nitrate+Nitrite as N	ND	1.0		mg/L	5	8/8/2018 2:21:13 AM	R53285
SM2320B: ALKALINITY						Analyst: **sat**	
Bicarbonate (As CaCO3)	ND	20.00		mg/L Ca	1	8/8/2018 4:06:51 PM	R53305
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	8/8/2018 4:06:51 PM	R53305
Total Alkalinity (as CaCO3)	ND	20.00		mg/L Ca	1	8/8/2018 4:06:51 PM	R53305
EPA METHOD 7470: MERCURY						Analyst: **rde**	
Mercury	ND	0.00020		mg/L	1	8/6/2018 7:09:57 PM	39609
EPA METHOD 7470: MERCURY						Analyst: **rde**	
Mercury	ND	0.00020		mg/L	1	8/17/2018 11:59:48 AM	39834
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **pmf**	
Arsenic	ND	0.020		mg/L	1	8/13/2018 5:21:19 PM	B53393
Barium	ND	0.020		mg/L	1	8/13/2018 2:22:12 PM	A53393
Cadmium	ND	0.0020		mg/L	1	8/13/2018 2:22:12 PM	A53393
Calcium	ND	1.0		mg/L	1	8/13/2018 2:22:12 PM	A53393
Chromium	ND	0.0060		mg/L	1	8/13/2018 2:22:12 PM	A53393
Copper	ND	0.0060		mg/L	1	8/13/2018 2:22:12 PM	A53393
Iron	ND	0.020		mg/L	1	8/13/2018 2:22:12 PM	A53393
Lead	ND	0.0050		mg/L	1	8/13/2018 2:22:12 PM	A53393
Magnesium	ND	1.0		mg/L	1	8/13/2018 2:22:12 PM	A53393
Manganese	ND	0.0020		mg/L	1	8/13/2018 2:22:12 PM	A53393
Potassium	ND	1.0		mg/L	1	8/13/2018 2:22:12 PM	A53393
Selenium	ND	0.050		mg/L	1	8/13/2018 2:22:12 PM	A53393
Silver	ND	0.0050		mg/L	1	8/13/2018 2:22:12 PM	A53393
Sodium	ND	1.0		mg/L	1	8/13/2018 2:22:12 PM	A53393
Uranium	ND	0.10		mg/L	1	8/13/2018 6:43:15 PM	A53387

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: FIELD BLANK #1
Project: San Juan River and RCRA Wells
Collection Date: 8/3/2018 2:40:00 PM
Lab ID: 1808248-012 **Matrix:** AQUEOUS **Received Date:** 8/4/2018 10:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **pmf**	
Zinc	ND	0.020		mg/L	1	8/13/2018 2:22:12 PM	A53393
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **pmf**	
Arsenic	ND	0.020		mg/L	1	8/8/2018 11:59:51 AM	39612
Barium	ND	0.020		mg/L	1	8/7/2018 7:12:59 PM	39612
Cadmium	ND	0.0020		mg/L	1	8/7/2018 7:12:59 PM	39612
Chromium	ND	0.0060		mg/L	1	8/7/2018 7:12:59 PM	39612
Lead	ND	0.0050		mg/L	1	8/7/2018 7:12:59 PM	39612
Selenium	ND	0.050		mg/L	1	8/7/2018 7:12:59 PM	39612
Silver	ND	0.0050		mg/L	1	8/7/2018 7:12:59 PM	39612
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	8/7/2018 4:13:16 PM	A53276
Surr: BFB	99.2	70-130		%Rec	1	8/7/2018 4:13:16 PM	A53276
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**	
Acenaphthene	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
Acenaphthylene	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
Aniline	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
Anthracene	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
Azobenzene	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
Benz(a)anthracene	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
Benzo(a)pyrene	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
Benzo(b)fluoranthene	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
Benzo(g,h,i)perylene	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
Benzo(k)fluoranthene	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
Benzoic acid	ND	20		µg/L	1	8/13/2018 10:51:29 PM	39686
Benzyl alcohol	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
Bis(2-chloroethyl)ether	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
4-Bromophenyl phenyl ether	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
Butyl benzyl phthalate	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
Carbazole	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
4-Chloro-3-methylphenol	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
4-Chloroaniline	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
2-Chloronaphthalene	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
2-Chlorophenol	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
Chrysene	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: FIELD BLANK #1
Project: San Juan River and RCRA Wells
Collection Date: 8/3/2018 2:40:00 PM
Lab ID: 1808248-012 **Matrix:** AQUEOUS **Received Date:** 8/4/2018 10:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**	
Di-n-butyl phthalate	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
Di-n-octyl phthalate	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
Dibenz(a,h)anthracene	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
Dibenzofuran	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
1,2-Dichlorobenzene	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
1,3-Dichlorobenzene	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
1,4-Dichlorobenzene	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
3,3´-Dichlorobenzidine	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
Diethyl phthalate	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
Dimethyl phthalate	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
2,4-Dichlorophenol	ND	20		µg/L	1	8/13/2018 10:51:29 PM	39686
2,4-Dimethylphenol	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	8/13/2018 10:51:29 PM	39686
2,4-Dinitrophenol	ND	20		µg/L	1	8/13/2018 10:51:29 PM	39686
2,4-Dinitrotoluene	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
2,6-Dinitrotoluene	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
Fluoranthene	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
Fluorene	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
Hexachlorobenzene	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
Hexachlorobutadiene	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
Hexachlorocyclopentadiene	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
Hexachloroethane	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
Isophorone	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
1-Methylnaphthalene	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
2-Methylnaphthalene	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
2-Methylphenol	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
3+4-Methylphenol	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
N-Nitrosodimethylamine	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
N-Nitrosodiphenylamine	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
Naphthalene	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
2-Nitroaniline	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
3-Nitroaniline	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
4-Nitroaniline	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
Nitrobenzene	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
2-Nitrophenol	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
4-Nitrophenol	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
Pentachlorophenol	ND	20		µg/L	1	8/13/2018 10:51:29 PM	39686

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: FIELD BLANK #1
Project: San Juan River and RCRA Wells
Collection Date: 8/3/2018 2:40:00 PM
Lab ID: 1808248-012
Matrix: AQUEOUS
Received Date: 8/4/2018 10:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**	
Phenanthrene	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
Phenol	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
Pyrene	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
Pyridine	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
1,2,4-Trichlorobenzene	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
2,4,5-Trichlorophenol	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
2,4,6-Trichlorophenol	ND	10		µg/L	1	8/13/2018 10:51:29 PM	39686
Surr: 2-Fluorophenol	63.9	15-74.1		%Rec	1	8/13/2018 10:51:29 PM	39686
Surr: Phenol-d5	53.8	15-59.8		%Rec	1	8/13/2018 10:51:29 PM	39686
Surr: 2,4,6-Tribromophenol	70.8	22.1-112		%Rec	1	8/13/2018 10:51:29 PM	39686
Surr: Nitrobenzene-d5	91.0	33.2-94		%Rec	1	8/13/2018 10:51:29 PM	39686
Surr: 2-Fluorobiphenyl	82.7	34-90.9		%Rec	1	8/13/2018 10:51:29 PM	39686
Surr: 4-Terphenyl-d14	95.0	15-149		%Rec	1	8/13/2018 10:51:29 PM	39686
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	8/7/2018 4:13:16 PM	B53276
Toluene	ND	1.0		µg/L	1	8/7/2018 4:13:16 PM	B53276
Ethylbenzene	ND	1.0		µg/L	1	8/7/2018 4:13:16 PM	B53276
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/7/2018 4:13:16 PM	B53276
Xylenes, Total	ND	1.5		µg/L	1	8/7/2018 4:13:16 PM	B53276
Surr: 4-Bromofluorobenzene	112	70-130		%Rec	1	8/7/2018 4:13:16 PM	B53276
Surr: Toluene-d8	99.1	70-130		%Rec	1	8/7/2018 4:13:16 PM	B53276

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: DUPLICATE #1
Project: San Juan River and RCRA Wells
Collection Date: 8/3/2018
Lab ID: 1808248-013
Matrix: AQUEOUS
Received Date: 8/4/2018 10:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	0.40		mg/L	1	8/9/2018 9:38:59 PM	39667
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	8/9/2018 9:38:59 PM	39667
Surr: DNOP	82.4	76.6-135		%Rec	1	8/9/2018 9:38:59 PM	39667
CARBON DIOXIDE						Analyst:	**sat**
Total Carbon Dioxide	990	1.0	H	mg CO2/	1	8/8/2018 4:12:57 PM	R53305
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Fluoride	ND	0.10		mg/L	1	8/7/2018 10:21:51 PM	R53287
Chloride	190	10		mg/L	20	8/7/2018 10:34:15 PM	R53287
Bromide	3.1	0.10		mg/L	1	8/7/2018 10:21:51 PM	R53287
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	8/7/2018 10:21:51 PM	R53287
Sulfate	180	10		mg/L	20	8/7/2018 10:34:15 PM	R53287
Nitrate+Nitrite as N	ND	1.0		mg/L	5	8/8/2018 2:33:37 AM	R53285
SM2320B: ALKALINITY						Analyst:	**sat**
Bicarbonate (As CaCO3)	1052	20.00		mg/L Ca	1	8/8/2018 4:12:57 PM	R53305
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	8/8/2018 4:12:57 PM	R53305
Total Alkalinity (as CaCO3)	1052	20.00		mg/L Ca	1	8/8/2018 4:12:57 PM	R53305
EPA METHOD 7470: MERCURY						Analyst:	**rde**
Mercury	ND	0.00020		mg/L	1	8/6/2018 7:12:11 PM	39609
EPA METHOD 7470: MERCURY						Analyst:	**rde**
Mercury	ND	0.00020		mg/L	1	8/17/2018 12:02:02 PM	39834
EPA METHOD 6010B: DISSOLVED METALS						Analyst:	**pmf**
Arsenic	ND	0.020		mg/L	1	8/13/2018 5:22:47 PM	B53393
Barium	0.072	0.020		mg/L	1	8/13/2018 2:24:13 PM	A53393
Cadmium	ND	0.0020		mg/L	1	8/13/2018 2:24:13 PM	A53393
Calcium	180	5.0		mg/L	5	8/15/2018 11:55:51 AM	A53449
Chromium	ND	0.0060		mg/L	1	8/13/2018 2:24:13 PM	A53393
Copper	ND	0.0060		mg/L	1	8/13/2018 2:24:13 PM	A53393
Iron	7.4	0.20		mg/L	10	8/15/2018 11:57:15 AM	A53449
Lead	0.011	0.0050		mg/L	1	8/13/2018 2:24:13 PM	A53393
Magnesium	50	1.0		mg/L	1	8/13/2018 2:24:13 PM	A53393
Manganese	1.6	0.010		mg/L	5	8/15/2018 11:55:51 AM	A53449
Potassium	2.9	1.0		mg/L	1	8/13/2018 2:24:13 PM	A53393
Selenium	0.10	0.050		mg/L	1	8/13/2018 2:24:13 PM	A53393
Silver	ND	0.0050		mg/L	1	8/13/2018 2:24:13 PM	A53393
Sodium	420	5.0		mg/L	5	8/15/2018 11:55:51 AM	A53449
Uranium	ND	0.10		mg/L	1	8/13/2018 6:44:24 PM	A53387

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Qualifiers:

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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: DUPLICATE #1
Project: San Juan River and RCRA Wells
Collection Date: 8/3/2018
Lab ID: 1808248-013
Matrix: AQUEOUS
Received Date: 8/4/2018 10:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **pmf**	
Zinc	ND	0.020		mg/L	1	8/13/2018 2:24:13 PM	A53393
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **pmf**	
Arsenic	ND	0.020		mg/L	1	8/8/2018 12:01:41 PM	39612
Barium	0.12	0.020		mg/L	1	8/7/2018 7:14:26 PM	39612
Cadmium	ND	0.0020		mg/L	1	8/7/2018 7:14:26 PM	39612
Chromium	ND	0.0060		mg/L	1	8/7/2018 7:14:26 PM	39612
Lead	ND	0.0050		mg/L	1	8/7/2018 7:14:26 PM	39612
Selenium	ND	0.050		mg/L	1	8/7/2018 7:14:26 PM	39612
Silver	ND	0.0050		mg/L	1	8/7/2018 7:14:26 PM	39612
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	2.4	0.050		mg/L	1	8/7/2018 4:36:27 PM	A53276
Surr: BFB	108	70-130		%Rec	1	8/7/2018 4:36:27 PM	A53276
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**	
Acenaphthene	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
Acenaphthylene	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
Aniline	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
Anthracene	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
Azobenzene	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
Benz(a)anthracene	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
Benzo(a)pyrene	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
Benzo(b)fluoranthene	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
Benzo(g,h,i)perylene	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
Benzo(k)fluoranthene	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
Benzoic acid	ND	20		µg/L	1	8/13/2018 11:21:17 PM	39686
Benzyl alcohol	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
Bis(2-chloroethyl)ether	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
4-Bromophenyl phenyl ether	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
Butyl benzyl phthalate	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
Carbazole	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
4-Chloro-3-methylphenol	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
4-Chloroaniline	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
2-Chloronaphthalene	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
2-Chlorophenol	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
Chrysene	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: DUPLICATE #1
Project: San Juan River and RCRA Wells
Collection Date: 8/3/2018
Lab ID: 1808248-013
Matrix: AQUEOUS
Received Date: 8/4/2018 10:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**	
Di-n-butyl phthalate	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
Di-n-octyl phthalate	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
Dibenz(a,h)anthracene	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
Dibenzofuran	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
1,2-Dichlorobenzene	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
1,3-Dichlorobenzene	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
1,4-Dichlorobenzene	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
3,3´-Dichlorobenzidine	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
Diethyl phthalate	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
Dimethyl phthalate	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
2,4-Dichlorophenol	ND	20		µg/L	1	8/13/2018 11:21:17 PM	39686
2,4-Dimethylphenol	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	8/13/2018 11:21:17 PM	39686
2,4-Dinitrophenol	ND	20		µg/L	1	8/13/2018 11:21:17 PM	39686
2,4-Dinitrotoluene	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
2,6-Dinitrotoluene	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
Fluoranthene	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
Fluorene	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
Hexachlorobenzene	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
Hexachlorobutadiene	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
Hexachlorocyclopentadiene	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
Hexachloroethane	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
Isophorone	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
1-Methylnaphthalene	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
2-Methylnaphthalene	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
2-Methylphenol	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
3+4-Methylphenol	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
N-Nitrosodimethylamine	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
N-Nitrosodiphenylamine	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
Naphthalene	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
2-Nitroaniline	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
3-Nitroaniline	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
4-Nitroaniline	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
Nitrobenzene	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
2-Nitrophenol	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
4-Nitrophenol	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
Pentachlorophenol	ND	20		µg/L	1	8/13/2018 11:21:17 PM	39686

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: DUPLICATE #1
Project: San Juan River and RCRA Wells
Collection Date: 8/3/2018
Lab ID: 1808248-013
Matrix: AQUEOUS
Received Date: 8/4/2018 10:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**	
Phenanthrene	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
Phenol	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
Pyrene	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
Pyridine	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
1,2,4-Trichlorobenzene	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
2,4,5-Trichlorophenol	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
2,4,6-Trichlorophenol	ND	10		µg/L	1	8/13/2018 11:21:17 PM	39686
Surr: 2-Fluorophenol	64.7	15-74.1		%Rec	1	8/13/2018 11:21:17 PM	39686
Surr: Phenol-d5	53.4	15-59.8		%Rec	1	8/13/2018 11:21:17 PM	39686
Surr: 2,4,6-Tribromophenol	72.4	22.1-112		%Rec	1	8/13/2018 11:21:17 PM	39686
Surr: Nitrobenzene-d5	84.0	33.2-94		%Rec	1	8/13/2018 11:21:17 PM	39686
Surr: 2-Fluorobiphenyl	83.7	34-90.9		%Rec	1	8/13/2018 11:21:17 PM	39686
Surr: 4-Terphenyl-d14	86.7	15-149		%Rec	1	8/13/2018 11:21:17 PM	39686
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	23	1.0		µg/L	1	8/7/2018 4:36:27 PM	B53276
Toluene	ND	1.0		µg/L	1	8/7/2018 4:36:27 PM	B53276
Ethylbenzene	80	1.0		µg/L	1	8/7/2018 4:36:27 PM	B53276
Methyl tert-butyl ether (MTBE)	1400	100		µg/L	100	8/8/2018 2:40:40 PM	B53308
Xylenes, Total	ND	1.5		µg/L	1	8/7/2018 4:36:27 PM	B53276
Surr: 4-Bromofluorobenzene	122	70-130		%Rec	1	8/7/2018 4:36:27 PM	B53276
Surr: Toluene-d8	102	70-130		%Rec	1	8/7/2018 4:36:27 PM	B53276

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: Trip Blank
Project: San Juan River and RCRA Wells
Collection Date:
Lab ID: 1808248-014
Matrix: AQUEOUS
Received Date: 8/4/2018 10:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	8/7/2018 4:59:47 PM	A53276
Surr: BFB	102	70-130		%Rec	1	8/7/2018 4:59:47 PM	A53276
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	8/7/2018 4:59:47 PM	B53276
Toluene	ND	1.0		µg/L	1	8/7/2018 4:59:47 PM	B53276
Ethylbenzene	ND	1.0		µg/L	1	8/7/2018 4:59:47 PM	B53276
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/7/2018 4:59:47 PM	B53276
Xylenes, Total	ND	1.5		µg/L	1	8/7/2018 4:59:47 PM	B53276
Surr: 4-Bromofluorobenzene	115	70-130		%Rec	1	8/7/2018 4:59:47 PM	B53276
Surr: Toluene-d8	101	70-130		%Rec	1	8/7/2018 4:59:47 PM	B53276

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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1808248**
22-Aug-18

Client: Andeavor Bloomfield
Project: San Juan River and RCRA Wells

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R53287**	RunNo: **53287**
Prep Date:	Analysis Date: **8/7/2018**	SeqNo: **1753984** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R53287**	RunNo: **53287**
Prep Date:	Analysis Date: **8/7/2018**	SeqNo: **1753985** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.52	0.10	0.5000	0	104	90	110			
Chloride	4.7	0.50	5.000	0	94.5	90	110			
Bromide	2.4	0.10	2.500	0	96.5	90	110			
Phosphorus, Orthophosphate (As P	4.6	0.50	5.000	0	92.9	90	110			
Sulfate	9.3	0.50	10.00	0	93.1	90	110			

Sample ID **MB x2.5**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R53287**	RunNo: **53287**
Prep Date:	Analysis Date: **8/7/2018**	SeqNo: **1753996** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	1600	0.50								E*

Sample ID **1808248-001CMS**	SampType: **ms**	TestCode: **EPA Method 300.0: Anions**
Client ID: **Upstream**	Batch ID: **R53287**	RunNo: **53287**
Prep Date:	Analysis Date: **8/7/2018**	SeqNo: **1754008** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.62	0.10	0.5000	0	125	66.7	127			
Chloride	7.4	0.50	5.000	2.755	92.5	77.5	116			
Bromide	2.4	0.10	2.500	0	96.9	80.2	111			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808248**

22-Aug-18

Client: Andeavor Bloomfield

Project: San Juan River and RCRA Wells

Sample ID	**1808248-001CMSD**	SampType:	**msd**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**Upstream**	Batch ID:	**R53287**		RunNo:	**53287**				
Prep Date:		Analysis Date:	**8/7/2018**		SeqNo:	**1754009**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.63	0.10	0.5000	0	126	66.7	127	0.740	20	
Chloride	7.4	0.50	5.000	2.755	92.5	77.5	116	0.0324	20	
Bromide	2.4	0.10	2.500	0	97.2	80.2	111	0.345	20	

Sample ID	**MB**	SampType:	**mblk**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**PBW**	Batch ID:	**R53285**		RunNo:	**53285**				
Prep Date:		Analysis Date:	**8/7/2018**		SeqNo:	**1754314**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	ND	0.20								

Sample ID	**LCS**	SampType:	**lcs**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**LCSW**	Batch ID:	**R53285**		RunNo:	**53285**				
Prep Date:		Analysis Date:	**8/7/2018**		SeqNo:	**1754315**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.5	0.20	3.500	0	98.9	90	110			

Sample ID	**MB**	SampType:	**mblk**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**PBW**	Batch ID:	**R53556**		RunNo:	**53556**				
Prep Date:		Analysis Date:	**8/17/2018**		SeqNo:	**1765359**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Sulfate	ND	0.50								

Sample ID	**LCS**	SampType:	**lcs**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**LCSW**	Batch ID:	**R53556**		RunNo:	**53556**				
Prep Date:		Analysis Date:	**8/17/2018**		SeqNo:	**1765360**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.7	0.50	5.000	0	94.7	90	110			
Sulfate	9.3	0.50	10.00	0	92.9	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808248**

22-Aug-18

Client: Andeavor Bloomfield

Project: San Juan River and RCRA Wells

Sample ID	**MB-39667**	SampType:	**MBLK**		TestCode:	**EPA Method 8015D: Diesel Range**				
Client ID:	**PBW**	Batch ID:	**39667**		RunNo:	**53283**				
Prep Date:	**8/8/2018**	Analysis Date:	**8/9/2018**		SeqNo:	**1756124**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	0.40								
Motor Oil Range Organics (MRO)	ND	2.5								
Surr: DNOP	0.39		0.5000		78.8	76.6	135			

Sample ID	**LCS-39667**	SampType:	**LCS**		TestCode:	**EPA Method 8015D: Diesel Range**				
Client ID:	**LCSW**	Batch ID:	**39667**		RunNo:	**53283**				
Prep Date:	**8/8/2018**	Analysis Date:	**8/9/2018**		SeqNo:	**1756125**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	2.3	0.40	2.500	0	93.3	76.5	158			
Surr: DNOP	0.16		0.2500		66.0	76.6	135			S

Sample ID	**1808248-001BMS**	SampType:	**MS**		TestCode:	**EPA Method 8015D: Diesel Range**				
Client ID:	**Upstream**	Batch ID:	**39667**		RunNo:	**53283**				
Prep Date:	**8/8/2018**	Analysis Date:	**8/9/2018**		SeqNo:	**1756127**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	2.4	0.40	2.500	0	94.8	89.6	145			
Surr: DNOP	0.17		0.2500		69.2	76.6	135			S

Sample ID	**1808248-001BMSD**	SampType:	**MSD**		TestCode:	**EPA Method 8015D: Diesel Range**				
Client ID:	**Upstream**	Batch ID:	**39667**		RunNo:	**53283**				
Prep Date:	**8/8/2018**	Analysis Date:	**8/9/2018**		SeqNo:	**1756128**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	2.7	0.40	2.500	0	106	89.6	145	11.3	20	
Surr: DNOP	0.19		0.2500		76.7	76.6	135	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808248**

22-Aug-18

Client: Andeavor Bloomfield

Project: San Juan River and RCRA Wells

Sample ID **100ng lcs**	SampType: **LCS4**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **BatchQC**	Batch ID: **B53243**	RunNo: **53243**
Prep Date:	Analysis Date: **8/6/2018**	SeqNo: **1752149** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.5	80	120			
Toluene	21	1.0	20.00	0	105	80	120			
Ethylbenzene	21	1.0	20.00	0	103	80	120			
Methyl tert-butyl ether (MTBE)	19	1.0	20.00	0	96.2	80	120			
Xylenes, Total	61	1.5	60.00	0	101	80	120			
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130			
Surr: Toluene-d8	10		10.00		103	70	130			

Sample ID **1808248-002ams**	SampType: **MS4**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **North of MW#45**	Batch ID: **B53243**	RunNo: **53243**
Prep Date:	Analysis Date: **8/7/2018**	SeqNo: **1752152** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	101	80	120			
Toluene	21	1.0	20.00	0.2422	105	80	120			
Ethylbenzene	21	1.0	20.00	0	105	80	120			
Methyl tert-butyl ether (MTBE)	19	1.0	20.00	0	96.6	43.6	145			
Xylenes, Total	62	1.5	60.00	0.4208	103	80	120			
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130			
Surr: Toluene-d8	10		10.00		104	70	130			

Sample ID **1808248-002amsd**	SampType: **MSD4**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **North of MW#45**	Batch ID: **B53243**	RunNo: **53243**
Prep Date:	Analysis Date: **8/7/2018**	SeqNo: **1752153** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	98.4	80	120	2.80	20	
Toluene	21	1.0	20.00	0.2422	103	80	120	2.10	20	
Ethylbenzene	20	1.0	20.00	0	101	80	120	3.67	20	
Methyl tert-butyl ether (MTBE)	19	1.0	20.00	0	92.9	43.6	145	3.86	20	
Xylenes, Total	59	1.5	60.00	0.4208	98.3	80	120	4.35	20	
Surr: 4-Bromofluorobenzene	10		10.00		105	70	130	0	0	
Surr: Toluene-d8	10		10.00		103	70	130	0	0	

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **B53243**	RunNo: **53243**
Prep Date:	Analysis Date: **8/6/2018**	SeqNo: **1752155** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808248**

22-Aug-18

Client: Andeavor Bloomfield

Project: San Juan River and RCRA Wells

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **B53243**	RunNo: **53243**
Prep Date:	Analysis Date: **8/6/2018**	SeqNo: **1752155** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 4-Bromofluorobenzene	12		10.00		116	70	130			
Surr: Toluene-d8	9.9		10.00		99.2	70	130			

Sample ID **1808248-006ams**	SampType: **MS4**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **MW-68**	Batch ID: **B53276**	RunNo: **53276**
Prep Date:	Analysis Date: **8/7/2018**	SeqNo: **1753508** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	100	80	120			
Toluene	21	1.0	20.00	0.1234	103	80	120			
Ethylbenzene	20	1.0	20.00	0	102	80	120			
Methyl tert-butyl ether (MTBE)	20	1.0	20.00	0.5160	99.5	43.6	145			
Xylenes, Total	62	1.5	60.00	0.3908	102	80	120			
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Sample ID **1808248-006amsd**	SampType: **MSD4**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **MW-68**	Batch ID: **B53276**	RunNo: **53276**
Prep Date:	Analysis Date: **8/7/2018**	SeqNo: **1753509** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	97.1	80	120	3.28	20	
Toluene	20	1.0	20.00	0.1234	100	80	120	2.54	20	
Ethylbenzene	20	1.0	20.00	0	102	80	120	0.221	20	
Methyl tert-butyl ether (MTBE)	21	1.0	20.00	0.5160	101	43.6	145	1.29	20	
Xylenes, Total	59	1.5	60.00	0.3908	97.2	80	120	4.67	20	
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130	0	0	
Surr: Toluene-d8	10		10.00		99.8	70	130	0	0	

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **B53276**	RunNo: **53276**
Prep Date:	Analysis Date: **8/7/2018**	SeqNo: **1753518** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808248**

22-Aug-18

Client: Andeavor Bloomfield

Project: San Juan River and RCRA Wells

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **B53276**	RunNo: **53276**
Prep Date:	Analysis Date: **8/7/2018**	SeqNo: **1753518** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 4-Bromofluorobenzene	11		10.00		114	70	130			
Surr: Toluene-d8	9.8		10.00		98.2	70	130			

Sample ID **100ng lcs**	SampType: **LCS4**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **BatchQC**	Batch ID: **B53276**	RunNo: **53276**
Prep Date:	Analysis Date: **8/7/2018**	SeqNo: **1753519** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	95.7	80	120			
Toluene	20	1.0	20.00	0	101	80	120			
Ethylbenzene	20	1.0	20.00	0	102	80	120			
Methyl tert-butyl ether (MTBE)	19	1.0	20.00	0	94.0	80	120			
Xylenes, Total	59	1.5	60.00	0	98.7	80	120			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Toluene-d8	9.7		10.00		97.4	70	130			

Sample ID **100ng lcs**	SampType: **LCS4**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **BatchQC**	Batch ID: **B53308**	RunNo: **53308**
Prep Date:	Analysis Date: **8/8/2018**	SeqNo: **1755108** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	19	1.0	20.00	0	96.0	80	120			
Surr: 4-Bromofluorobenzene	10		10.00		105	70	130			
Surr: Toluene-d8	10		10.00		103	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **B53308**	RunNo: **53308**
Prep Date:	Analysis Date: **8/8/2018**	SeqNo: **1755111** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	1.0								
Surr: 4-Bromofluorobenzene	12		10.00		116	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808248**

22-Aug-18

Client: Andeavor Bloomfield

Project: San Juan River and RCRA Wells

Sample ID **mb-39686**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **39686**	RunNo: **53401**
Prep Date: **8/9/2018**	Analysis Date: **8/13/2018**	SeqNo: **1758611** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	ND	20								
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								
3,3´-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808248**

22-Aug-18

Client: Andeavor Bloomfield

Project: San Juan River and RCRA Wells

Sample ID **mb-39686**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **39686**	RunNo: **53401**
Prep Date: **8/9/2018**	Analysis Date: **8/13/2018**	SeqNo: **1758611** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								
Surr: 2-Fluorophenol	98		200.0		49.1	15	74.1			
Surr: Phenol-d5	84		200.0		41.9	15	59.8			
Surr: 2,4,6-Tribromophenol	120		200.0		60.4	22.1	112			
Surr: Nitrobenzene-d5	65		100.0		64.6	33.2	94			
Surr: 2-Fluorobiphenyl	62		100.0		62.1	34	90.9			
Surr: 4-Terphenyl-d14	71		100.0		71.3	15	149			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808248**

22-Aug-18

Client: Andeavor Bloomfield

Project: San Juan River and RCRA Wells

Sample ID **lcsd-39686**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **39686**	RunNo: **53401**
Prep Date: **8/9/2018**	Analysis Date: **8/13/2018**	SeqNo: **1758613** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	84	10	100.0	0	84.1	55.1	104	2.29	34.9	
4-Chloro-3-methylphenol	190	10	200.0	0	94.5	57	115	11.7	30.2	
2-Chlorophenol	180	10	200.0	0	87.5	43.4	112	12.2	49.5	
1,4-Dichlorobenzene	69	10	100.0	0	69.0	38	95.2	1.49	43.2	
2,4-Dinitrotoluene	72	10	100.0	0	72.2	55.1	96.7	10.1	49.9	
N-Nitrosodi-n-propylamine	100	10	100.0	0	103	55	112	8.49	42.1	
4-Nitrophenol	97	10	200.0	0	48.6	16.6	93	102	31.5	R
Pentachlorophenol	140	20	200.0	0	67.6	43.2	104	59.9	52.5	R
Phenol	110	10	200.0	0	56.3	21.3	85.7	12.7	54.4	
Pyrene	86	10	100.0	0	86.0	64.9	105	9.40	30.7	
1,2,4-Trichlorobenzene	78	10	100.0	0	77.6	42.6	107	2.90	48.1	
Surr: 2-Fluorophenol	130		200.0		64.0	15	74.1	0	0	
Surr: Phenol-d5	110		200.0		55.1	15	59.8	0	0	
Surr: 2,4,6-Tribromophenol	150		200.0		75.4	22.1	112	0	0	
Surr: Nitrobenzene-d5	87		100.0		86.8	33.2	94	0	0	
Surr: 2-Fluorobiphenyl	77		100.0		77.3	34	90.9	0	0	
Surr: 4-Terphenyl-d14	90		100.0		89.9	15	149	0	0	

Sample ID **lcs-39686**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **39686**	RunNo: **53401**
Prep Date: **8/9/2018**	Analysis Date: **8/13/2018**	SeqNo: **1758614** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	82	10	100.0	0	82.2	55.1	104			
4-Chloro-3-methylphenol	170	10	200.0	0	84.1	57	115			
2-Chlorophenol	150	10	200.0	0	77.5	43.4	112			
1,4-Dichlorobenzene	68	10	100.0	0	68.0	38	95.2			
2,4-Dinitrotoluene	65	10	100.0	0	65.3	55.1	96.7			
N-Nitrosodi-n-propylamine	94	10	100.0	0	94.3	55	112			
4-Nitrophenol	32	10	200.0	0	15.9	16.6	93			S
Pentachlorophenol	73	20	200.0	0	36.4	43.2	104			S
Phenol	99	10	200.0	0	49.5	21.3	85.7			
Pyrene	78	10	100.0	0	78.3	64.9	105			
1,2,4-Trichlorobenzene	75	10	100.0	0	75.4	42.6	107			
Surr: 2-Fluorophenol	110		200.0		53.7	15	74.1			
Surr: Phenol-d5	100		200.0		49.9	15	59.8			
Surr: 2,4,6-Tribromophenol	140		200.0		68.2	22.1	112			
Surr: Nitrobenzene-d5	80		100.0		80.2	33.2	94			
Surr: 2-Fluorobiphenyl	76		100.0		75.8	34	90.9			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808248**

22-Aug-18

Client: Andeavor Bloomfield

Project: San Juan River and RCRA Wells

Sample ID	**lcs-39686**	SampType:	**LCS**	TestCode:	**EPA Method 8270C: Semivolatiles**					
Client ID:	**LCSW**	Batch ID:	**39686**	RunNo:	**53401**					
Prep Date:	**8/9/2018**	Analysis Date:	**8/13/2018**	SeqNo:	**1758614**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	87		100.0		86.5	15	149			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808248**

22-Aug-18

Client: Andeavor Bloomfield

Project: San Juan River and RCRA Wells

Sample ID	**MB-39609**	SampType:	**MBLK**		TestCode:	**EPA Method 7470: Mercury**					
Client ID:	**PBW**	Batch ID:	**39609**		RunNo:	**53253**					
Prep Date:	**8/6/2018**	Analysis Date:	**8/6/2018**		SeqNo:	**1752477**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Mercury	ND	0.00020									

Sample ID	**LCS-39609**	SampType:	**LCS**		TestCode:	**EPA Method 7470: Mercury**					
Client ID:	**LCSW**	Batch ID:	**39609**		RunNo:	**53253**					
Prep Date:	**8/6/2018**	Analysis Date:	**8/6/2018**		SeqNo:	**1752479**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Mercury	0.0051	0.00020	0.005000	0	101	80	120				

Sample ID	**MB-39834**	SampType:	**MBLK**		TestCode:	**EPA Method 7470: Mercury**					
Client ID:	**PBW**	Batch ID:	**39834**		RunNo:	**53523**					
Prep Date:	**8/16/2018**	Analysis Date:	**8/17/2018**		SeqNo:	**1764139**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Mercury	ND	0.00020									

Sample ID	**LCS-39834**	SampType:	**LCS**		TestCode:	**EPA Method 7470: Mercury**					
Client ID:	**LCSW**	Batch ID:	**39834**		RunNo:	**53523**					
Prep Date:	**8/16/2018**	Analysis Date:	**8/17/2018**		SeqNo:	**1764140**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Mercury	0.0048	0.00020	0.005000	0	95.9	80	120				

Sample ID	**1808248-002EMS**	SampType:	**MS**		TestCode:	**EPA Method 7470: Mercury**					
Client ID:	**North of MW#45**	Batch ID:	**39834**		RunNo:	**53523**					
Prep Date:	**8/16/2018**	Analysis Date:	**8/17/2018**		SeqNo:	**1764143**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Mercury	0.0044	0.00020	0.005000	0	88.8	75	125				

Sample ID	**1808248-002EMS**	SampType:	**MSD**		TestCode:	**EPA Method 7470: Mercury**					
Client ID:	**North of MW#45**	Batch ID:	**39834**		RunNo:	**53523**					
Prep Date:	**8/16/2018**	Analysis Date:	**8/17/2018**		SeqNo:	**1764144**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Mercury	0.0045	0.00020	0.005000	0	89.7	75	125	0.945	20		

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808248**

22-Aug-18

Client: Andeavor Bloomfield

Project: San Juan River and RCRA Wells

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A53393**	RunNo: **53393**
Prep Date:	Analysis Date: **8/13/2018**	SeqNo: **1758349** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Lead	ND	0.0050								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Selenium	ND	0.050								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.020								

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A53393**	RunNo: **53393**
Prep Date:	Analysis Date: **8/13/2018**	SeqNo: **1758351** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.020	0.5000	0	98.4	80	120			
Cadmium	0.50	0.0020	0.5000	0	100	80	120			
Calcium	47	1.0	50.00	0	93.6	80	120			
Chromium	0.47	0.0060	0.5000	0	94.2	80	120			
Copper	0.48	0.0060	0.5000	0	96.5	80	120			
Iron	0.48	0.020	0.5000	0	96.8	80	120			
Lead	0.49	0.0050	0.5000	0	97.1	80	120			
Magnesium	47	1.0	50.00	0	94.2	80	120			
Manganese	0.48	0.0020	0.5000	0	95.9	80	120			
Potassium	45	1.0	50.00	0	90.0	80	120			
Selenium	0.47	0.050	0.5000	0	93.3	80	120			
Silver	0.098	0.0050	0.1000	0	98.0	80	120			
Sodium	49	1.0	50.00	0	97.9	80	120			
Zinc	0.47	0.020	0.5000	0	95.0	80	120			

Sample ID **1808248-001EMS**	SampType: **MS**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **Upstream**	Batch ID: **A53393**	RunNo: **53393**
Prep Date:	Analysis Date: **8/13/2018**	SeqNo: **1758397** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808248**

22-Aug-18

Client: Andeavor Bloomfield

Project: San Juan River and RCRA Wells

Sample ID	**1808248-001EMS**	SampType:	**MS**		TestCode:	**EPA Method 6010B: Dissolved Metals**				
Client ID:	**Upstream**	Batch ID:	**A53393**		RunNo:	**53393**				
Prep Date:		Analysis Date:	**8/13/2018**		SeqNo:	**1758397**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.57	0.020	0.5000	0.06574	99.9	75	125			
Cadmium	0.51	0.0020	0.5000	0	102	75	125			
Calcium	77	1.0	50.00	30.35	92.9	75	125			
Chromium	0.47	0.0060	0.5000	0	94.2	75	125			
Copper	0.48	0.0060	0.5000	0	96.7	75	125			
Iron	0.49	0.020	0.5000	0.01236	96.0	75	125			
Lead	0.48	0.0050	0.5000	0	96.6	75	125			
Magnesium	54	1.0	50.00	5.278	97.4	75	125			
Manganese	0.48	0.0020	0.5000	0.002210	95.3	75	125			
Potassium	48	1.0	50.00	1.621	93.3	75	125			
Selenium	0.53	0.050	0.5000	0	107	75	125			
Silver	0.11	0.0050	0.1000	0	105	75	125			
Sodium	62	1.0	50.00	15.32	94.1	75	125			
Zinc	0.56	0.020	0.5000	0.08574	94.0	75	125			

Sample ID	**1808248-001EMSD**	SampType:	**MSD**		TestCode:	**EPA Method 6010B: Dissolved Metals**				
Client ID:	**Upstream**	Batch ID:	**A53393**		RunNo:	**53393**				
Prep Date:		Analysis Date:	**8/13/2018**		SeqNo:	**1758398**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.57	0.020	0.5000	0.06574	100	75	125	0.0990	20	
Cadmium	0.51	0.0020	0.5000	0	102	75	125	0.198	20	
Calcium	79	1.0	50.00	30.35	96.4	75	125	2.27	20	
Chromium	0.47	0.0060	0.5000	0	94.1	75	125	0.0701	20	
Copper	0.48	0.0060	0.5000	0	96.7	75	125	0.00207	20	
Iron	0.50	0.020	0.5000	0.01236	96.5	75	125	0.547	20	
Lead	0.49	0.0050	0.5000	0	97.3	75	125	0.714	20	
Magnesium	56	1.0	50.00	5.278	102	75	125	3.86	20	
Manganese	0.48	0.0020	0.5000	0.002210	95.4	75	125	0.102	20	
Potassium	50	1.0	50.00	1.621	97.1	75	125	3.88	20	
Selenium	0.54	0.050	0.5000	0	107	75	125	0.401	20	
Silver	0.10	0.0050	0.1000	0	103	75	125	2.37	20	
Sodium	65	1.0	50.00	15.32	98.8	75	125	3.75	20	
Zinc	0.56	0.020	0.5000	0.08574	94.0	75	125	0.0360	20	

Sample ID	**MB-B**	SampType:	**MBLK**		TestCode:	**EPA Method 6010B: Dissolved Metals**				
Client ID:	**PBW**	Batch ID:	**B53393**		RunNo:	**53393**				
Prep Date:		Analysis Date:	**8/13/2018**		SeqNo:	**1758437**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808248**

22-Aug-18

Client: Andeavor Bloomfield

Project: San Juan River and RCRA Wells

Sample ID	**MB-B**	SampType:	**MBLK**			TestCode:	**EPA Method 6010B: Dissolved Metals**			
Client ID:	**PBW**	Batch ID:	**B53393**			RunNo:	**53393**			
Prep Date:		Analysis Date:	**8/13/2018**			SeqNo:	**1758437**	Units:	**mg/L**	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.020								

Sample ID	**LCS-B**	SampType:	**LCS**			TestCode:	**EPA Method 6010B: Dissolved Metals**			
Client ID:	**LCSW**	Batch ID:	**B53393**			RunNo:	**53393**			
Prep Date:		Analysis Date:	**8/13/2018**			SeqNo:	**1758439**	Units:	**mg/L**	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.48	0.020	0.5000	0	95.5	80	120			

Sample ID	**1808248-001EMS**	SampType:	**MS**			TestCode:	**EPA Method 6010B: Dissolved Metals**			
Client ID:	**Upstream**	Batch ID:	**B53393**			RunNo:	**53393**			
Prep Date:		Analysis Date:	**8/13/2018**			SeqNo:	**1758494**	Units:	**mg/L**	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.48	0.020	0.5000	0	96.3	75	125			

Sample ID	**1808248-001EMSD**	SampType:	**MSD**			TestCode:	**EPA Method 6010B: Dissolved Metals**			
Client ID:	**Upstream**	Batch ID:	**B53393**			RunNo:	**53393**			
Prep Date:		Analysis Date:	**8/13/2018**			SeqNo:	**1758495**	Units:	**mg/L**	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.47	0.020	0.5000	0	93.9	75	125	2.56	20	

Sample ID	**MB-A**	SampType:	**MBLK**			TestCode:	**EPA Method 6010B: Dissolved Metals**			
Client ID:	**PBW**	Batch ID:	**A53387**			RunNo:	**53387**			
Prep Date:		Analysis Date:	**8/13/2018**			SeqNo:	**1759133**	Units:	**mg/L**	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	ND	0.10								

Sample ID	**LCS-A**	SampType:	**LCS**			TestCode:	**EPA Method 6010B: Dissolved Metals**			
Client ID:	**LCSW**	Batch ID:	**A53387**			RunNo:	**53387**			
Prep Date:		Analysis Date:	**8/13/2018**			SeqNo:	**1759135**	Units:	**mg/L**	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.51	0.10	0.5000	0	102	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808248**

22-Aug-18

Client: Andeavor Bloomfield

Project: San Juan River and RCRA Wells

Sample ID	**1808248-001EMS**	SampType: **MS**			TestCode: **EPA Method 6010B: Dissolved Metals**					
Client ID:	**Upstream**	Batch ID: **A53387**			RunNo: **53387**					
Prep Date:		Analysis Date: **8/13/2018**			SeqNo: **1759137**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.43	0.10	0.5000	0	86.0	75	125			

Sample ID	**1808248-001EMSD**	SampType: **MSD**			TestCode: **EPA Method 6010B: Dissolved Metals**					
Client ID:	**Upstream**	Batch ID: **A53387**			RunNo: **53387**					
Prep Date:		Analysis Date: **8/13/2018**			SeqNo: **1759138**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.44	0.10	0.5000	0	89.0	75	125	3.41	20	

Sample ID	**MB-A**	SampType: **MBLK**			TestCode: **EPA Method 6010B: Dissolved Metals**					
Client ID:	**PBW**	Batch ID: **A53449**			RunNo: **53449**					
Prep Date:		Analysis Date: **8/15/2018**			SeqNo: **1761183**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Iron	ND	0.020								
Manganese	ND	0.0020								
Sodium	ND	1.0								

Sample ID	**LCS-A**	SampType: **LCS**			TestCode: **EPA Method 6010B: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID: **A53449**			RunNo: **53449**					
Prep Date:		Analysis Date: **8/15/2018**			SeqNo: **1761185**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	50	1.0	50.00	0	99.2	80	120			
Iron	0.50	0.020	0.5000	0	100	80	120			
Manganese	0.51	0.0020	0.5000	0	101	80	120			
Sodium	48	1.0	50.00	0	95.4	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808248**

22-Aug-18

Client: Andeavor Bloomfield

Project: San Juan River and RCRA Wells

Sample ID	**MB-39612**	SampType:	**MBLK**	TestCode:	**EPA 6010B: Total Recoverable Metals**				
Client ID:	**PBW**	Batch ID:	**39612**	RunNo:	**53279**				
Prep Date:	**8/6/2018**	Analysis Date:	**8/7/2018**	SeqNo:	**1753695**	Units:	**mg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Lead	ND	0.0050								
Selenium	ND	0.050								
Silver	ND	0.0050								

Sample ID	**LCS-39612**	SampType:	**LCS**	TestCode:	**EPA 6010B: Total Recoverable Metals**				
Client ID:	**LCSW**	Batch ID:	**39612**	RunNo:	**53279**				
Prep Date:	**8/6/2018**	Analysis Date:	**8/7/2018**	SeqNo:	**1753697**	Units:	**mg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.020	0.5000	0	98.8	80	120			
Cadmium	0.51	0.0020	0.5000	0	103	80	120			
Chromium	0.50	0.0060	0.5000	0	99.0	80	120			
Lead	0.50	0.0050	0.5000	0	99.5	80	120			
Selenium	0.49	0.050	0.5000	0	97.6	80	120			
Silver	0.11	0.0050	0.1000	0	108	80	120			

Sample ID	**MB-39612**	SampType:	**MBLK**	TestCode:	**EPA 6010B: Total Recoverable Metals**				
Client ID:	**PBW**	Batch ID:	**39612**	RunNo:	**53284**				
Prep Date:	**8/6/2018**	Analysis Date:	**8/8/2018**	SeqNo:	**1754540**	Units:	**mg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.020								

Sample ID	**LCS-39612**	SampType:	**LCS**	TestCode:	**EPA 6010B: Total Recoverable Metals**				
Client ID:	**LCSW**	Batch ID:	**39612**	RunNo:	**53284**				
Prep Date:	**8/6/2018**	Analysis Date:	**8/8/2018**	SeqNo:	**1754542**	Units:	**mg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.50	0.020	0.5000	0	99.9	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808248**

22-Aug-18

Client: Andeavor Bloomfield

Project: San Juan River and RCRA Wells

Sample ID	**1808248-001ams**	SampType:	**MS**		TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**Upstream**	Batch ID:	**A53243**		RunNo:	**53243**					
Prep Date:		Analysis Date:	**8/7/2018**		SeqNo:	**1752026**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	0.48	0.050	0.5000	0.03280	89.6	63.4	130				
Surr: BFB	9.6		10.00		95.5	70	130				

Sample ID	**1808248-001amsd**	SampType:	**MSD**		TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**Upstream**	Batch ID:	**A53243**		RunNo:	**53243**					
Prep Date:		Analysis Date:	**8/7/2018**		SeqNo:	**1752027**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	0.47	0.050	0.5000	0.03280	86.7	63.4	130	3.08	20		
Surr: BFB	9.3		10.00		92.9	70	130	0	0		

Sample ID	**2.5ug gro lcs**	SampType:	**LCS**		TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**LCSW**	Batch ID:	**A53243**		RunNo:	**53243**					
Prep Date:		Analysis Date:	**8/6/2018**		SeqNo:	**1752030**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	0.52	0.050	0.5000	0	103	70	130				
Surr: BFB	9.4		10.00		94.4	70	130				

Sample ID	**rb**	SampType:	**MBLK**		TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**PBW**	Batch ID:	**A53243**		RunNo:	**53243**					
Prep Date:		Analysis Date:	**8/6/2018**		SeqNo:	**1752031**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	ND	0.050									
Surr: BFB	10		10.00		104	70	130				

Sample ID	**1808248-004ams**	SampType:	**MS**		TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**Downstream**	Batch ID:	**A53276**		RunNo:	**53276**					
Prep Date:		Analysis Date:	**8/7/2018**		SeqNo:	**1753389**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	0.54	0.050	0.5000	0.01500	104	63.4	130				
Surr: BFB	9.5		10.00		94.6	70	130				

Sample ID	**1808248-004amsd**	SampType:	**MSD**		TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**Downstream**	Batch ID:	**A53276**		RunNo:	**53276**					
Prep Date:		Analysis Date:	**8/7/2018**		SeqNo:	**1753390**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808248**

22-Aug-18

Client: Andeavor Bloomfield

Project: San Juan River and RCRA Wells

Sample ID	**1808248-004amsd**	SampType:	**MSD**		TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**Downstream**	Batch ID:	**A53276**		RunNo:	**53276**					
Prep Date:		Analysis Date:	**8/7/2018**		SeqNo:	**1753390**	Units:	**mg/L**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)		0.50	0.050	0.5000	0.01500	97.3	63.4	130	6.74	20	
Surr: BFB		9.5		10.00		94.6	70	130	0	0	

Sample ID	**2.5UG GRO LCS**	SampType:	**LCS**		TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**LCSW**	Batch ID:	**A53276**		RunNo:	**53276**					
Prep Date:		Analysis Date:	**8/7/2018**		SeqNo:	**1753404**	Units:	**mg/L**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)		0.54	0.050	0.5000	0	109	70	130			
Surr: BFB		9.7		10.00		96.6	70	130			

Sample ID	**rb**	SampType:	**MBLK**		TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**PBW**	Batch ID:	**A53276**		RunNo:	**53276**					
Prep Date:		Analysis Date:	**8/7/2018**		SeqNo:	**1753405**	Units:	**mg/L**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)		ND	0.050								
Surr: BFB		10		10.00		101	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808248**

22-Aug-18

Client: Andeavor Bloomfield

Project: San Juan River and RCRA Wells

Sample ID	**mb-1 alk**	SampType:	**mblk**		TestCode:	**SM2320B: Alkalinity**					
Client ID:	**PBW**	Batch ID:	**R53305**		RunNo:	**53305**					
Prep Date:		Analysis Date:	**8/8/2018**		SeqNo:	**1754671**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Alkalinity (as CaCO3)	ND	20.00									

Sample ID	**lcs-1 alk**	SampType:	**lcs**		TestCode:	**SM2320B: Alkalinity**					
Client ID:	**LCSW**	Batch ID:	**R53305**		RunNo:	**53305**					
Prep Date:		Analysis Date:	**8/8/2018**		SeqNo:	**1754672**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Alkalinity (as CaCO3)	77.72	20.00	80.00	0	97.2	90	110				

Sample ID	**mb-2 alk**	SampType:	**mblk**		TestCode:	**SM2320B: Alkalinity**					
Client ID:	**PBW**	Batch ID:	**R53305**		RunNo:	**53305**					
Prep Date:		Analysis Date:	**8/8/2018**		SeqNo:	**1754695**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Alkalinity (as CaCO3)	ND	20.00									

Sample ID	**lcs-2 alk**	SampType:	**lcs**		TestCode:	**SM2320B: Alkalinity**					
Client ID:	**LCSW**	Batch ID:	**R53305**		RunNo:	**53305**					
Prep Date:		Analysis Date:	**8/8/2018**		SeqNo:	**1754696**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Alkalinity (as CaCO3)	81.16	20.00	80.00	0	101	90	110				

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: ANDEAVOR BLOOMFIEL Work Order Number: 1808248 RcptNo: 1

Received By: **Erin Melendrez** 8/4/2018 10:15:00 AM

Completed By: **Anne Thorne** 8/6/2018 7:41:57 AM

Reviewed By: JAB 08/06/18

Labeled by: 08/06/18 JO

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: 33
(<2 or >12 unless noted)
Adjusted? NO
Checked by: JO 8.6.18

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: ____ Date: ____
By Whom: ____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: ____
Client Instructions: ____

16. Additional remarks:

CUSTODY SEALS INTACT ON ALL SAMPLE BOTTLES/at 8/6/18 Per TP 2 jobs in 1 Rpt 1-11 pgs of COCs AT 08/06/18

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.6	Good	Yes			
2	4.4	Good	Yes			
3	1.1	Good	Yes			

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Sample Log-In Check List

Client Name: ANDEAVOR BLOOMFIEL Work Order Number: 1808248 RcptNo: 1

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
4	0.8	Good	Yes			

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **San Juan River**

Date: **8-2-18**

Project #: **Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: ☒ Yes ☐ No

Sample Temperature: See below

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808248	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals Total	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA) BTEX,MTBE only	8270 (Semi-VOA)	Dissolved Metals	General Chem. - Anions	General Chem. - Alkalinity		Air Bubbles (Y or N)
8/2/18	1445	H_2O	Upstream	40ml VOA-5	HCl	001			X							X						
				250 ml amber-1	Neat	001 002			X													
				250 ml plastic-1	HNO_3	001							X									
				125 ml plastic-1	HNO_3	001												X				
				125 ml plastic-1	H_2SO_4	001													X			
				500 ml plastic-1	Neat	001													X	X		

Date:	Time:	Relinquished by:	Received by:	Date	Time
8/3/18	1700			8/3/18	1700
8/6/18	1810		Courier ENM 8/4/18	8/4/18	1015

Remarks: See Analytical Methods and Target Analytes.
Cooler1: 4.9-0.3(CF)=4.6
Cooler2: 4.7-0.3(CF)=4.4
Cooler3: 1.4-0.3(CF)=1.1
Cooler4: 1.1-0.3(CF)=0.8 ENM 8/4/18

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **San Juan River**

Date: 8-2-18

Project #: **Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**
On Ice: ☒ Yes ☐ No
Sample Temperature: See below

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808248	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals Total	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA) BTEX,MTBE only	8270 (Semi-VOA)	Dissolved Metals	General Chem. - Anions	General Chem. - Alkalinity		Air Bubbles (Y or N)
8/2/18	1545	H_2O	North of MW#45	40ml VOA-5	HCl	002			X							X						
				250 ml amber-1	Neat	002			X													
				250 ml plastic-1	HNO_3	002							X									
				125 ml plastic-1	HNO_3	002												X				
				125 ml plastic-1	H_2SO_4	002													X			
				500 ml plastic-1	Neat	002													X	X		

Date	Time	Relinquished by	Received by	Date	Time
8/3/18	1700		Christine Walls	8/3/18	1700
8/3/18	1810	Christine Walls	Courier 8/4/18 ENM	8/4/18	1015

Remarks: See Analytical Methods and Target Analytes.
Cooler 1: 4.9-0.3(CF)=4.6
Cooler 2: 4.7-0.3(CF)=4.4
Cooler 3: 1.4-0.3(CF)=1.1
Cooler 4: 1.1-0.3(CF)=0.8 ENM 8/4/18

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush

Project Name: **San Juan River**

Date: ___-___-_____

Project #: **Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: ☒ Yes ☐ No

Sample Temperature: see below

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808248	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals Total	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA) BTEX,MTBE only	8270 (Semi-VOA)	Dissolved Metals	General Chem. - Anions	General Chem. - Alkalinity		Air Bubbles (Y or N)
8/2/18	1635	H_2O	North of MW#46	40ml VOA-5	HCl	203			X							X						
				250 ml amber-1	Neat	203			X													
				250 ml plastic-1	HNO_3	203							X									
				125 ml plastic-1	HNO_3	203												X				
				125 ml plastic-1	H_2SO_4	203													X			
				500 ml plastic-1	Neat	203													X	X		

Date	Time	Relinquished by:	Received by:	Date	Time
8/3/18	1700			8/3/18	1700
8/3/18	1810		courier ENH 8/4/18	8/4/18	1015

Remarks: See Analytical Methods and Target Analytes.
Cooler 1: 4.9-0.3(CF)=4.6
Cooler 2: 4.7-0.3(CF)=4.4
Cooler 3: 1.4-0.3(CF)=1.3
Cooler 4: 1.1-0.3(CF)=0.8 ENH 8/4/18

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **San Juan River**

Date: 8-2-18

Project #: **Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: **X** Yes ☐ No

Sample Temperature: See below

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808248	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals Total	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA) BTEX,MTBE only	8270 (Semi-VOA)	Dissolved Metals	General Chem. - Anions	General Chem. - Alkalinity		Air Bubbles (Y or N)
8/2/18	1710	H_2O	Downstream	40ml VOA-5	HCl	-004			X							X						
				250 ml amber-1	Neat	-004			X													
				250 ml plastic-1	HNO_3	-004							X									
				125 ml plastic-1	HNO_3	-004												X				
				125 ml plastic-1	H_2SO_4	-004													X			
				500 ml plastic-1	Neat	-004													X	X		
8/2/18	—	H_2O	TRIP BLANK	3 VOA	HCl	-005										X						

Date:	Time:	Relinquished by:	Received by:	Date	Time
8/3/18	1700			8/3/18	1700
Date:	Time:	Relinquished by:	Received by:	Date	Time
8/3/18	1810		Courier ENM 8/4/18	8/4/18	1015

Remarks: See Analytical Methods and Target Analytes.
Cooler 1: 4.9-0.3(CF)=4.6
Cooler 2: 4.7-0.3(CF)=4.4
Cooler 3: 1.4-0.3(CF)=1.1
Cooler 4: 1.1-0.3(CF)=0.8 ENM 8/4/18

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **RCRA Wells**

Date: ___-___-_____

Project #: **Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**
On Ice: **X** Yes ☐ No
Sample Temperature: See below

HALL ENVIRONMENTAL ANALYSIS LABORATORY
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4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808248	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH (Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals Total	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Dissolved Metals	Gen. Chem. - Anions	Gen. Chem. - Alkalinity&CO 2		Air Bubbles (Y or N)
8/3/18	0830	H_2O	MW-68	40ml VOA-5	HCl	-006			X							X						
				250 ml amber-1	Neat	-006			X													
				250 ml plastic-1	HNO_3	-006							X									
				125 ml plastic-1	HNO_3	-006												X				
				125 ml plastic-1	H_2SO_4	-006													X			
				500 ml plastic-1	Neat	-006													X	X		

Date:	Time:	Relinquished by:	Received by:	Date	Time
8/3/18	1700			8/3/18	1700
8/3/18	1810		Courier ENM 8/4/18	8/4/18	1015

Remarks: See Analytical Methods and Target Analytes.
Cooler 1: 4.9-0.3(CF)=4.6
Cooler 2: 4.7-0.3(CF)=4.4
Cooler 3: 1.4-0.3(CF)=1.1
Cooler 4: 1.1-0.3(CF)=0.8 ENM 8/4/18

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush

Project Name: **RCRA Wells**

Date: ___-___-___

Project #: **Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: ☒ Yes ☐ No

Sample Temperature: See below

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808248	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals Total	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Dissolved Metals	Gen. Chem. - Anions	Gen. Chem. - Alkalinity&CO_2		Air Bubbles (Y or N)
8/3/18	0940	H_2O	MW-51	40ml VOA-5	HCl	001			X							X						
				250 ml amber-1	Neat	001			X													
				1 liter amber-2	Neat	001											X					
				250 ml plastic-1	HNO_3	A-08/6/18 001							X									
				125 ml plastic-1	HNO_3	001												X				
				125 ml plastic-1	H_2SO_4	001													X			
				500 ml plastic-1	Neat	001													X	X		

Date	Time	Relinquished by:	Received by:	Date	Time
8/3/18	1700			8/3/18	1700
8/3/18	1810		Courier EJH 8/4/18	8/4/18	1015

Remarks: See Analytical Methods and Target Analytes.
Cooler 1: 4.9-0.3(CF)=4.6
Cooler 2: 4.7-0.3(CF)=4.4 EJH 8/4/18
Cooler 3: 1.4-0.3(CF)=1.1
Cooler 4: 1.1-0.3(CF)=0.8

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush_____

Project Name: **RCRA Wells**

Date: ___-___-_____

Project #: **Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**
On Ice: ☒ Yes ☐ No
Sample Temperature: See below

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808248	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH (Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals Total	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Dissolved Metals	Gen. Chem. - Anions	Gen. Chem. - Alkalinity&CO_2		Air Bubbles (Y or N)
8/3/18	1115	H_2O	MW-67	40ml VOA-5	HCl	208			X							X						
				250 ml amber-1	Neat	208			X													
				250 ml plastic-1	HNO_3	208							X									
				125 ml plastic-1	HNO_3	208												X				
				125 ml plastic-1	H_2SO_4	208													X			
				500 ml plastic-1	Neat	208													X	X		

Date	Time	Relinquished by:	Received by:	Date	Time
8/3/18	1700			8/3/18	1700
8/3/18	1810		courier 8/4/18 ENM	8/4/18	1015

Remarks: See Analytical Methods and Target Analytes.
Cooler 1: 4.9 - 0.3(CF) = 4.6
Cooler 2: 4.7 - 0.3(CF) = 4.4
Cooler 3: 1.4 - 0.3(CF) = 1.1
Cooler 4: 1.1 - 0.3(CF) = 0.8
ENM 8/4/18

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **RCRA Wells**

Date: ___-___-_____

Project #: **Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**
On Ice: **X** Yes ☐ No
Sample Temperature: See below

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808248	BTEX+MTBE+TMB's (8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals Total	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Dissolved Metals	Gen. Chem. - Anions	Gen. Chem. - Alkalinity&CO_2		Air Bubbles (Y or N)
8/3/18	1230	H_2O	MW-53	40ml VOA-5	HCl	-009			X							X						
				250 ml amber-1	Neat	-009			X													
				250 ml plastic-1	HNO_3	-009							X									
				125 ml plastic-1	HNO_3	-009												X				
				125 ml plastic-1	H_2SO_4	-009													X			
				500 ml plastic-1	Neat	-009													X	X		
8/3/18	—	H_2O	TRIP BLANK	40 mL VOA-3	HCl	-010										X						

Date	Time	Relinquished by:	Received by:	Date	Time
8/3/18	1700			8/3/18	1700
8/3/18	1810		courier 8/4/18 EMM	8/4/18	1015

Remarks: See Analytical Methods and Target Analytes.
cooler 1: 4.9-0.3 (CF) = 4.6
cooler 2: 4.7-0.3 (CF) = 4.4
cooler 3: 1.4-0.3 (CF) = 1.1
cooler 4: 1.1-0.3 (CF) = 0.8
EMM 8/4/18

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush

Project Name: **RCRA Wells**

Date: ___-___-___

Project #: **Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: ☒ Yes ☐ No

Sample Temperature: See below

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808248	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH (Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals Total	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Dissolved Metals	Gen. Chem. - Anions	Gen. Chem. - Alkalinity&CO_2		Air Bubbles (Y or N)
8/3/18	1350	H_2O	MW-59	40ml VOA-5	HCl	-011			X							X						
				250 ml amber-1	Neat	-011			X													
				1 liter amber-1	Neat	-011											X					
				250 ml plastic-1	HNO_3	-011							X									
				125 ml plastic-1	HNO_3	-011												X				
				125 ml plastic-1	H_2SO_4	-011													X			
				500 ml plastic-1	Neat	-011													X	X		

Date	Time	Relinquished by:	Received by:	Date	Time
8/3/18	1700			8/3/18	1700
8/3/18	1810		courier BRING BACK	8/4/18	1015

Remarks: See Analytical Methods and Target Analytes.
cooler 1: 4.9 - 0.3 (CF) = 4.6
cooler 2: 4.7 - 0.3 (CF) = 4.4 EDH $ BILLS
cooler 3: 1.4 - 0.3 (CF) = 1.1
cooler 4: 1.1 - 0.3 (CF) = 0.8

Chain-of-Custody Record

Client: ANDEAVOR- BLOOMFIELD TERMINAL

Mailing Address: 50 CR 4990 BLOOMFIELD NM 87413

Phone #: 915-534-1483

email or Fax#: ALLEN.S.HAINS@ANDEAVOR.COM

QA/QC Package: ☐ Standard ☒ Level 4 (Full Validation)

Accreditation: ☐ NELAP ☐ Other

☒ EDD (Type) EXCEL

Turn-Around Time: ☒ Standard ☐ Rush

Project Name: RCRA WELLS

Project #: ANNUAL EVENT PO # 1262326G

Project Manager: ALLEN HAINS

Sampler: TRACY PAYNE

On Ice: ☒ Yes ☐ No

Sample Temperature: See below

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808248	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals 7074L	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	DISSOLVED METALS	GEN. CHEM. - ANIONS	GEN. CHEM. - ALKALINITY & CO_2	Air Bubbles (Y or N)
8/3/18	1440	H_2O	FIELD BLANK #1	40 mL VOA-5	HCL	012			X							X					
				250 mL AMBER-1	NEAT	012			X												
				1 L AMBER-1	NEAT	012											X				
				250 mL PLASTIC-1	HNO_3	012							X								
				125 mL PLASTIC-1	HNO_3	012												X			
				125 mL PLASTIC-1	H_2SO_4	012													X		
				500 mL PLASTIC-1	NEAT	012													X	X	

Date:	Time:	Relinquished by:	Received by:	Date	Time
8/3/18	1700			8/3/18	1700
8/3/18	1810		Courier ENM 8/4/18	8/4/18	1015

Remarks:
cooler 1: 4.9 - 0.3 (CF) = 4.6
cooler 2: 4.7 - 0.3 (CF) = 4.4
cooler 3: 1.4 - 0.3 (CF) = 1.1
cooler 4: 1.1 - 0.3 (CF) = 0.8

ENM 8/4/18

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: ANDEAVOR - BLOOMFIELD TERMINAL

Mailing Address: 50 CR4990 BLOOMFIELD NM 87413

Phone #: 915-534-1483

email or Fax#: ALLEN.S.HAINS@ANDEAVOR.COM

QA/QC Package: ☐ Standard ☒ Level 4 (Full Validation)

Accreditation: ☐ NELAP ☐ Other ____

☒ EDD (Type) EXCEL

Turn-Around Time: ☒ Standard ☐ Rush ____

Project Name: RCRA WELLS

Project #: ANNUAL EVENT PO# 126023266

Project Manager: ALLEN HAINS

Sampler: TRACY PAYNE

On Ice: ☐ Yes ☐ No

Sample Temperature: ____

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808148	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals TOTAL	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Dissolved Metals	Gen. Chem-Anions	Gen. Chem-Alkalinity	CO_2	Air Bubbles (Y or N)
8/3/18	—	H_2O	DUPLICATE #1	40 mL VOA-5	HCl	013			X							X						
				250 mL AMBER-1	NEAT	013			X													
				1 L AMBER-1	NEAT	013											X					
				250 mL PLASTIC-1	HNO_3	013							X									
				125 mL PLASTIC-1	HNO_3	013												X				
				125 mL PLASTIC-1	H_2SO_4	013													X			
				500 mL PLASTIC-1	NEAT	013													X	X		
8/3/18	—	H_2O	TRIP BLANK	40 mL VOA-3	HCl	014										X						

Date: 8/3/18 Time: 1700 Relinquished by: ____ Received by: Christian Waeta Date Time: 8/3/18 1700

Date: 8/3/18 Time: 1810 Relinquished by: Christian Waeta Received by: Courier ENM 8/14/18 Date Time: 8/14/18 1015

Remarks:
Cooler 1: 4.9-0.3(CF)=4.6
Cooler 2: 4.7-0.3(CF)=4.4
Cooler 3: 1.4-0.3(CF)=1.1
Cooler 4: 1.1-0.3(CF)=0.8

ENM 8/14/18

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

TABLE 2
Analytical Methods and Target Analytes
Facility-Wide Groundwater Monitoring Plan - June 2014
Western Refining Southwest, Inc. - Bloomfield Terminal

VOCs (EPA Method 8260B) [1]
- Target List
Benzene
Toluene
Ethylbenzene
Xylenes
Methyl tert butyl ether (MTBE)
SVOCs - (EPA Method 8270)
- Method List
TPH-GRO (EPA Method 8015B)
- Gasoline Range Organics
TPH-DRO (EPA Method 8015B)
- Diesel Range Organics
- Motor Oil Range Organics
Total Carbon Dioxide (Laboratory Calculated)
- Dissolved CO2
Specific Conductivity (EPA Method 120.1 or field measurement)
- Specific conductance
TDS (EPA Method 160.1 or field measurement)
- Total dissolved solids
General Chemistry - Anions (EPA Method 300.0)
Fluoride
Chloride
Bromide
Nitrogen, Nitrite (as N)
Nitrogen, Nitrate (as N)
Phosphorous, Orthophosphate (As P)
Sulfate
General Chemistry - Alkalinity (EPA Method 310.1)
Alkalinity, Total
Carbonate
Bicarbonate

Total Recoverable Metals (EPA Method 6010B/7470)	
- Target List (not applicable to River Terrace Sampling Events)	
Arsenic	*Lead*
Barium	*Mercury*
Cadmium	*Selenium*
Chromium	*Silver*
- Target List (for River Terrace Sampling Events Only)	
Lead	
Mercury (DW-1 ONLY)	
Dissolved Metals (EPA Method 6010B / 7470)	
- Target List (for Refinery Complex, Outfalls, and River)	
Arsenic	*Manganese*
Barium	*Mercury*
Cadmium	*Potassium*
Calcium	*Selenium*
Chromium	*Silver*
Copper	*Sodium*
Iron	*Uranium*
Lead	*Zinc*
Magnesium	

TPH = total petroleum hydrocarbons
GRO = gasoline range organics
VOCs = volatile organic compounds
DRO = diesel range organics
TDS = total dissolved solids

NOTES:

(1) VOCs Target List for River Terrace samples are analyzed by EPA Method 8021B per NMED's letter Approval with Direction dated June 16, 2009.

(2) Target List for San Juan River Terrace Monitoring Wells and Piezomenter Wells only, per the River Terrace Bioventing System Monitoring Plan.

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

September 13, 2018

Allen Hains

Andeavor Bloomfield
111 CR 4990
Bloomfield, NM 87413
TEL: (915) 534-1483
FAX

RE: Cross Gradient Wells/Down Gradient Wells OrderNo.: 1808322

Dear Allen Hains:

Hall Environmental Analysis Laboratory received 5 sample(s) on 8/7/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-1
Project: Cross Gradient Wells/Down Gradient We
Collection Date: 8/6/2018 7:45:00 AM
Lab ID: 1808322-001
Matrix: AQUEOUS
Received Date: 8/7/2018 7:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE							Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	0.31	0.40		mg/L	1	8/11/2018 2:13:50 AM	39667
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	8/11/2018 2:13:50 AM	39667
Surr: DNOP	95.8	0	76.6-135		%Rec	1	8/11/2018 2:13:50 AM	39667
EPA METHOD 300.0: ANIONS							Analyst: **JRR**	
Fluoride	0.45	0.030	0.10		mg/L	1	8/8/2018 10:18:12 AM	R53321
Chloride	7.5	0.029	0.50		mg/L	1	8/8/2018 10:18:12 AM	R53321
Bromide	ND	0.027	0.10		mg/L	1	8/8/2018 10:18:12 AM	R53321
Phosphorus, Orthophosphate (As P)	ND	0.093	0.50	H	mg/L	1	8/8/2018 10:18:12 AM	R53321
Sulfate	68	4.1	10		mg/L	20	8/8/2018 10:30:36 AM	R53321
Nitrate+Nitrite as N	1.1	0.27	1.0		mg/L	5	8/20/2018 5:45:55 PM	R53575
EPA METHOD 7470: MERCURY							Analyst: **rde**	
Mercury	0.000083	0.000037	0.00020	J	mg/L	1	8/23/2018 6:50:32 PM	39964
EPA METHOD 7470: MERCURY							Analyst: **rde**	
Mercury	0.000076	0.000037	0.00020	JFiltered	mg/L	1	8/23/2018 6:57:24 PM	39964
EPA METHOD 6010B: DISSOLVED METALS							Analyst: **pmf**	
Arsenic	ND	0.020	0.020		mg/L	1	8/27/2018 2:33:47 PM	A53717
Barium	0.036	0.00049	0.020		mg/L	1	8/20/2018 1:34:52 PM	A53550
Cadmium	ND	0.00088	0.0020		mg/L	1	8/20/2018 1:34:52 PM	A53550
Calcium	90	0.031	1.0		mg/L	1	8/20/2018 1:34:52 PM	A53550
Chromium	ND	0.00081	0.0060		mg/L	1	8/20/2018 1:34:52 PM	A53550
Copper	ND	0.0026	0.0060		mg/L	1	8/20/2018 1:34:52 PM	A53550
Iron	0.030	0.010	0.020		mg/L	1	8/20/2018 1:34:52 PM	A53550
Lead	ND	0.0050	0.0050		mg/L	1	8/20/2018 5:06:20 PM	B53550
Magnesium	19	0.011	1.0		mg/L	1	8/20/2018 1:34:52 PM	A53550
Manganese	0.037	0.00015	0.0020		mg/L	1	8/20/2018 1:34:52 PM	A53550
Potassium	1.9	0.075	1.0		mg/L	1	8/20/2018 1:34:52 PM	A53550
Selenium	ND	0.020	0.050		mg/L	1	8/27/2018 2:33:47 PM	A53717
Silver	0.0024	0.0010	0.0050	J	mg/L	1	8/20/2018 1:34:52 PM	A53550
Sodium	57	0.26	1.0		mg/L	1	8/20/2018 1:34:52 PM	A53550
Uranium	ND	0.025	0.10		mg/L	1	8/20/2018 1:34:52 PM	A53550
Zinc	0.15	0.020	0.020		mg/L	1	8/20/2018 1:34:52 PM	A53550
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: **pmf**	
Arsenic	ND	0.011	0.020		mg/L	1	8/13/2018 4:13:24 PM	39664
Barium	0.13	0.020	0.020		mg/L	1	8/13/2018 12:52:53 PM	39664
Cadmium	ND	0.00099	0.0020		mg/L	1	8/13/2018 12:52:53 PM	39664
Chromium	ND	0.0011	0.0060		mg/L	1	8/13/2018 12:52:53 PM	39664
Lead	ND	0.0050	0.0050		mg/L	1	8/13/2018 8:17:58 PM	39664

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-1
Project: Cross Gradient Wells/Down Gradient We
Collection Date: 8/6/2018 7:45:00 AM
Lab ID: 1808322-001 **Matrix:** AQUEOUS **Received Date:** 8/7/2018 7:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: **pmf**	
Selenium	ND	0.024	0.050		mg/L	1	8/13/2018 12:52:53 PM	39664
Silver	ND	0.0018	0.0050		mg/L	1	8/13/2018 12:52:53 PM	39664
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.17	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
Toluene	ND	0.17	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
Ethylbenzene	ND	0.22	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
Methyl tert-butyl ether (MTBE)	ND	0.32	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
1,2,4-Trimethylbenzene	ND	0.25	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
1,3,5-Trimethylbenzene	ND	0.23	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
1,2-Dibromoethane (EDB)	ND	0.23	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
Naphthalene	0.59	0.29	2.0	J	µg/L	1	8/9/2018 3:37:00 PM	R53334
1-Methylnaphthalene	0.51	0.34	4.0	J	µg/L	1	8/9/2018 3:37:00 PM	R53334
2-Methylnaphthalene	0.75	0.24	4.0	J	µg/L	1	8/9/2018 3:37:00 PM	R53334
Acetone	ND	0.79	10		µg/L	1	8/9/2018 3:37:00 PM	R53334
Bromobenzene	ND	0.32	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
Bromodichloromethane	ND	0.28	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
Bromoform	ND	0.32	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
Bromomethane	ND	0.26	3.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
2-Butanone	ND	1.3	10		µg/L	1	8/9/2018 3:37:00 PM	R53334
Carbon disulfide	ND	0.39	10		µg/L	1	8/9/2018 3:37:00 PM	R53334
Carbon Tetrachloride	ND	0.13	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
Chlorobenzene	ND	0.29	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
Chloroethane	ND	0.16	2.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
Chloroform	ND	0.40	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
Chloromethane	ND	0.29	3.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
cis-1,2-DCE	ND	0.38	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
cis-1,3-Dichloropropene	ND	0.30	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
1,2-Dibromo-3-chloropropane	ND	0.47	2.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
Dibromochloromethane	ND	0.24	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
Dibromomethane	ND	0.32	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
1,2-Dichlorobenzene	ND	0.31	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
1,3-Dichlorobenzene	ND	0.31	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
1,1-Dichloroethene	ND	0.12	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-1
Project: Cross Gradient Wells/Down Gradient We
Collection Date: 8/6/2018 7:45:00 AM
Lab ID: 1808322-001 **Matrix:** AQUEOUS **Received Date:** 8/7/2018 7:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dichloropropane	ND	0.15	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
1,3-Dichloropropane	ND	0.27	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
2,2-Dichloropropane	ND	0.18	2.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
2-Hexanone	ND	0.91	10		µg/L	1	8/9/2018 3:37:00 PM	R53334
Isopropylbenzene	ND	0.22	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
4-Isopropyltoluene	ND	0.24	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
4-Methyl-2-pentanone	ND	0.45	10		µg/L	1	8/9/2018 3:37:00 PM	R53334
Methylene Chloride	ND	0.21	3.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
n-Butylbenzene	ND	0.25	3.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
n-Propylbenzene	ND	0.24	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
sec-Butylbenzene	ND	0.20	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
Styrene	ND	0.25	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
tert-Butylbenzene	ND	0.22	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
1,1,1,2-Tetrachloroethane	ND	0.25	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
1,1,2,2-Tetrachloroethane	ND	0.33	2.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
trans-1,3-Dichloropropene	ND	0.28	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
1,2,3-Trichlorobenzene	ND	0.28	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
1,2,4-Trichlorobenzene	ND	0.27	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
1,1,1-Trichloroethane	ND	0.15	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
1,1,2-Trichloroethane	ND	0.23	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
Trichloroethene (TCE)	ND	0.26	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
Trichlorofluoromethane	ND	0.17	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
1,2,3-Trichloropropane	ND	0.57	2.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
Vinyl chloride	ND	0.11	1.0		µg/L	1	8/9/2018 3:37:00 PM	R53334
Xylenes, Total	ND	0.64	1.5		µg/L	1	8/9/2018 3:37:00 PM	R53334
Surr: 1,2-Dichloroethane-d4	105	0	70-130		%Rec	1	8/9/2018 3:37:00 PM	R53334
Surr: 4-Bromofluorobenzene	103	0	70-130		%Rec	1	8/9/2018 3:37:00 PM	R53334
Surr: Dibromofluoromethane	102	0	70-130		%Rec	1	8/9/2018 3:37:00 PM	R53334
Surr: Toluene-d8	93.0	0	70-130		%Rec	1	8/9/2018 3:37:00 PM	R53334
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	0.024	0.0097	0.050	J	mg/L	1	8/16/2018 4:45:36 PM	A53492
Surr: BFB	101	0	70-130		%Rec	1	8/16/2018 4:45:36 PM	A53492
CARBON DIOXIDE							Analyst: **sat**	
Total Carbon Dioxide	320	0	1.0	H	mg CO2/	1	8/8/2018 4:48:17 PM	R53305

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-1
Project: Cross Gradient Wells/Down Gradient We
Collection Date: 8/6/2018 7:45:00 AM
Lab ID: 1808322-001 **Matrix:** AQUEOUS **Received Date:** 8/7/2018 7:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM2320B: ALKALINITY							Analyst: **sat**	
Bicarbonate (As CaCO3)	355.9	20.00	20.00		mg/L Ca	1	8/8/2018 4:48:17 PM	R53305
Carbonate (As CaCO3)	ND	2.000	2.000		mg/L Ca	1	8/8/2018 4:48:17 PM	R53305
Total Alkalinity (as CaCO3)	355.9	20.00	20.00		mg/L Ca	1	8/8/2018 4:48:17 PM	R53305

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Qualifiers:

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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-13
Project: Cross Gradient Wells/Down Gradient We
Collection Date: 8/6/2018 9:10:00 AM
Lab ID: 1808322-002
Matrix: AQUEOUS
Received Date: 8/7/2018 7:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE							Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	0.31	0.40		mg/L	1	8/9/2018 10:23:26 PM	39667
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	8/9/2018 10:23:26 PM	39667
Surr: DNOP	85.1	0	76.6-135		%Rec	1	8/9/2018 10:23:26 PM	39667
EPA METHOD 300.0: ANIONS							Analyst: **JRR**	
Fluoride	ND	0.030	0.10		mg/L	1	8/8/2018 10:43:00 AM	R53321
Chloride	230	0.59	10		mg/L	20	8/8/2018 10:55:25 AM	R53321
Bromide	2.9	0.027	0.10		mg/L	1	8/8/2018 10:43:00 AM	R53321
Phosphorus, Orthophosphate (As P)	ND	0.093	0.50	H	mg/L	1	8/8/2018 10:43:00 AM	R53321
Sulfate	920	4.1	10		mg/L	20	8/8/2018 10:55:25 AM	R53321
Nitrate+Nitrite as N	3.5	0.27	1.0		mg/L	5	8/20/2018 5:58:46 PM	R53575
EPA METHOD 7470: MERCURY							Analyst: **rde**	
Mercury	0.000074	0.000037	0.00020	J	mg/L	1	8/23/2018 7:04:18 PM	39964
EPA METHOD 7470: MERCURY							Analyst: **rde**	
Mercury	0.000052	0.000037	0.00020	JFiltered	mg/L	1	8/23/2018 7:06:37 PM	39964
EPA METHOD 6010B: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	ND	0.020	0.020		mg/L	1	9/7/2018 12:58:16 PM	A54000
Barium	0.022	0.00049	0.020		mg/L	1	8/20/2018 1:36:42 PM	A53550
Cadmium	ND	0.00088	0.0020		mg/L	1	8/20/2018 1:36:42 PM	A53550
Calcium	250	0.15	5.0		mg/L	5	8/20/2018 2:24:15 PM	A53550
Chromium	ND	0.00081	0.0060		mg/L	1	8/20/2018 1:36:42 PM	A53550
Copper	0.0027	0.0026	0.0060	J	mg/L	1	8/20/2018 1:36:42 PM	A53550
Iron	ND	0.010	0.020		mg/L	1	8/20/2018 1:36:42 PM	A53550
Lead	ND	0.0050	0.0050		mg/L	1	8/20/2018 5:08:03 PM	B53550
Magnesium	81	0.011	1.0		mg/L	1	8/20/2018 1:36:42 PM	A53550
Manganese	1.6	0.00074	0.010		mg/L	5	8/20/2018 2:24:15 PM	A53550
Potassium	3.4	0.075	1.0		mg/L	1	8/20/2018 1:36:42 PM	A53550
Selenium	ND	0.10	0.25		mg/L	5	8/20/2018 2:24:15 PM	A53550
Silver	0.0051	0.0010	0.0050		mg/L	1	8/20/2018 1:36:42 PM	A53550
Sodium	570	2.6	10		mg/L	10	9/7/2018 1:00:05 PM	A54000
Uranium	ND	0.025	0.10		mg/L	1	8/20/2018 1:36:42 PM	A53550
Zinc	0.040	0.020	0.020		mg/L	1	8/20/2018 1:36:42 PM	A53550
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: **pmf**	
Arsenic	ND	0.011	0.020		mg/L	1	8/13/2018 4:17:43 PM	39664
Barium	0.028	0.020	0.020		mg/L	1	8/13/2018 1:03:34 PM	39664
Cadmium	ND	0.00099	0.0020		mg/L	1	8/13/2018 1:03:34 PM	39664
Chromium	0.017	0.0011	0.0060		mg/L	1	8/13/2018 1:03:34 PM	39664
Lead	ND	0.0050	0.0050		mg/L	1	8/13/2018 8:22:17 PM	39664

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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-13
Project: Cross Gradient Wells/Down Gradient We
Collection Date: 8/6/2018 9:10:00 AM
Lab ID: 1808322-002
Matrix: AQUEOUS
Received Date: 8/7/2018 7:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: **pmf**	
Selenium	ND	0.024	0.050		mg/L	1	8/13/2018 1:03:34 PM	39664
Silver	0.0079	0.0018	0.0050		mg/L	1	8/13/2018 1:03:34 PM	39664
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.17	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
Toluene	ND	0.17	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
Ethylbenzene	ND	0.22	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
Methyl tert-butyl ether (MTBE)	0.72	0.32	1.0	J	µg/L	1	8/9/2018 4:01:00 PM	R53334
1,2,4-Trimethylbenzene	ND	0.25	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
1,3,5-Trimethylbenzene	ND	0.23	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
1,2-Dibromoethane (EDB)	ND	0.23	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
Naphthalene	ND	0.29	2.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
1-Methylnaphthalene	ND	0.34	4.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
2-Methylnaphthalene	ND	0.24	4.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
Acetone	ND	0.79	10		µg/L	1	8/9/2018 4:01:00 PM	R53334
Bromobenzene	ND	0.32	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
Bromodichloromethane	ND	0.28	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
Bromoform	ND	0.32	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
Bromomethane	ND	0.26	3.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
2-Butanone	ND	1.3	10		µg/L	1	8/9/2018 4:01:00 PM	R53334
Carbon disulfide	ND	0.39	10		µg/L	1	8/9/2018 4:01:00 PM	R53334
Carbon Tetrachloride	ND	0.13	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
Chlorobenzene	ND	0.29	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
Chloroethane	ND	0.16	2.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
Chloroform	ND	0.40	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
Chloromethane	ND	0.29	3.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
cis-1,2-DCE	ND	0.38	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
cis-1,3-Dichloropropene	ND	0.30	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
1,2-Dibromo-3-chloropropane	ND	0.47	2.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
Dibromochloromethane	ND	0.24	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
Dibromomethane	ND	0.32	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
1,2-Dichlorobenzene	ND	0.31	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
1,3-Dichlorobenzene	ND	0.31	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
1,1-Dichloroethene	ND	0.12	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-13
Project: Cross Gradient Wells/Down Gradient We
Collection Date: 8/6/2018 9:10:00 AM
Lab ID: 1808322-002
Matrix: AQUEOUS
Received Date: 8/7/2018 7:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dichloropropane	ND	0.15	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
1,3-Dichloropropane	ND	0.27	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
2,2-Dichloropropane	ND	0.18	2.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
2-Hexanone	ND	0.91	10		µg/L	1	8/9/2018 4:01:00 PM	R53334
Isopropylbenzene	ND	0.22	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
4-Isopropyltoluene	ND	0.24	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
4-Methyl-2-pentanone	ND	0.45	10		µg/L	1	8/9/2018 4:01:00 PM	R53334
Methylene Chloride	ND	0.21	3.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
n-Butylbenzene	ND	0.25	3.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
n-Propylbenzene	ND	0.24	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
sec-Butylbenzene	ND	0.20	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
Styrene	ND	0.25	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
tert-Butylbenzene	ND	0.22	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
1,1,1,2-Tetrachloroethane	ND	0.25	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
1,1,2,2-Tetrachloroethane	ND	0.33	2.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
trans-1,3-Dichloropropene	ND	0.28	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
1,2,3-Trichlorobenzene	ND	0.28	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
1,2,4-Trichlorobenzene	ND	0.27	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
1,1,1-Trichloroethane	ND	0.15	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
1,1,2-Trichloroethane	ND	0.23	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
Trichloroethene (TCE)	ND	0.26	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
Trichlorofluoromethane	ND	0.17	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
1,2,3-Trichloropropane	ND	0.57	2.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
Vinyl chloride	ND	0.11	1.0		µg/L	1	8/9/2018 4:01:00 PM	R53334
Xylenes, Total	ND	0.64	1.5		µg/L	1	8/9/2018 4:01:00 PM	R53334
Surr: 1,2-Dichloroethane-d4	107	0	70-130		%Rec	1	8/9/2018 4:01:00 PM	R53334
Surr: 4-Bromofluorobenzene	104	0	70-130		%Rec	1	8/9/2018 4:01:00 PM	R53334
Surr: Dibromofluoromethane	102	0	70-130		%Rec	1	8/9/2018 4:01:00 PM	R53334
Surr: Toluene-d8	92.1	0	70-130		%Rec	1	8/9/2018 4:01:00 PM	R53334
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	0.033	0.0097	0.050	J	mg/L	1	8/16/2018 5:55:20 PM	A53492
Surr: BFB	103	0	70-130		%Rec	1	8/16/2018 5:55:20 PM	A53492
CARBON DIOXIDE							Analyst: **sat**	
Total Carbon Dioxide	890	0	1.0	H	mg CO2/	1	8/8/2018 5:03:07 PM	R53305

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-13
Project: Cross Gradient Wells/Down Gradient We
Collection Date: 8/6/2018 9:10:00 AM
Lab ID: 1808322-002 **Matrix:** AQUEOUS **Received Date:** 8/7/2018 7:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM2320B: ALKALINITY							Analyst: **sat**	
Bicarbonate (As CaCO3)	954.5	20.00	20.00		mg/L Ca	1	8/8/2018 5:03:07 PM	R53305
Carbonate (As CaCO3)	ND	2.000	2.000		mg/L Ca	1	8/8/2018 5:03:07 PM	R53305
Total Alkalinity (as CaCO3)	954.5	20.00	20.00		mg/L Ca	1	8/8/2018 5:03:07 PM	R53305

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-34
Project: Cross Gradient Wells/Down Gradient We
Collection Date: 8/6/2018 1:45:00 PM
Lab ID: 1808322-003
Matrix: AQUEOUS
Received Date: 8/7/2018 7:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE							Analyst: **lrm**	
Diesel Range Organics (DRO)	0.40	0.31	0.40	J	mg/L	1	8/9/2018 10:45:41 PM	39667
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	8/9/2018 10:45:41 PM	39667
Surr: DNOP	86.7	0	76.6-135		%Rec	1	8/9/2018 10:45:41 PM	39667
EPA METHOD 300.0: ANIONS							Analyst: **JRR**	
Fluoride	0.55	0.15	0.50		mg/L	5	8/8/2018 11:32:39 AM	R53321
Chloride	240	0.59	10		mg/L	20	8/8/2018 11:45:03 AM	R53321
Bromide	3.5	0.13	0.50		mg/L	5	8/8/2018 11:32:39 AM	R53321
Phosphorus, Orthophosphate (As P)	ND	0.46	2.5		mg/L	5	8/8/2018 11:32:39 AM	R53321
Sulfate	30	1.0	2.5		mg/L	5	8/8/2018 11:32:39 AM	R53321
Nitrate+Nitrite as N	ND	0.27	1.0		mg/L	5	8/20/2018 6:11:38 PM	R53575
EPA METHOD 7470: MERCURY							Analyst: **rde**	
Mercury	0.000092	0.000037	0.00020	J	mg/L	1	8/23/2018 7:08:47 PM	39964
EPA METHOD 7470: MERCURY							Analyst: **rde**	
Mercury	0.000079	0.000037	0.00020	JFiltered	mg/L	1	8/23/2018 7:10:58 PM	39964
EPA METHOD 6010B: DISSOLVED METALS							Analyst: **pmf**	
Arsenic	ND	0.020	0.020		mg/L	1	8/27/2018 2:35:49 PM	A53717
Barium	0.38	0.00049	0.020		mg/L	1	8/20/2018 1:38:30 PM	A53550
Cadmium	ND	0.00088	0.0020		mg/L	1	8/20/2018 1:38:30 PM	A53550
Calcium	120	0.15	5.0		mg/L	5	8/20/2018 2:33:28 PM	A53550
Chromium	ND	0.00081	0.0060		mg/L	1	8/20/2018 1:38:30 PM	A53550
Copper	ND	0.0026	0.0060		mg/L	1	8/20/2018 1:38:30 PM	A53550
Iron	3.0	0.051	0.10		mg/L	5	8/20/2018 2:33:28 PM	A53550
Lead	0.0050	0.0050	0.0050		mg/L	1	8/20/2018 5:09:46 PM	B53550
Magnesium	23	0.011	1.0		mg/L	1	8/20/2018 1:38:30 PM	A53550
Manganese	3.8	0.00074	0.010		mg/L	5	8/20/2018 2:33:28 PM	A53550
Potassium	1.2	0.075	1.0		mg/L	1	8/20/2018 1:38:30 PM	A53550
Selenium	ND	0.020	0.050		mg/L	1	8/27/2018 2:35:49 PM	A53717
Silver	0.0027	0.0010	0.0050	J	mg/L	1	8/20/2018 1:38:30 PM	A53550
Sodium	440	1.3	5.0		mg/L	5	8/20/2018 2:33:28 PM	A53550
Uranium	ND	0.025	0.10		mg/L	1	8/20/2018 1:38:30 PM	A53550
Zinc	0.046	0.020	0.020		mg/L	1	8/20/2018 1:38:30 PM	A53550
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: **pmf**	
Arsenic	0.015	0.011	0.020	J	mg/L	1	8/13/2018 4:19:09 PM	39664
Barium	0.42	0.020	0.020		mg/L	1	8/13/2018 1:05:16 PM	39664
Cadmium	ND	0.00099	0.0020		mg/L	1	8/13/2018 1:05:16 PM	39664
Chromium	ND	0.0011	0.0060		mg/L	1	8/13/2018 1:05:16 PM	39664
Lead	ND	0.0050	0.0050		mg/L	1	8/13/2018 1:05:16 PM	39664

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-34
Project: Cross Gradient Wells/Down Gradient We
Collection Date: 8/6/2018 1:45:00 PM
Lab ID: 1808322-003
Matrix: AQUEOUS
Received Date: 8/7/2018 7:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: **pmf**	
Selenium	ND	0.024	0.050		mg/L	1	8/13/2018 1:05:16 PM	39664
Silver	0.0035	0.0018	0.0050	J	mg/L	1	8/13/2018 1:05:16 PM	39664
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.17	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
Toluene	ND	0.17	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
Ethylbenzene	ND	0.22	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
Methyl tert-butyl ether (MTBE)	0.57	0.32	1.0	J	µg/L	1	8/9/2018 4:26:00 PM	R53334
1,2,4-Trimethylbenzene	ND	0.25	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
1,3,5-Trimethylbenzene	ND	0.23	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
1,2-Dibromoethane (EDB)	ND	0.23	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
Naphthalene	ND	0.29	2.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
1-Methylnaphthalene	ND	0.34	4.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
2-Methylnaphthalene	0.28	0.24	4.0	J	µg/L	1	8/9/2018 4:26:00 PM	R53334
Acetone	8.0	0.79	10	J	µg/L	1	8/9/2018 4:26:00 PM	R53334
Bromobenzene	ND	0.32	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
Bromodichloromethane	ND	0.28	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
Bromoform	ND	0.32	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
Bromomethane	ND	0.26	3.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
2-Butanone	ND	1.3	10		µg/L	1	8/9/2018 4:26:00 PM	R53334
Carbon disulfide	ND	0.39	10		µg/L	1	8/9/2018 4:26:00 PM	R53334
Carbon Tetrachloride	ND	0.13	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
Chlorobenzene	ND	0.29	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
Chloroethane	ND	0.16	2.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
Chloroform	ND	0.40	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
Chloromethane	ND	0.29	3.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
cis-1,2-DCE	ND	0.38	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
cis-1,3-Dichloropropene	ND	0.30	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
1,2-Dibromo-3-chloropropane	ND	0.47	2.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
Dibromochloromethane	ND	0.24	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
Dibromomethane	ND	0.32	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
1,2-Dichlorobenzene	ND	0.31	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
1,3-Dichlorobenzene	ND	0.31	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
1,1-Dichloroethene	ND	0.12	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-34
Project: Cross Gradient Wells/Down Gradient We
Collection Date: 8/6/2018 1:45:00 PM
Lab ID: 1808322-003
Matrix: AQUEOUS
Received Date: 8/7/2018 7:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dichloropropane	ND	0.15	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
1,3-Dichloropropane	ND	0.27	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
2,2-Dichloropropane	ND	0.18	2.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
2-Hexanone	ND	0.91	10		µg/L	1	8/9/2018 4:26:00 PM	R53334
Isopropylbenzene	ND	0.22	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
4-Isopropyltoluene	ND	0.24	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
4-Methyl-2-pentanone	ND	0.45	10		µg/L	1	8/9/2018 4:26:00 PM	R53334
Methylene Chloride	ND	0.21	3.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
n-Butylbenzene	ND	0.25	3.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
n-Propylbenzene	ND	0.24	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
sec-Butylbenzene	0.40	0.20	1.0	J	µg/L	1	8/9/2018 4:26:00 PM	R53334
Styrene	ND	0.25	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
tert-Butylbenzene	1.7	0.22	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
1,1,1,2-Tetrachloroethane	ND	0.25	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
1,1,2,2-Tetrachloroethane	ND	0.33	2.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
trans-1,3-Dichloropropene	ND	0.28	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
1,2,3-Trichlorobenzene	ND	0.28	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
1,2,4-Trichlorobenzene	ND	0.27	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
1,1,1-Trichloroethane	ND	0.15	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
1,1,2-Trichloroethane	ND	0.23	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
Trichloroethene (TCE)	ND	0.26	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
Trichlorofluoromethane	ND	0.17	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
1,2,3-Trichloropropane	ND	0.57	2.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
Vinyl chloride	ND	0.11	1.0		µg/L	1	8/9/2018 4:26:00 PM	R53334
Xylenes, Total	ND	0.64	1.5		µg/L	1	8/9/2018 4:26:00 PM	R53334
Surr: 1,2-Dichloroethane-d4	107	0	70-130		%Rec	1	8/9/2018 4:26:00 PM	R53334
Surr: 4-Bromofluorobenzene	96.3	0	70-130		%Rec	1	8/9/2018 4:26:00 PM	R53334
Surr: Dibromofluoromethane	102	0	70-130		%Rec	1	8/9/2018 4:26:00 PM	R53334
Surr: Toluene-d8	91.0	0	70-130		%Rec	1	8/9/2018 4:26:00 PM	R53334
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	1.2	0.0097	0.050		mg/L	1	8/16/2018 6:18:37 PM	A53492
Surr: BFB	112	0	70-130		%Rec	1	8/16/2018 6:18:37 PM	A53492
CARBON DIOXIDE							Analyst: **JRR**	
Total Carbon Dioxide	870	0	2.5	H	mg CO2/	2.5	8/16/2018 1:16:36 AM	R53469

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-34
Project: Cross Gradient Wells/Down Gradient We
Collection Date: 8/6/2018 1:45:00 PM
Lab ID: 1808322-003
Matrix: AQUEOUS
Received Date: 8/7/2018 7:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM2320B: ALKALINITY							Analyst: **JRR**	
Bicarbonate (As CaCO3)	970.0	50.00	50.00		mg/L Ca	2.5	8/16/2018 1:16:36 AM	R53469
Carbonate (As CaCO3)	ND	5.000	5.000		mg/L Ca	2.5	8/16/2018 1:16:36 AM	R53469
Total Alkalinity (as CaCO3)	970.0	50.00	50.00		mg/L Ca	2.5	8/16/2018 1:16:36 AM	R53469

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-11
Project: Cross Gradient Wells/Down Gradient We
Collection Date: 8/6/2018 3:00:00 PM
Lab ID: 1808322-004
Matrix: AQUEOUS
Received Date: 8/7/2018 7:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE							Analyst: **lrm**	
Diesel Range Organics (DRO)	0.45	0.31	0.40		mg/L	1	8/9/2018 11:07:52 PM	39667
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	8/9/2018 11:07:52 PM	39667
Surr: DNOP	86.3	0	76.6-135		%Rec	1	8/9/2018 11:07:52 PM	39667
EPA METHOD 300.0: ANIONS							Analyst: **JRR**	
Fluoride	0.28	0.15	0.50	J	mg/L	5	8/8/2018 11:57:28 AM	R53321
Chloride	220	0.59	10		mg/L	20	8/8/2018 12:09:53 PM	R53321
Bromide	3.5	0.13	0.50		mg/L	5	8/8/2018 11:57:28 AM	R53321
Phosphorus, Orthophosphate (As P)	ND	0.46	2.5		mg/L	5	8/8/2018 11:57:28 AM	R53321
Sulfate	2.2	1.0	2.5	J	mg/L	5	8/8/2018 11:57:28 AM	R53321
Nitrate+Nitrite as N	ND	0.27	1.0		mg/L	5	8/20/2018 7:03:04 PM	A53575
EPA METHOD 7470: MERCURY							Analyst: **rde**	
Mercury	0.000087	0.000037	0.00020	J	mg/L	1	8/23/2018 7:13:10 PM	39964
EPA METHOD 7470: MERCURY							Analyst: **rde**	
Mercury	0.000078	0.000037	0.00020	JFiltered	mg/L	1	8/23/2018 7:15:23 PM	39964
EPA METHOD 6010B: DISSOLVED METALS							Analyst: **pmf**	
Arsenic	0.021	0.020	0.020		mg/L	1	8/27/2018 2:37:24 PM	A53717
Barium	0.74	0.00049	0.020		mg/L	1	8/20/2018 1:40:11 PM	A53550
Cadmium	ND	0.00088	0.0020		mg/L	1	8/20/2018 1:40:11 PM	A53550
Calcium	120	0.15	5.0		mg/L	5	8/20/2018 2:35:21 PM	A53550
Chromium	ND	0.00081	0.0060		mg/L	1	8/20/2018 1:40:11 PM	A53550
Copper	ND	0.0026	0.0060		mg/L	1	8/20/2018 1:40:11 PM	A53550
Iron	1.9	0.051	0.10		mg/L	5	8/20/2018 2:35:21 PM	A53550
Lead	ND	0.0050	0.0050		mg/L	1	8/20/2018 5:11:20 PM	B53550
Magnesium	27	0.011	1.0		mg/L	1	8/20/2018 1:40:11 PM	A53550
Manganese	2.0	0.00074	0.010		mg/L	5	8/20/2018 2:35:21 PM	A53550
Potassium	1.8	0.075	1.0		mg/L	1	8/20/2018 1:40:11 PM	A53550
Selenium	ND	0.020	0.050		mg/L	1	8/27/2018 2:37:24 PM	A53717
Silver	0.0031	0.0010	0.0050	J	mg/L	1	8/20/2018 1:40:11 PM	A53550
Sodium	440	1.3	5.0		mg/L	5	8/20/2018 2:35:21 PM	A53550
Uranium	ND	0.025	0.10		mg/L	1	8/20/2018 1:40:11 PM	A53550
Zinc	ND	0.020	0.020		mg/L	1	8/20/2018 1:40:11 PM	A53550
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: **pmf**	
Arsenic	ND	0.011	0.020		mg/L	1	8/13/2018 4:24:57 PM	39664
Barium	0.77	0.020	0.020		mg/L	1	8/13/2018 1:06:56 PM	39664
Cadmium	ND	0.00099	0.0020		mg/L	1	8/13/2018 1:06:56 PM	39664
Chromium	ND	0.0011	0.0060		mg/L	1	8/13/2018 1:06:56 PM	39664
Lead	ND	0.0050	0.0050		mg/L	1	8/13/2018 8:25:09 PM	39664

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-11
Project: Cross Gradient Wells/Down Gradient We
Collection Date: 8/6/2018 3:00:00 PM
Lab ID: 1808322-004 **Matrix:** AQUEOUS **Received Date:** 8/7/2018 7:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: **pmf**	
Selenium	ND	0.024	0.050		mg/L	1	8/13/2018 1:06:56 PM	39664
Silver	0.0040	0.0018	0.0050	J	mg/L	1	8/13/2018 1:06:56 PM	39664
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Acenaphthene	ND	29	50		µg/L	1	8/13/2018 11:51:09 PM	39686
Acenaphthylene	ND	31	50		µg/L	1	8/13/2018 11:51:09 PM	39686
Aniline	ND	31	50		µg/L	1	8/13/2018 11:51:09 PM	39686
Anthracene	ND	29	50		µg/L	1	8/13/2018 11:51:09 PM	39686
Azobenzene	ND	34	50		µg/L	1	8/13/2018 11:51:09 PM	39686
Benz(a)anthracene	ND	26	50		µg/L	1	8/13/2018 11:51:09 PM	39686
Benzo(a)pyrene	ND	30	50		µg/L	1	8/13/2018 11:51:09 PM	39686
Benzo(b)fluoranthene	ND	36	50		µg/L	1	8/13/2018 11:51:09 PM	39686
Benzo(g,h,i)perylene	ND	28	50		µg/L	1	8/13/2018 11:51:09 PM	39686
Benzo(k)fluoranthene	ND	32	50		µg/L	1	8/13/2018 11:51:09 PM	39686
Benzoic acid	ND	32	100		µg/L	1	8/13/2018 11:51:09 PM	39686
Benzyl alcohol	ND	31	50		µg/L	1	8/13/2018 11:51:09 PM	39686
Bis(2-chloroethoxy)methane	ND	31	50		µg/L	1	8/13/2018 11:51:09 PM	39686
Bis(2-chloroethyl)ether	ND	32	50		µg/L	1	8/13/2018 11:51:09 PM	39686
Bis(2-chloroisopropyl)ether	ND	24	50		µg/L	1	8/13/2018 11:51:09 PM	39686
Bis(2-ethylhexyl)phthalate	ND	40	50		µg/L	1	8/13/2018 11:51:09 PM	39686
4-Bromophenyl phenyl ether	ND	35	50		µg/L	1	8/13/2018 11:51:09 PM	39686
Butyl benzyl phthalate	ND	32	50		µg/L	1	8/13/2018 11:51:09 PM	39686
Carbazole	ND	31	50		µg/L	1	8/13/2018 11:51:09 PM	39686
4-Chloro-3-methylphenol	ND	28	50		µg/L	1	8/13/2018 11:51:09 PM	39686
4-Chloroaniline	ND	30	50		µg/L	1	8/13/2018 11:51:09 PM	39686
2-Chloronaphthalene	ND	30	50		µg/L	1	8/13/2018 11:51:09 PM	39686
2-Chlorophenol	ND	29	50		µg/L	1	8/13/2018 11:51:09 PM	39686
4-Chlorophenyl phenyl ether	ND	36	50		µg/L	1	8/13/2018 11:51:09 PM	39686
Chrysene	ND	34	50		µg/L	1	8/13/2018 11:51:09 PM	39686
Di-n-butyl phthalate	ND	34	50		µg/L	1	8/13/2018 11:51:09 PM	39686
Di-n-octyl phthalate	ND	31	50		µg/L	1	8/13/2018 11:51:09 PM	39686
Dibenz(a,h)anthracene	ND	28	50		µg/L	1	8/13/2018 11:51:09 PM	39686
Dibenzofuran	ND	34	50		µg/L	1	8/13/2018 11:51:09 PM	39686
1,2-Dichlorobenzene	ND	30	50		µg/L	1	8/13/2018 11:51:09 PM	39686
1,3-Dichlorobenzene	ND	29	50		µg/L	1	8/13/2018 11:51:09 PM	39686
1,4-Dichlorobenzene	ND	29	50		µg/L	1	8/13/2018 11:51:09 PM	39686
3,3´-Dichlorobenzidine	ND	34	50		µg/L	1	8/13/2018 11:51:09 PM	39686
Diethyl phthalate	ND	31	50		µg/L	1	8/13/2018 11:51:09 PM	39686
Dimethyl phthalate	ND	30	50		µg/L	1	8/13/2018 11:51:09 PM	39686
2,4-Dichlorophenol	ND	29	100		µg/L	1	8/13/2018 11:51:09 PM	39686

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-11
Project: Cross Gradient Wells/Down Gradient We
Collection Date: 8/6/2018 3:00:00 PM
Lab ID: 1808322-004
Matrix: AQUEOUS
Received Date: 8/7/2018 7:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
2,4-Dimethylphenol	ND	30	50		µg/L	1	8/13/2018 11:51:09 PM	39686
4,6-Dinitro-2-methylphenol	ND	27	100		µg/L	1	8/13/2018 11:51:09 PM	39686
2,4-Dinitrophenol	ND	19	100		µg/L	1	8/13/2018 11:51:09 PM	39686
2,4-Dinitrotoluene	ND	29	50		µg/L	1	8/13/2018 11:51:09 PM	39686
2,6-Dinitrotoluene	ND	30	50		µg/L	1	8/13/2018 11:51:09 PM	39686
Fluoranthene	ND	29	50		µg/L	1	8/13/2018 11:51:09 PM	39686
Fluorene	ND	32	50		µg/L	1	8/13/2018 11:51:09 PM	39686
Hexachlorobenzene	ND	31	50		µg/L	1	8/13/2018 11:51:09 PM	39686
Hexachlorobutadiene	ND	32	50		µg/L	1	8/13/2018 11:51:09 PM	39686
Hexachlorocyclopentadiene	ND	20	50		µg/L	1	8/13/2018 11:51:09 PM	39686
Hexachloroethane	ND	30	50		µg/L	1	8/13/2018 11:51:09 PM	39686
Indeno(1,2,3-cd)pyrene	ND	35	50		µg/L	1	8/13/2018 11:51:09 PM	39686
Isophorone	ND	31	50		µg/L	1	8/13/2018 11:51:09 PM	39686
1-Methylnaphthalene	ND	35	50		µg/L	1	8/13/2018 11:51:09 PM	39686
2-Methylnaphthalene	ND	32	50		µg/L	1	8/13/2018 11:51:09 PM	39686
2-Methylphenol	ND	32	50		µg/L	1	8/13/2018 11:51:09 PM	39686
3+4-Methylphenol	ND	27	50		µg/L	1	8/13/2018 11:51:09 PM	39686
N-Nitrosodi-n-propylamine	ND	31	50		µg/L	1	8/13/2018 11:51:09 PM	39686
N-Nitrosodimethylamine	ND	34	50		µg/L	1	8/13/2018 11:51:09 PM	39686
N-Nitrosodiphenylamine	ND	33	50		µg/L	1	8/13/2018 11:51:09 PM	39686
Naphthalene	61	25	50		µg/L	1	8/13/2018 11:51:09 PM	39686
2-Nitroaniline	ND	29	50		µg/L	1	8/13/2018 11:51:09 PM	39686
3-Nitroaniline	ND	34	50		µg/L	1	8/13/2018 11:51:09 PM	39686
4-Nitroaniline	ND	30	50		µg/L	1	8/13/2018 11:51:09 PM	39686
Nitrobenzene	ND	30	50		µg/L	1	8/13/2018 11:51:09 PM	39686
2-Nitrophenol	ND	30	50		µg/L	1	8/13/2018 11:51:09 PM	39686
4-Nitrophenol	ND	28	50		µg/L	1	8/13/2018 11:51:09 PM	39686
Pentachlorophenol	ND	26	100		µg/L	1	8/13/2018 11:51:09 PM	39686
Phenanthrene	ND	30	50		µg/L	1	8/13/2018 11:51:09 PM	39686
Phenol	ND	30	50		µg/L	1	8/13/2018 11:51:09 PM	39686
Pyrene	ND	33	50		µg/L	1	8/13/2018 11:51:09 PM	39686
Pyridine	ND	27	50		µg/L	1	8/13/2018 11:51:09 PM	39686
1,2,4-Trichlorobenzene	ND	32	50		µg/L	1	8/13/2018 11:51:09 PM	39686
2,4,5-Trichlorophenol	ND	29	50		µg/L	1	8/13/2018 11:51:09 PM	39686
2,4,6-Trichlorophenol	ND	32	50		µg/L	1	8/13/2018 11:51:09 PM	39686
Surr: 2-Fluorophenol	49.2	0	15-74.1		%Rec	1	8/13/2018 11:51:09 PM	39686
Surr: Phenol-d5	39.2	0	15-59.8		%Rec	1	8/13/2018 11:51:09 PM	39686
Surr: 2,4,6-Tribromophenol	65.1	0	22.1-112		%Rec	1	8/13/2018 11:51:09 PM	39686
Surr: Nitrobenzene-d5	70.2	0	33.2-94		%Rec	1	8/13/2018 11:51:09 PM	39686

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Client Sample ID: MW-11
Project: Cross Gradient Wells/Down Gradient We
Collection Date: 8/6/2018 3:00:00 PM
Lab ID: 1808322-004 **Matrix:** AQUEOUS **Received Date:** 8/7/2018 7:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Surr: 2-Fluorobiphenyl	64.1	0	34-90.9		%Rec	1	8/13/2018 11:51:09 PM	39686
Surr: 4-Terphenyl-d14	75.8	0	15-149		%Rec	1	8/13/2018 11:51:09 PM	39686
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	66	0.17	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
Toluene	ND	0.17	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
Ethylbenzene	0.68	0.22	1.0	J	µg/L	1	8/9/2018 4:51:00 PM	R53334
Methyl tert-butyl ether (MTBE)	1.3	0.32	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
1,2,4-Trimethylbenzene	67	2.5	10		µg/L	10	8/10/2018 1:19:00 PM	R53350
1,3,5-Trimethylbenzene	ND	0.23	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
1,2-Dibromoethane (EDB)	ND	0.23	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
Naphthalene	98	0.29	2.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
1-Methylnaphthalene	15	0.34	4.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
2-Methylnaphthalene	25	0.24	4.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
Acetone	10	0.79	10		µg/L	1	8/9/2018 4:51:00 PM	R53334
Bromobenzene	ND	0.32	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
Bromodichloromethane	ND	0.28	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
Bromoform	ND	0.32	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
Bromomethane	ND	0.26	3.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
2-Butanone	ND	1.3	10		µg/L	1	8/9/2018 4:51:00 PM	R53334
Carbon disulfide	ND	0.39	10		µg/L	1	8/9/2018 4:51:00 PM	R53334
Carbon Tetrachloride	ND	0.13	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
Chlorobenzene	ND	0.29	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
Chloroethane	ND	0.16	2.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
Chloroform	ND	0.40	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
Chloromethane	ND	0.29	3.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
cis-1,2-DCE	ND	0.38	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
cis-1,3-Dichloropropene	ND	0.30	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
1,2-Dibromo-3-chloropropane	ND	0.47	2.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
Dibromochloromethane	ND	0.24	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
Dibromomethane	ND	0.32	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
1,2-Dichlorobenzene	ND	0.31	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
1,3-Dichlorobenzene	ND	0.31	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
1,1-Dichloroethene	ND	0.12	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334

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Project: Cross Gradient Wells/Down Gradient We
Collection Date: 8/6/2018 3:00:00 PM
Lab ID: 1808322-004
Matrix: AQUEOUS
Received Date: 8/7/2018 7:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dichloropropane	ND	0.15	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
1,3-Dichloropropane	ND	0.27	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
2,2-Dichloropropane	ND	0.18	2.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
2-Hexanone	ND	0.91	10		µg/L	1	8/9/2018 4:51:00 PM	R53334
Isopropylbenzene	63	0.22	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
4-Isopropyltoluene	1.9	0.24	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
4-Methyl-2-pentanone	ND	0.45	10		µg/L	1	8/9/2018 4:51:00 PM	R53334
Methylene Chloride	ND	0.21	3.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
n-Butylbenzene	2.1	0.25	3.0	J	µg/L	1	8/9/2018 4:51:00 PM	R53334
n-Propylbenzene	70	0.24	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
sec-Butylbenzene	9.1	0.20	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
Styrene	ND	0.25	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
tert-Butylbenzene	2.0	0.22	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
1,1,1,2-Tetrachloroethane	ND	0.25	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
1,1,2,2-Tetrachloroethane	ND	0.33	2.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
trans-1,3-Dichloropropene	ND	0.28	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
1,2,3-Trichlorobenzene	ND	0.28	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
1,2,4-Trichlorobenzene	ND	0.27	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
1,1,1-Trichloroethane	ND	0.15	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
1,1,2-Trichloroethane	ND	0.23	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
Trichloroethene (TCE)	ND	0.26	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
Trichlorofluoromethane	ND	0.17	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
1,2,3-Trichloropropane	ND	0.57	2.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
Vinyl chloride	ND	0.11	1.0		µg/L	1	8/9/2018 4:51:00 PM	R53334
Xylenes, Total	ND	0.64	1.5		µg/L	1	8/9/2018 4:51:00 PM	R53334
Surr: 1,2-Dichloroethane-d4	104	0	70-130		%Rec	1	8/9/2018 4:51:00 PM	R53334
Surr: 4-Bromofluorobenzene	101	0	70-130		%Rec	1	8/9/2018 4:51:00 PM	R53334
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	8/9/2018 4:51:00 PM	R53334
Surr: Toluene-d8	96.2	0	70-130		%Rec	1	8/9/2018 4:51:00 PM	R53334
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	1.3	0.0097	0.050		mg/L	1	8/16/2018 6:41:58 PM	A53492
Surr: BFB	97.7	0	70-130		%Rec	1	8/16/2018 6:41:58 PM	A53492
CARBON DIOXIDE							Analyst: **JRR**	
Total Carbon Dioxide	900	0	2.5	H	mg CO2/	2.5	8/16/2018 1:32:11 AM	R53469

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-11
Project: Cross Gradient Wells/Down Gradient We
Collection Date: 8/6/2018 3:00:00 PM
Lab ID: 1808322-004 **Matrix:** AQUEOUS **Received Date:** 8/7/2018 7:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM2320B: ALKALINITY							Analyst: **JRR**	
Bicarbonate (As CaCO3)	1006	50.00	50.00		mg/L Ca	2.5	8/16/2018 1:32:11 AM	R53469
Carbonate (As CaCO3)	ND	5.000	5.000		mg/L Ca	2.5	8/16/2018 1:32:11 AM	R53469
Total Alkalinity (as CaCO3)	1006	50.00	50.00		mg/L Ca	2.5	8/16/2018 1:32:11 AM	R53469

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: Trip Blank
Project: Cross Gradient Wells/Down Gradient We
Collection Date:
Lab ID: 1808322-005
Matrix: AQUEOUS
Received Date: 8/7/2018 7:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.17	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
Toluene	ND	0.17	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
Ethylbenzene	ND	0.22	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
Methyl tert-butyl ether (MTBE)	ND	0.32	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
1,2,4-Trimethylbenzene	ND	0.25	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
1,3,5-Trimethylbenzene	ND	0.23	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
1,2-Dibromoethane (EDB)	ND	0.23	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
Naphthalene	1.2	0.29	2.0	J	µg/L	1	8/9/2018 5:15:00 PM	R53334
1-Methylnaphthalene	0.42	0.34	4.0	J	µg/L	1	8/9/2018 5:15:00 PM	R53334
2-Methylnaphthalene	0.63	0.24	4.0	J	µg/L	1	8/9/2018 5:15:00 PM	R53334
Acetone	ND	0.79	10		µg/L	1	8/9/2018 5:15:00 PM	R53334
Bromobenzene	ND	0.32	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
Bromodichloromethane	ND	0.28	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
Bromoform	ND	0.32	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
Bromomethane	ND	0.26	3.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
2-Butanone	ND	1.3	10		µg/L	1	8/9/2018 5:15:00 PM	R53334
Carbon disulfide	ND	0.39	10		µg/L	1	8/9/2018 5:15:00 PM	R53334
Carbon Tetrachloride	ND	0.13	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
Chlorobenzene	ND	0.29	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
Chloroethane	ND	0.16	2.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
Chloroform	ND	0.40	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
Chloromethane	ND	0.29	3.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
cis-1,2-DCE	ND	0.38	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
cis-1,3-Dichloropropene	ND	0.30	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
1,2-Dibromo-3-chloropropane	ND	0.47	2.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
Dibromochloromethane	ND	0.24	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
Dibromomethane	ND	0.32	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
1,2-Dichlorobenzene	ND	0.31	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
1,3-Dichlorobenzene	ND	0.31	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
1,1-Dichloroethene	ND	0.12	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
1,2-Dichloropropane	ND	0.15	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
1,3-Dichloropropane	ND	0.27	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
2,2-Dichloropropane	ND	0.18	2.0		µg/L	1	8/9/2018 5:15:00 PM	R53334

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: Trip Blank
Project: Cross Gradient Wells/Down Gradient We
Collection Date:
Lab ID: 1808322-005
Matrix: AQUEOUS
Received Date: 8/7/2018 7:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
2-Hexanone	ND	0.91	10		µg/L	1	8/9/2018 5:15:00 PM	R53334
Isopropylbenzene	ND	0.22	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
4-Isopropyltoluene	ND	0.24	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
4-Methyl-2-pentanone	ND	0.45	10		µg/L	1	8/9/2018 5:15:00 PM	R53334
Methylene Chloride	ND	0.21	3.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
n-Butylbenzene	ND	0.25	3.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
n-Propylbenzene	ND	0.24	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
sec-Butylbenzene	ND	0.20	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
Styrene	ND	0.25	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
tert-Butylbenzene	ND	0.22	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
1,1,1,2-Tetrachloroethane	ND	0.25	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
1,1,2,2-Tetrachloroethane	ND	0.33	2.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
trans-1,3-Dichloropropene	ND	0.28	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
1,2,3-Trichlorobenzene	ND	0.28	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
1,2,4-Trichlorobenzene	ND	0.27	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
1,1,1-Trichloroethane	ND	0.15	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
1,1,2-Trichloroethane	ND	0.23	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
Trichloroethene (TCE)	ND	0.26	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
Trichlorofluoromethane	ND	0.17	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
1,2,3-Trichloropropane	ND	0.57	2.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
Vinyl chloride	ND	0.11	1.0		µg/L	1	8/9/2018 5:15:00 PM	R53334
Xylenes, Total	ND	0.64	1.5		µg/L	1	8/9/2018 5:15:00 PM	R53334
Surr: 1,2-Dichloroethane-d4	101	0	70-130		%Rec	1	8/9/2018 5:15:00 PM	R53334
Surr: 4-Bromofluorobenzene	103	0	70-130		%Rec	1	8/9/2018 5:15:00 PM	R53334
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	8/9/2018 5:15:00 PM	R53334
Surr: Toluene-d8	93.4	0	70-130		%Rec	1	8/9/2018 5:15:00 PM	R53334
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	0.026	0.0097	0.050	J	mg/L	1	8/16/2018 4:22:15 PM	A53492
Surr: BFB	104	0	70-130		%Rec	1	8/16/2018 4:22:15 PM	A53492

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808322**

13-Sep-18

Client: Andeavor Bloomfield

Project: Cross Gradient Wells/Down Gradient Wells

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R53321**	RunNo: **53321**
Prep Date:	Analysis Date: **8/8/2018**	SeqNo: **1755517** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R53321**	RunNo: **53321**
Prep Date:	Analysis Date: **8/8/2018**	SeqNo: **1755518** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.53	0.10	0.5000	0	106	90	110			
Chloride	4.7	0.50	5.000	0	93.8	90	110			
Bromide	2.4	0.10	2.500	0	95.8	90	110			
Phosphorus, Orthophosphate (As P	4.7	0.50	5.000	0	93.6	90	110			
Sulfate	9.2	0.50	10.00	0	92.3	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R53575**	RunNo: **53575**
Prep Date:	Analysis Date: **8/20/2018**	SeqNo: **1766164** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R53575**	RunNo: **53575**
Prep Date:	Analysis Date: **8/20/2018**	SeqNo: **1766165** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.3	0.20	3.500	0	93.2	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **A53575**	RunNo: **53575**
Prep Date:	Analysis Date: **8/20/2018**	SeqNo: **1766204** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	ND	0.20								

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808322**

13-Sep-18

Client: Andeavor Bloomfield

Project: Cross Gradient Wells/Down Gradient Wells

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **A53575**	RunNo: **53575**
Prep Date:	Analysis Date: **8/20/2018**	SeqNo: **1766205** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.3	0.20	3.500	0	95.3	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808322**

13-Sep-18

Client: Andeavor Bloomfield

Project: Cross Gradient Wells/Down Gradient Wells

Sample ID **MB-39667**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Diesel Range**
Client ID: **PBW**	Batch ID: **39667**	RunNo: **53283**
Prep Date: **8/8/2018**	Analysis Date: **8/9/2018**	SeqNo: **1756124** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	0.40								
Motor Oil Range Organics (MRO)	ND	2.5								
Surr: DNOP	0.39		0.5000		78.8	76.6	135			

Sample ID **LCS-39667**	SampType: **LCS**	TestCode: **EPA Method 8015D: Diesel Range**
Client ID: **LCSW**	Batch ID: **39667**	RunNo: **53283**
Prep Date: **8/8/2018**	Analysis Date: **8/9/2018**	SeqNo: **1756125** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	2.3	0.40	2.500	0	93.3	76.5	158			
Surr: DNOP	0.16		0.2500		66.0	76.6	135			S

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808322**

13-Sep-18

Client: Andeavor Bloomfield

Project: Cross Gradient Wells/Down Gradient Wells

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R53334**	RunNo: **53334**
Prep Date:	Analysis Date: **8/9/2018**	SeqNo: **1755929** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	107	70	130			
Toluene	20	1.0	20.00	0	98.9	70	130			
Chlorobenzene	20	1.0	20.00	0	100	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	110	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	99.7	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		104	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	10		10.00		100	70	130			
Surr: Toluene-d8	9.4		10.00		94.4	70	130			

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R53334**	RunNo: **53334**
Prep Date:	Analysis Date: **8/9/2018**	SeqNo: **1755932** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808322**

13-Sep-18

Client: Andeavor Bloomfield

Project: Cross Gradient Wells/Down Gradient Wells

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R53334**	RunNo: **53334**
Prep Date:	Analysis Date: **8/9/2018**	SeqNo: **1755932** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	1.4	10								J
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808322**

13-Sep-18

Client: Andeavor Bloomfield

Project: Cross Gradient Wells/Down Gradient Wells

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R53334**	RunNo: **53334**
Prep Date:	Analysis Date: **8/9/2018**	SeqNo: **1755932** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		103	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	10		10.00		99.9	70	130			
Surr: Toluene-d8	9.3		10.00		93.3	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R53350**	RunNo: **53350**
Prep Date:	Analysis Date: **8/10/2018**	SeqNo: **1757254** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	10		10.00		102	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		106	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	9.4		10.00		94.5	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R53350**	RunNo: **53350**
Prep Date:	Analysis Date: **8/10/2018**	SeqNo: **1757255** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2,4-Trimethylbenzene	ND	1.0								
Surr: 1,2-Dichloroethane-d4	10		10.00		102	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		105	70	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			
Surr: Toluene-d8	9.2		10.00		91.8	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808322**

13-Sep-18

Client: Andeavor Bloomfield

Project: Cross Gradient Wells/Down Gradient Wells

Sample ID **mb-39686**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **39686**	RunNo: **53401**
Prep Date: **8/9/2018**	Analysis Date: **8/13/2018**	SeqNo: **1758611** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	7.4	20								J
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								
3,3´-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1808322**
13-Sep-18

Client: Andeavor Bloomfield
Project: Cross Gradient Wells/Down Gradient Wells

Sample ID **mb-39686**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **39686**	RunNo: **53401**
Prep Date: **8/9/2018**	Analysis Date: **8/13/2018**	SeqNo: **1758611** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								
Surr: 2-Fluorophenol	98		200.0		49.1	15	74.1			
Surr: Phenol-d5	84		200.0		41.9	15	59.8			
Surr: 2,4,6-Tribromophenol	120		200.0		60.4	22.1	112			
Surr: Nitrobenzene-d5	65		100.0		64.6	33.2	94			
Surr: 2-Fluorobiphenyl	62		100.0		62.1	34	90.9			
Surr: 4-Terphenyl-d14	71		100.0		71.3	15	149			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808322**

13-Sep-18

Client: Andeavor Bloomfield

Project: Cross Gradient Wells/Down Gradient Wells

Sample ID **lcsd-39686**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **39686**	RunNo: **53401**
Prep Date: **8/9/2018**	Analysis Date: **8/13/2018**	SeqNo: **1758613** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	84	10	100.0	0	84.1	55.1	104	2.29	34.9	
4-Chloro-3-methylphenol	190	10	200.0	0	94.5	57	115	11.7	30.2	
2-Chlorophenol	180	10	200.0	0	87.5	43.4	112	12.2	49.5	
1,4-Dichlorobenzene	69	10	100.0	0	69.0	38	95.2	1.49	43.2	
2,4-Dinitrotoluene	72	10	100.0	0	72.2	55.1	96.7	10.1	49.9	
N-Nitrosodi-n-propylamine	100	10	100.0	0	103	55	112	8.49	42.1	
4-Nitrophenol	97	10	200.0	0	48.6	16.6	93	102	31.5	R
Pentachlorophenol	140	20	200.0	0	67.6	43.2	104	59.9	52.5	R
Phenol	110	10	200.0	0	56.3	21.3	85.7	12.7	54.4	
Pyrene	86	10	100.0	0	86.0	64.9	105	9.40	30.7	
1,2,4-Trichlorobenzene	78	10	100.0	0	77.6	42.6	107	2.90	48.1	
Surr: 2-Fluorophenol	130		200.0		64.0	15	74.1	0	0	
Surr: Phenol-d5	110		200.0		55.1	15	59.8	0	0	
Surr: 2,4,6-Tribromophenol	150		200.0		75.4	22.1	112	0	0	
Surr: Nitrobenzene-d5	87		100.0		86.8	33.2	94	0	0	
Surr: 2-Fluorobiphenyl	77		100.0		77.3	34	90.9	0	0	
Surr: 4-Terphenyl-d14	90		100.0		89.9	15	149	0	0	

Sample ID **lcs-39686**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **39686**	RunNo: **53401**
Prep Date: **8/9/2018**	Analysis Date: **8/13/2018**	SeqNo: **1758614** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	82	10	100.0	0	82.2	55.1	104			
4-Chloro-3-methylphenol	170	10	200.0	0	84.1	57	115			
2-Chlorophenol	150	10	200.0	0	77.5	43.4	112			
1,4-Dichlorobenzene	68	10	100.0	0	68.0	38	95.2			
2,4-Dinitrotoluene	65	10	100.0	0	65.3	55.1	96.7			
N-Nitrosodi-n-propylamine	94	10	100.0	0	94.3	55	112			
4-Nitrophenol	32	10	200.0	0	15.9	16.6	93			S
Pentachlorophenol	73	20	200.0	0	36.4	43.2	104			S
Phenol	99	10	200.0	0	49.5	21.3	85.7			
Pyrene	78	10	100.0	0	78.3	64.9	105			
1,2,4-Trichlorobenzene	75	10	100.0	0	75.4	42.6	107			
Surr: 2-Fluorophenol	110		200.0		53.7	15	74.1			
Surr: Phenol-d5	100		200.0		49.9	15	59.8			
Surr: 2,4,6-Tribromophenol	140		200.0		68.2	22.1	112			
Surr: Nitrobenzene-d5	80		100.0		80.2	33.2	94			
Surr: 2-Fluorobiphenyl	76		100.0		75.8	34	90.9			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808322**

13-Sep-18

Client: Andeavor Bloomfield

Project: Cross Gradient Wells/Down Gradient Wells

Sample ID	**lcs-39686**	SampType:	**LCS**	TestCode:	**EPA Method 8270C: Semivolatiles**
Client ID:	**LCSW**	Batch ID:	**39686**	RunNo:	**53401**
Prep Date:	**8/9/2018**	Analysis Date:	**8/13/2018**	SeqNo:	**1758614** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	87		100.0		86.5	15	149			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808322**

13-Sep-18

Client: Andeavor Bloomfield

Project: Cross Gradient Wells/Down Gradient Wells

Sample ID	**MB-39964**	SampType: **MBLK**			TestCode: **EPA Method 7470: Mercury**					
Client ID:	**PBW**	Batch ID: **39964**			RunNo: **53674**					
Prep Date:	**8/23/2018**	Analysis Date: **8/23/2018**			SeqNo: **1770047**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.000078	0.00020								J

Sample ID	**LCS-39964**	SampType: **LCS**			TestCode: **EPA Method 7470: Mercury**					
Client ID:	**LCSW**	Batch ID: **39964**			RunNo: **53674**					
Prep Date:	**8/23/2018**	Analysis Date: **8/23/2018**			SeqNo: **1770048**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0050	0.00020	0.005000	0	100	80	120			

Sample ID	**1808322-001DMS**	SampType: **MS**			TestCode: **EPA Method 7470: Mercury**					
Client ID:	**MW-1**	Batch ID: **39964**			RunNo: **53674**					
Prep Date:	**8/23/2018**	Analysis Date: **8/23/2018**			SeqNo: **1770050**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0052	0.00020	0.005000	.00008288	103	75	125			

Sample ID	**1808322-001DMSD**	SampType: **MSD**			TestCode: **EPA Method 7470: Mercury**					
Client ID:	**MW-1**	Batch ID: **39964**			RunNo: **53674**					
Prep Date:	**8/23/2018**	Analysis Date: **8/23/2018**			SeqNo: **1770051**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0053	0.00020	0.005000	.00008288	105	75	125	1.36	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808322**

13-Sep-18

Client: Andeavor Bloomfield

Project: Cross Gradient Wells/Down Gradient Wells

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A53550**	RunNo: **53550**
Prep Date:	Analysis Date: **8/20/2018**	SeqNo: **1765751** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Selenium	ND	0.050								
Silver	ND	0.0050								
Sodium	ND	1.0								
Uranium	ND	0.10								
Zinc	ND	0.020								

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A53550**	RunNo: **53550**
Prep Date:	Analysis Date: **8/20/2018**	SeqNo: **1765753** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.51	0.020	0.5000	0	103	80	120			
Cadmium	0.50	0.0020	0.5000	0	99.9	80	120			
Calcium	49	1.0	50.00	0	97.1	80	120			
Chromium	0.51	0.0060	0.5000	0	102	80	120			
Copper	0.50	0.0060	0.5000	0	100	80	120			
Iron	0.50	0.020	0.5000	0	101	80	120			
Magnesium	50	1.0	50.00	0	99.4	80	120			
Manganese	0.50	0.0020	0.5000	0	101	80	120			
Potassium	49	1.0	50.00	0	97.3	80	120			
Selenium	0.50	0.050	0.5000	0	99.8	80	120			
Silver	0.10	0.0050	0.1000	0	105	80	120			
Sodium	50	1.0	50.00	0	99.9	80	120			
Uranium	0.46	0.10	0.5000	0	91.3	80	120			
Zinc	0.51	0.020	0.5000	0	102	80	120			

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B53550**	RunNo: **53550**
Prep Date:	Analysis Date: **8/20/2018**	SeqNo: **1766579** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808322**

13-Sep-18

Client: Andeavor Bloomfield

Project: Cross Gradient Wells/Down Gradient Wells

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B53550**	RunNo: **53550**
Prep Date:	Analysis Date: **8/20/2018**	SeqNo: **1766579** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.0050								

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B53550**	RunNo: **53550**
Prep Date:	Analysis Date: **8/20/2018**	SeqNo: **1766581** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.50	0.0050	0.5000	0	99.6	80	120			

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A53717**	RunNo: **53717**
Prep Date:	Analysis Date: **8/27/2018**	SeqNo: **1772819** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.020								
Selenium	ND	0.050								

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A53717**	RunNo: **53717**
Prep Date:	Analysis Date: **8/27/2018**	SeqNo: **1772821** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.47	0.020	0.5000	0	93.2	80	120			
Selenium	0.46	0.050	0.5000	0	92.6	80	120			

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A54000**	RunNo: **54000**
Prep Date:	Analysis Date: **9/7/2018**	SeqNo: **1783545** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.020								
Sodium	ND	1.0								

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A54000**	RunNo: **54000**
Prep Date:	Analysis Date: **9/7/2018**	SeqNo: **1783547** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.50	0.020	0.5000	0	99.4	80	120			
Sodium	52	1.0	50.00	0	103	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808322**

13-Sep-18

Client: Andeavor Bloomfield

Project: Cross Gradient Wells/Down Gradient Wells

Sample ID **MB-39664**	SampType: **MBLK**	TestCode: **EPA 6010B: Total Recoverable Metals**
Client ID: **PBW**	Batch ID: **39664**	RunNo: **53393**
Prep Date: **8/8/2018**	Analysis Date: **8/13/2018**	SeqNo: **1758343** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Lead	0.0055	0.0050								
Selenium	ND	0.050								
Silver	ND	0.0050								

Sample ID **LCS-39664**	SampType: **LCS**	TestCode: **EPA 6010B: Total Recoverable Metals**
Client ID: **LCSW**	Batch ID: **39664**	RunNo: **53393**
Prep Date: **8/8/2018**	Analysis Date: **8/13/2018**	SeqNo: **1758345** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.51	0.020	0.5000	0	101	80	120			
Cadmium	0.51	0.0020	0.5000	0	102	80	120			
Chromium	0.49	0.0060	0.5000	0	97.3	80	120			
Lead	0.50	0.0050	0.5000	0	99.9	80	120			B
Selenium	0.48	0.050	0.5000	0	96.9	80	120			
Silver	0.10	0.0050	0.1000	0	100	80	120			

Sample ID **1808322-001DMS**	SampType: **MS**	TestCode: **EPA 6010B: Total Recoverable Metals**
Client ID: **MW-1**	Batch ID: **39664**	RunNo: **53393**
Prep Date: **8/8/2018**	Analysis Date: **8/13/2018**	SeqNo: **1758364** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.64	0.020	0.5000	0.1340	102	75	125			
Cadmium	0.51	0.0020	0.5000	0	102	75	125			
Chromium	0.49	0.0060	0.5000	0	97.2	75	125			
Selenium	0.49	0.050	0.5000	0	98.9	75	125			
Silver	0.10	0.0050	0.1000	0	103	75	125			

Sample ID **1808322-001DMSD**	SampType: **MSD**	TestCode: **EPA 6010B: Total Recoverable Metals**
Client ID: **MW-1**	Batch ID: **39664**	RunNo: **53393**
Prep Date: **8/8/2018**	Analysis Date: **8/13/2018**	SeqNo: **1758365** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.64	0.020	0.5000	0.1340	101	75	125	0.383	20	
Cadmium	0.51	0.0020	0.5000	0	102	75	125	0.0449	20	
Chromium	0.48	0.0060	0.5000	0	96.5	75	125	0.683	20	
Selenium	0.47	0.050	0.5000	0	93.3	75	125	5.80	20	
Silver	0.10	0.0050	0.1000	0	105	75	125	1.60	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808322**

13-Sep-18

Client: Andeavor Bloomfield

Project: Cross Gradient Wells/Down Gradient Wells

Sample ID	**MB-39664**	SampType:	**MBLK**		TestCode:	**EPA 6010B: Total Recoverable Metals**				
Client ID:	**PBW**	Batch ID:	**39664**		RunNo:	**53393**				
Prep Date:	**8/8/2018**	Analysis Date:	**8/13/2018**		SeqNo:	**1758431**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.020								

Sample ID	**LCS-39664**	SampType:	**LCS**		TestCode:	**EPA 6010B: Total Recoverable Metals**				
Client ID:	**LCSW**	Batch ID:	**39664**		RunNo:	**53393**				
Prep Date:	**8/8/2018**	Analysis Date:	**8/13/2018**		SeqNo:	**1758433**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.50	0.020	0.5000	0	99.3	80	120			

Sample ID	**1808322-001DMS**	SampType:	**MS**		TestCode:	**EPA 6010B: Total Recoverable Metals**				
Client ID:	**MW-1**	Batch ID:	**39664**		RunNo:	**53393**				
Prep Date:	**8/8/2018**	Analysis Date:	**8/13/2018**		SeqNo:	**1758464**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.51	0.020	0.5000	0	103	75	125			

Sample ID	**1808322-001DMSD**	SampType:	**MSD**		TestCode:	**EPA 6010B: Total Recoverable Metals**				
Client ID:	**MW-1**	Batch ID:	**39664**		RunNo:	**53393**				
Prep Date:	**8/8/2018**	Analysis Date:	**8/13/2018**		SeqNo:	**1758465**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.49	0.020	0.5000	0	98.9	75	125	3.85	20	

Sample ID	**MB-39664**	SampType:	**MBLK**		TestCode:	**EPA 6010B: Total Recoverable Metals**				
Client ID:	**PBW**	Batch ID:	**39664**		RunNo:	**53387**				
Prep Date:	**8/8/2018**	Analysis Date:	**8/13/2018**		SeqNo:	**1759158**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.0050								

Sample ID	**LCS-39664**	SampType:	**LCS**		TestCode:	**EPA 6010B: Total Recoverable Metals**				
Client ID:	**LCSW**	Batch ID:	**39664**		RunNo:	**53387**				
Prep Date:	**8/8/2018**	Analysis Date:	**8/13/2018**		SeqNo:	**1759160**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.50	0.0050	0.5000	0	99.1	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808322**

13-Sep-18

Client: Andeavor Bloomfield

Project: Cross Gradient Wells/Down Gradient Wells

Sample ID	**1808322-001DMS**	SampType:	**MS**		TestCode:	**EPA 6010B: Total Recoverable Metals**				
Client ID:	**MW-1**	Batch ID:	**39664**		RunNo:	**53387**				
Prep Date:	**8/8/2018**	Analysis Date:	**8/13/2018**		SeqNo:	**1759173**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.49	0.0050	0.5000	0	97.7	75	125			

Sample ID	**1808322-001DMSD**	SampType:	**MSD**		TestCode:	**EPA 6010B: Total Recoverable Metals**				
Client ID:	**MW-1**	Batch ID:	**39664**		RunNo:	**53387**				
Prep Date:	**8/8/2018**	Analysis Date:	**8/13/2018**		SeqNo:	**1759174**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.49	0.0050	0.5000	0	98.3	75	125	0.578	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808322**

13-Sep-18

Client: Andeavor Bloomfield

Project: Cross Gradient Wells/Down Gradient Wells

Sample ID **1808322-001ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **MW-1**	Batch ID: **A53492**	RunNo: **53492**
Prep Date:	Analysis Date: **8/16/2018**	SeqNo: **1763272** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.50	0.050	0.5000	0.02380	94.6	63.4	130			
Surr: BFB	9.8		10.00		97.5	70	130			

Sample ID **1808322-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **MW-1**	Batch ID: **A53492**	RunNo: **53492**
Prep Date:	Analysis Date: **8/16/2018**	SeqNo: **1763273** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.45	0.050	0.5000	0.02380	84.9	63.4	130	10.2	20	
Surr: BFB	9.7		10.00		96.6	70	130	0	0	

Sample ID **2.5ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **A53492**	RunNo: **53492**
Prep Date:	Analysis Date: **8/16/2018**	SeqNo: **1763278** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.49	0.050	0.5000	0	98.4	70	130			
Surr: BFB	9.5		10.00		94.7	70	130			

Sample ID **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **A53492**	RunNo: **53492**
Prep Date:	Analysis Date: **8/16/2018**	SeqNo: **1763279** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.015	0.050								J
Surr: BFB	10		10.00		103	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808322**

13-Sep-18

Client: Andeavor Bloomfield

Project: Cross Gradient Wells/Down Gradient Wells

Sample ID	**mb-1 alk**	SampType:	**mblk**		TestCode:	**SM2320B: Alkalinity**					
Client ID:	**PBW**	Batch ID:	**R53305**		RunNo:	**53305**					
Prep Date:		Analysis Date:	**8/8/2018**		SeqNo:	**1754671**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Alkalinity (as CaCO3)	ND	20.00									

Sample ID	**lcs-1 alk**	SampType:	**lcs**		TestCode:	**SM2320B: Alkalinity**					
Client ID:	**LCSW**	Batch ID:	**R53305**		RunNo:	**53305**					
Prep Date:		Analysis Date:	**8/8/2018**		SeqNo:	**1754672**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Alkalinity (as CaCO3)	77.72	20.00	80.00	0	97.2	90	110				

Sample ID	**mb-2 alk**	SampType:	**mblk**		TestCode:	**SM2320B: Alkalinity**					
Client ID:	**PBW**	Batch ID:	**R53305**		RunNo:	**53305**					
Prep Date:		Analysis Date:	**8/8/2018**		SeqNo:	**1754695**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Alkalinity (as CaCO3)	ND	20.00									

Sample ID	**lcs-2 alk**	SampType:	**lcs**		TestCode:	**SM2320B: Alkalinity**					
Client ID:	**LCSW**	Batch ID:	**R53305**		RunNo:	**53305**					
Prep Date:		Analysis Date:	**8/8/2018**		SeqNo:	**1754696**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Alkalinity (as CaCO3)	81.16	20.00	80.00	0	101	90	110				

Sample ID	**mb-1 alk**	SampType:	**MBLK**		TestCode:	**SM2320B: Alkalinity**					
Client ID:	**PBW**	Batch ID:	**R53469**		RunNo:	**53469**					
Prep Date:		Analysis Date:	**8/15/2018**		SeqNo:	**1761677**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Alkalinity (as CaCO3)	ND	20.00									

Sample ID	**lcs-1 alk**	SampType:	**LCS**		TestCode:	**SM2320B: Alkalinity**					
Client ID:	**LCSW**	Batch ID:	**R53469**		RunNo:	**53469**					
Prep Date:		Analysis Date:	**8/15/2018**		SeqNo:	**1761678**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Alkalinity (as CaCO3)	79.68	20.00	80.00	0	99.6	90	110				

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808322**

13-Sep-18

Client: Andeavor Bloomfield

Project: Cross Gradient Wells/Down Gradient Wells

Sample ID	**mb-2 alk**	SampType:	**MBLK**	TestCode:	**SM2320B: Alkalinity**					
Client ID:	**PBW**	Batch ID:	**R53469**	RunNo:	**53469**					
Prep Date:		Analysis Date:	**8/15/2018**	SeqNo:	**1761702**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID	**lcs-2 alk**	SampType:	**LCS**	TestCode:	**SM2320B: Alkalinity**					
Client ID:	**LCSW**	Batch ID:	**R53469**	RunNo:	**53469**					
Prep Date:		Analysis Date:	**8/15/2018**	SeqNo:	**1761704**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	80.20	20.00	80.00	0	100	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: ANDEAVOR BLOOMFIEL Work Order Number: 1808322 RcptNo: 1

Received By: **Anne Thorne** 8/7/2018 7:00:00 AM Anne Thorne

Completed By: **Anne Thorne** 8/7/2018 10:29:15 AM Anne Thorne

Reviewed By: ENM 8/7/18

Labeled by: JAB 08/07/18

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: 12 (<2 or >12 unless noted)

Adjusted? No

Checked by: JAB 08/07/18

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Allen Hains Date: 08/07/18

By Whom: Jazzmine Burkhead Via: ☑ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: Date discrepancy. Bottles read 08/06/18 COC reads 08/03/18.

Client Instructions:

16. Additional remarks:

CUSTODY SEALS ON ALL SAMPLE BOTTLES, PER TP 1 REPORT/at 8/7/18

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.4	Good	Yes			
2	1.3	Good	Yes			

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **Cross-Gradient Wells**

Date: 8-6-18

Project #: **Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payné**

On Ice: ☒ Yes ☐ No

Sample Temperature: 3.4-CF-1.0=2.4
2.3-CF-1.0=1.3

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808322	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals Total	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Dissolved Metals	Gen. Chem. - Anions	Gen. Chem. - Alkalinity&CO_2		Air Bubbles (Y or N)
						Analysis Request																
8/6/18	0745	H_2O	MW-1	40ml VOA-5	HCl	201			X							X						
				250 ml amber-1	Neat	201			X													
				250 ml plastic-1	HNO_3	201							X									
				125 ml plastic-1	HNO_3	201												X				
				125 ml plastic-1	H_2SO_4	201													X			
				500 ml plastic-1	Neat	201													X	X		

Date	Time	Relinquished by:	Received by:	Date	Time
8/6/18	1617		Christy Walt	8/6/18	1617
8/16/18	1822	Christy Walt		08/07/18	0700

Remarks: See Analytical Methods and Target Analytes.

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **Cross-Gradient Wells**

Date: 8-6-18

Project #: **Annual Event**

PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: ☒ Yes ☐ No

Sample Temperature: 3.4-CF-1.0=2.4 3.3-CF-1.0=1.4 2 coolers

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808522	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals Total	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Dissolved Metals	Gen. Chem. - Anions	Gen. Chem. - Alkalinity&CO_2		Air Bubbles (Y or N)
8/6/18	0910	H_2O	MW-13	40ml VOA-5	HCl	-002			X							X						
				250 ml amber-1	Neat	-002			X													
				250 ml plastic-1	HNO_3	-002							X									
				125 ml plastic-1	HNO_3	-002												X				
				125 ml plastic-1	H_2SO_4	-002													X			
				500 ml plastic-1	Neat	-002													X	X		

Date	Time	Relinquished by:	Received by:	Date	Time
8/6/18	1617			8/6/18	1617
8/6/18	1826				

Remarks: See Analytical Methods and Target Analytes.

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **Downgradient Wells**

Date: 8-3-18 / 8-6-18

Project #: **Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: **X** Yes ☐ No

Sample Temperature: 3.4-CF-1.0=2.4
2.3-CF-1.0=1.3

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. (2 codes) 1808322	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals Total	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Dissolved Metals	Gen. Chem. - Anions	Gen. Chem. - Alkalinity&CO_2		Air Bubbles (Y or N)
8/3/18	1345	H_2O	MW-34	40ml VOA-5	HCl	003			X							X						
				250 ml amber-1	Neat	003			X													
				250 ml plastic-1	HNO_3	003							X									
				125 ml plastic-1	HNO_3	003												X				
				125 ml plastic-1	H_2SO_4	003													X			
				500 ml plastic-1	Neat	003													X	X		

Date:	Time:	Relinquished by:	Received by:	Date	Time
8/3/18	1617				
8/6/18	1824			8/6/18	1617
				08/07/18	0700

Remarks: See Analytical Methods and Target Analytes.

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **Downgradient Wells**

Date: ___-___-_____

Project #: **Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: **X** Yes ☐ No

Sample Temperature: 3.4 - CF -1.0 = 2.4
2.3 - CF -1.0 = 1.3

2 coolers

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Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 808322	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals Total	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Dissolved Metals	Gen. Chem. - Anions	Gen. Chem. - Alkalinity&CO_2		Air Bubbles (Y or N)
8/3/18	1500	H_2O	MW-11	40ml VOA-5	HCl	001			X							X						
				250 ml amber-1	Neat	002			X													
				1 liter amber-2	Neat	003											X					
				250 ml plastic-1	HNO_3	004							X									
				125 ml plastic-1	HNO_3	005												X				
				125 ml plastic-1	H_2SO_4	006													X			
				500 ml plastic-1	Neat	007													X	X		
8/3/18		H_2O	TRIP BLANK	40 mL VOA-3	HCl	008										X						

Date:	Time:	Relinquished by:	Received by:	Date	Time
8/3/18	1617			8/6/18	1617
8/6/18	1820			8/07/18	0720

Remarks: See Analytical Methods and Target Analytes.

TABLE 2
Analytical Methods and Target Analytes
Facility-Wide Groundwater Monitoring Plan - June 2017
Western Refining Southwest, Inc. - Bloomfield Refinery

VOCs (EPA Method 8260B) [1]
- Target List
Benzene
Toluene
Ethylbenzene
Xylenes
Methyl tert butyl ether (MTBE)
SVOCs - (EPA Method 8270)
- Method List
TPH-GRO (EPA Method 8015B)
- Gasoline Range Organics
TPH-DRO (EPA Method 8015B)
- Diesel Range Organics
- Motor Oil Range Organics
Total Carbon Dioxide (Laboratory Calculated)
- Dissolved CO2
Specific Conductivity (EPA Method 120.1 or field measurement)
- Specific conductance
TDS (EPA Method 160.1 or field measurement)
- Total dissolved solids
General Chemistry - Anions (EPA Method 300.0)
Fluoride
Chloride
Bromide
Nitrogen, Nitrite (as N)
Nitrogen, Nitrate (as N)
Phosphorous, Orthophosphate (As P)
Sulfate
General Chemistry - Alkalinity (EPA Method 310.1)
Alkalinity, Total
Carbonate
Bicarbonate

Total Recoverable Metals (EPA Method 6010B/7470)
- Target List (not applicable to River Terrace Sampling Events)
Arsenic *Lead*
Barium *Mercury*
Cadmium *Selenium*
Chromium *Silver*
- Target List (for River Terrace Sampling Events Only)
Lead
Mercury (DW-1 ONLY)
Dissolved Metals (EPA Method 6010B / 7470)
- Target List (for Refinery Complex, Outfalls, and River)
Arsenic *Manganese*
Barium *Mercury*
Cadmium *Potassium*
Calcium *Selenium*
Chromium *Silver*
Copper *Sodium*
Iron *Uranium*
Lead *Zinc*
Magnesium

TPH = total petroleum hydrocarbons
GRO = gasoline range organics
VOCs = volatile organic compounds
DRO = diesel range organics
TDS = total dissolved solids

NOTES:

(1) VOCs Target List for River Terrace samples are analyzed by EPA Method 8021B per NMED's letter Approval with Direction dated June 16, 2009.

(2) Target List for San Juan River Terrace Monitoring Wells and Piezomenter Wells only, per the River Terrace Bioventing System Monitoring Plan.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

August 31, 2018

Allen Hains

Andeavor Bloomfield
111 CR 4990
Bloomfield, NM 87413
TEL: (915) 534-1483
FAX

RE: Cross Gradient and Downgradient Wells OrderNo.: 1808439

Dear Allen Hains:

Hall Environmental Analysis Laboratory received 9 sample(s) on 8/8/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-32
Project: Cross Gradient and Downgradient Wells
Collection Date: 8/7/2018 7:45:00 AM
Lab ID: 1808439-001
Matrix: AQUEOUS
Received Date: 8/8/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	0.40		mg/L	1	8/13/2018 12:51:28 PM	39725
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	8/13/2018 12:51:28 PM	39725
Surr: DNOP	105	76.6-135		%Rec	1	8/13/2018 12:51:28 PM	39725
CARBON DIOXIDE						Analyst: **JRR**	
Total Carbon Dioxide	170	1.0	H	mg CO2/	1	8/15/2018 4:07:06 PM	R53469
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Fluoride	ND	0.10		mg/L	1	8/13/2018 10:27:56 AM	R53415
Chloride	680	25		mg/L	50	8/21/2018 2:25:40 AM	R53580
Bromide	4.3	0.10		mg/L	1	8/13/2018 10:27:56 AM	R53415
Phosphorus, Orthophosphate (As P)	ND	10	H	mg/L	20	8/13/2018 10:40:20 AM	R53415
Sulfate	1600	25		mg/L	50	8/21/2018 2:25:40 AM	R53580
Nitrate+Nitrite as N	43	1.0	*	mg/L	5	8/13/2018 2:36:09 PM	R53415
SM2320B: ALKALINITY						Analyst: **JRR**	
Bicarbonate (As CaCO3)	180.7	20.00		mg/L Ca	1	8/15/2018 4:07:06 PM	R53469
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	8/15/2018 4:07:06 PM	R53469
Total Alkalinity (as CaCO3)	180.7	20.00		mg/L Ca	1	8/15/2018 4:07:06 PM	R53469
EPA METHOD 7470: MERCURY						Analyst: **rde**	
Mercury	ND	0.00020		mg/L	1	8/29/2018 11:26:04 AM	40027
EPA METHOD 7470: MERCURY						Analyst: **rde**	
Mercury	ND	0.00020	Filtered	mg/L	1	8/29/2018 11:28:19 AM	40027
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **pmf**	
Arsenic	ND	0.020		mg/L	1	8/20/2018 2:01:53 PM	A53550
Barium	ND	0.020		mg/L	1	8/20/2018 2:01:53 PM	A53550
Cadmium	ND	0.0020		mg/L	1	8/20/2018 2:01:53 PM	A53550
Calcium	320	5.0		mg/L	5	8/20/2018 2:37:13 PM	A53550
Chromium	ND	0.0060		mg/L	1	8/20/2018 2:01:53 PM	A53550
Copper	ND	0.0060		mg/L	1	8/20/2018 2:01:53 PM	A53550
Iron	ND	0.020		mg/L	1	8/20/2018 2:01:53 PM	A53550
Lead	ND	0.0050		mg/L	1	8/20/2018 5:19:26 PM	B53550
Magnesium	47	1.0		mg/L	1	8/20/2018 2:01:53 PM	A53550
Manganese	ND	0.0020		mg/L	1	8/20/2018 2:01:53 PM	A53550
Potassium	3.4	1.0		mg/L	1	8/20/2018 2:01:53 PM	A53550
Selenium	ND	0.050		mg/L	1	8/20/2018 2:01:53 PM	A53550
Silver	0.0082	0.0050		mg/L	1	8/20/2018 5:19:26 PM	B53550
Sodium	770	10		mg/L	10	8/20/2018 2:39:02 PM	A53550
Uranium	ND	0.10		mg/L	1	8/20/2018 2:01:53 PM	A53550

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-32
Project: Cross Gradient and Downgradient Wells
Collection Date: 8/7/2018 7:45:00 AM
Lab ID: 1808439-001 **Matrix:** AQUEOUS **Received Date:** 8/8/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **pmf**	
Zinc	ND	0.020		mg/L	1	8/20/2018 2:01:53 PM	A53550
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **pmf**	
Arsenic	ND	0.020		mg/L	1	8/13/2018 4:26:25 PM	39719
Barium	ND	0.020		mg/L	1	8/13/2018 1:08:37 PM	39719
Cadmium	ND	0.0020		mg/L	1	8/13/2018 1:08:37 PM	39719
Chromium	ND	0.0060		mg/L	1	8/13/2018 1:08:37 PM	39719
Lead	ND	0.0050		mg/L	1	8/13/2018 8:26:35 PM	39719
Selenium	ND	0.050		mg/L	1	8/13/2018 1:08:37 PM	39719
Silver	0.011	0.0050		mg/L	1	8/13/2018 1:08:37 PM	39719
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	8/10/2018 12:24:08 PM	A53346
Surr: BFB	103	70-130		%Rec	1	8/10/2018 12:24:08 PM	A53346
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
Toluene	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
Ethylbenzene	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
Naphthalene	ND	2.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
1-Methylnaphthalene	ND	4.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
2-Methylnaphthalene	ND	4.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
Acetone	ND	10		µg/L	1	8/13/2018 5:06:00 PM	R53391
Bromobenzene	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
Bromodichloromethane	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
Bromoform	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
Bromomethane	ND	3.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
2-Butanone	ND	10		µg/L	1	8/13/2018 5:06:00 PM	R53391
Carbon disulfide	ND	10		µg/L	1	8/13/2018 5:06:00 PM	R53391
Carbon Tetrachloride	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
Chlorobenzene	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
Chloroethane	ND	2.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
Chloroform	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
Chloromethane	ND	3.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
2-Chlorotoluene	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
4-Chlorotoluene	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-32
Project: Cross Gradient and Downgradient Wells
Collection Date: 8/7/2018 7:45:00 AM
Lab ID: 1808439-001
Matrix: AQUEOUS
Received Date: 8/8/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
cis-1,2-DCE	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
Dibromochloromethane	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
Dibromomethane	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
1,2-Dichlorobenzene	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
1,3-Dichlorobenzene	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
1,4-Dichlorobenzene	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
Dichlorodifluoromethane	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
1,1-Dichloroethane	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
1,1-Dichloroethene	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
1,2-Dichloropropane	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
1,3-Dichloropropane	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
2,2-Dichloropropane	ND	2.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
1,1-Dichloropropene	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
Hexachlorobutadiene	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
2-Hexanone	ND	10		µg/L	1	8/13/2018 5:06:00 PM	R53391
Isopropylbenzene	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
4-Isopropyltoluene	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
4-Methyl-2-pentanone	ND	10		µg/L	1	8/13/2018 5:06:00 PM	R53391
Methylene Chloride	ND	3.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
n-Butylbenzene	ND	3.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
n-Propylbenzene	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
sec-Butylbenzene	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
Styrene	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
tert-Butylbenzene	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
trans-1,2-DCE	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
1,1,1-Trichloroethane	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
1,1,2-Trichloroethane	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
Trichloroethene (TCE)	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
Trichlorofluoromethane	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
1,2,3-Trichloropropane	ND	2.0		µg/L	1	8/13/2018 5:06:00 PM	R53391
Vinyl chloride	ND	1.0		µg/L	1	8/13/2018 5:06:00 PM	R53391

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-32
Project: Cross Gradient and Downgradient Wells
Collection Date: 8/7/2018 7:45:00 AM
Lab ID: 1808439-001
Matrix: AQUEOUS
Received Date: 8/8/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Xylenes, Total	ND	1.5		µg/L	1	8/13/2018 5:06:00 PM	R53391
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	8/13/2018 5:06:00 PM	R53391
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	8/13/2018 5:06:00 PM	R53391
Surr: Dibromofluoromethane	108	70-130		%Rec	1	8/13/2018 5:06:00 PM	R53391
Surr: Toluene-d8	94.4	70-130		%Rec	1	8/13/2018 5:06:00 PM	R53391

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: Field Blank #2
Project: Cross Gradient and Downgradient Wells
Collection Date: 8/7/2018 8:00:00 AM
Lab ID: 1808439-002 **Matrix:** AQUEOUS **Received Date:** 8/8/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	0.40		mg/L	1	8/13/2018 2:05:02 PM	39725
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	8/13/2018 2:05:02 PM	39725
Surr: DNOP	108	76.6-135		%Rec	1	8/13/2018 2:05:02 PM	39725
CARBON DIOXIDE						Analyst: **JRR**	
Total Carbon Dioxide	7.1	1.0	H	mg CO2/	1	8/15/2018 4:42:19 PM	R53469
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Fluoride	ND	0.10		mg/L	1	8/13/2018 10:52:45 AM	R53415
Chloride	ND	0.50		mg/L	1	8/13/2018 10:52:45 AM	R53415
Bromide	ND	0.10		mg/L	1	8/13/2018 10:52:45 AM	R53415
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	8/13/2018 10:52:45 AM	R53415
Sulfate	ND	0.50		mg/L	1	8/13/2018 10:52:45 AM	R53415
Nitrate+Nitrite as N	ND	1.0		mg/L	5	8/13/2018 2:48:35 PM	R53415
SM2320B: ALKALINITY						Analyst: **JRR**	
Bicarbonate (As CaCO3)	ND	20.00		mg/L Ca	1	8/15/2018 4:42:19 PM	R53469
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	8/15/2018 4:42:19 PM	R53469
Total Alkalinity (as CaCO3)	ND	20.00		mg/L Ca	1	8/15/2018 4:42:19 PM	R53469
EPA METHOD 7470: MERCURY						Analyst: **rde**	
Mercury	ND	0.00020		mg/L	1	8/29/2018 11:30:35 AM	40027
EPA METHOD 7470: MERCURY						Analyst: **rde**	
Mercury	ND	0.00020	Filtered	mg/L	1	8/29/2018 11:37:28 AM	40027
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **pmf**	
Arsenic	ND	0.020		mg/L	1	8/20/2018 2:03:42 PM	A53550
Barium	ND	0.020		mg/L	1	8/20/2018 2:03:42 PM	A53550
Cadmium	ND	0.0020		mg/L	1	8/20/2018 2:03:42 PM	A53550
Calcium	ND	1.0		mg/L	1	8/20/2018 2:03:42 PM	A53550
Chromium	ND	0.0060		mg/L	1	8/20/2018 2:03:42 PM	A53550
Copper	ND	0.0060		mg/L	1	8/20/2018 2:03:42 PM	A53550
Iron	ND	0.020		mg/L	1	8/20/2018 2:03:42 PM	A53550
Lead	ND	0.0050		mg/L	1	8/20/2018 5:21:09 PM	B53550
Magnesium	ND	1.0		mg/L	1	8/20/2018 2:03:42 PM	A53550
Manganese	ND	0.0020		mg/L	1	8/20/2018 2:03:42 PM	A53550
Potassium	ND	1.0		mg/L	1	8/20/2018 2:03:42 PM	A53550
Selenium	ND	0.050		mg/L	1	8/20/2018 2:03:42 PM	A53550
Silver	ND	0.0050		mg/L	1	8/20/2018 5:21:09 PM	B53550
Sodium	ND	1.0		mg/L	1	8/20/2018 2:03:42 PM	A53550
Uranium	ND	0.10		mg/L	1	8/20/2018 2:03:42 PM	A53550

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: Field Blank #2
Project: Cross Gradient and Downgradient Wells
Collection Date: 8/7/2018 8:00:00 AM
Lab ID: 1808439-002
Matrix: AQUEOUS
Received Date: 8/8/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **pmf**	
Zinc	0.049	0.020		mg/L	1	8/27/2018 2:38:57 PM	A53717
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **pmf**	
Arsenic	ND	0.020		mg/L	1	8/13/2018 4:30:43 PM	39719
Barium	ND	0.020		mg/L	1	8/13/2018 1:14:18 PM	39719
Cadmium	ND	0.0020		mg/L	1	8/13/2018 1:14:18 PM	39719
Chromium	ND	0.0060		mg/L	1	8/13/2018 1:14:18 PM	39719
Lead	ND	0.0050		mg/L	1	8/13/2018 8:35:17 PM	39719
Selenium	ND	0.050		mg/L	1	8/13/2018 1:14:18 PM	39719
Silver	ND	0.0050		mg/L	1	8/13/2018 1:14:18 PM	39719
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	8/10/2018 12:47:17 PM	A53346
Surr: BFB	104	70-130		%Rec	1	8/10/2018 12:47:17 PM	A53346
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
Toluene	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
Ethylbenzene	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
Naphthalene	ND	2.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
1-Methylnaphthalene	ND	4.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
2-Methylnaphthalene	ND	4.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
Acetone	ND	10		µg/L	1	8/13/2018 6:20:00 PM	R53391
Bromobenzene	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
Bromodichloromethane	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
Bromoform	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
Bromomethane	ND	3.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
2-Butanone	ND	10		µg/L	1	8/13/2018 6:20:00 PM	R53391
Carbon disulfide	ND	10		µg/L	1	8/13/2018 6:20:00 PM	R53391
Carbon Tetrachloride	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
Chlorobenzene	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
Chloroethane	ND	2.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
Chloroform	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
Chloromethane	ND	3.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
2-Chlorotoluene	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
4-Chlorotoluene	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: Field Blank #2
Project: Cross Gradient and Downgradient Wells
Collection Date: 8/7/2018 8:00:00 AM
Lab ID: 1808439-002
Matrix: AQUEOUS
Received Date: 8/8/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
cis-1,2-DCE	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
Dibromochloromethane	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
Dibromomethane	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
1,2-Dichlorobenzene	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
1,3-Dichlorobenzene	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
1,4-Dichlorobenzene	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
Dichlorodifluoromethane	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
1,1-Dichloroethane	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
1,1-Dichloroethene	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
1,2-Dichloropropane	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
1,3-Dichloropropane	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
2,2-Dichloropropane	ND	2.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
1,1-Dichloropropene	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
Hexachlorobutadiene	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
2-Hexanone	ND	10		µg/L	1	8/13/2018 6:20:00 PM	R53391
Isopropylbenzene	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
4-Isopropyltoluene	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
4-Methyl-2-pentanone	ND	10		µg/L	1	8/13/2018 6:20:00 PM	R53391
Methylene Chloride	ND	3.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
n-Butylbenzene	ND	3.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
n-Propylbenzene	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
sec-Butylbenzene	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
Styrene	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
tert-Butylbenzene	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
trans-1,2-DCE	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
1,1,1-Trichloroethane	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
1,1,2-Trichloroethane	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
Trichloroethene (TCE)	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
Trichlorofluoromethane	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
1,2,3-Trichloropropane	ND	2.0		µg/L	1	8/13/2018 6:20:00 PM	R53391
Vinyl chloride	ND	1.0		µg/L	1	8/13/2018 6:20:00 PM	R53391

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: Field Blank #2
Project: Cross Gradient and Downgradient Wells
Collection Date: 8/7/2018 8:00:00 AM
Lab ID: 1808439-002 **Matrix:** AQUEOUS **Received Date:** 8/8/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Xylenes, Total	ND	1.5		µg/L	1	8/13/2018 6:20:00 PM	R53391
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	8/13/2018 6:20:00 PM	R53391
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	8/13/2018 6:20:00 PM	R53391
Surr: Dibromofluoromethane	106	70-130		%Rec	1	8/13/2018 6:20:00 PM	R53391
Surr: Toluene-d8	94.1	70-130		%Rec	1	8/13/2018 6:20:00 PM	R53391

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-27
Project: Cross Gradient and Downgradient Wells
Collection Date: 8/7/2018 8:45:00 AM
Lab ID: 1808439-003
Matrix: AQUEOUS
Received Date: 8/8/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	0.40		mg/L	1	8/13/2018 2:29:38 PM	39725
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	8/13/2018 2:29:38 PM	39725
Surr: DNOP	107	76.6-135		%Rec	1	8/13/2018 2:29:38 PM	39725
CARBON DIOXIDE						Analyst:	**JRR**
Total Carbon Dioxide	260	1.0	H	mg CO2/	1	8/15/2018 4:56:02 PM	R53469
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Fluoride	ND	2.0		mg/L	20	8/13/2018 11:29:59 AM	R53415
Chloride	870	50		mg/L	100	8/21/2018 2:38:05 AM	R53580
Bromide	8.4	2.0		mg/L	20	8/13/2018 11:29:59 AM	R53415
Phosphorus, Orthophosphate (As P)	ND	10	H	mg/L	20	8/13/2018 11:29:59 AM	R53415
Sulfate	3100	50		mg/L	100	8/21/2018 2:38:05 AM	R53580
Nitrate+Nitrite as N	ND	1.0		mg/L	5	8/13/2018 3:01:00 PM	R53415
SM2320B: ALKALINITY						Analyst:	**JRR**
Bicarbonate (As CaCO3)	264.0	20.00		mg/L Ca	1	8/15/2018 4:56:02 PM	R53469
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	8/15/2018 4:56:02 PM	R53469
Total Alkalinity (as CaCO3)	264.0	20.00		mg/L Ca	1	8/15/2018 4:56:02 PM	R53469
EPA METHOD 7470: MERCURY						Analyst:	**rde**
Mercury	ND	0.00020		mg/L	1	8/29/2018 11:39:45 AM	40027
EPA METHOD 7470: MERCURY						Analyst:	**rde**
Mercury	ND	0.00020	Filtered	mg/L	1	8/29/2018 11:42:02 AM	40027
EPA METHOD 6010B: DISSOLVED METALS						Analyst:	**pmf**
Arsenic	ND	0.020		mg/L	1	8/20/2018 2:13:10 PM	A53550
Barium	0.050	0.020		mg/L	1	8/20/2018 2:13:10 PM	A53550
Cadmium	ND	0.0020		mg/L	1	8/20/2018 2:13:10 PM	A53550
Calcium	740	10		mg/L	10	8/20/2018 2:42:40 PM	A53550
Chromium	ND	0.0060		mg/L	1	8/20/2018 2:13:10 PM	A53550
Copper	ND	0.0060		mg/L	1	8/20/2018 2:13:10 PM	A53550
Iron	0.89	0.020		mg/L	1	8/20/2018 2:13:10 PM	A53550
Lead	ND	0.0050		mg/L	1	8/20/2018 5:22:52 PM	B53550
Magnesium	110	5.0		mg/L	5	8/20/2018 2:40:51 PM	A53550
Manganese	0.75	0.0020		mg/L	1	8/20/2018 2:13:10 PM	A53550
Potassium	3.7	1.0		mg/L	1	8/20/2018 2:13:10 PM	A53550
Selenium	ND	0.050		mg/L	1	8/20/2018 2:13:10 PM	A53550
Silver	0.018	0.0050		mg/L	1	8/20/2018 5:22:52 PM	B53550
Sodium	890	10		mg/L	10	8/20/2018 2:42:40 PM	A53550
Uranium	ND	0.10		mg/L	1	8/20/2018 2:13:10 PM	A53550

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-27
Project: Cross Gradient and Downgradient Wells
Collection Date: 8/7/2018 8:45:00 AM
Lab ID: 1808439-003
Matrix: AQUEOUS
Received Date: 8/8/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **pmf**	
Zinc	ND	0.020		mg/L	1	8/20/2018 2:13:10 PM	A53550
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **pmf**	
Arsenic	ND	0.020		mg/L	1	8/13/2018 4:32:10 PM	39719
Barium	0.066	0.020		mg/L	1	8/13/2018 1:16:19 PM	39719
Cadmium	ND	0.0020		mg/L	1	8/13/2018 1:16:19 PM	39719
Chromium	ND	0.0060		mg/L	1	8/13/2018 1:16:19 PM	39719
Lead	ND	0.0050		mg/L	1	8/13/2018 8:36:44 PM	39719
Selenium	ND	0.050		mg/L	1	8/13/2018 1:16:19 PM	39719
Silver	0.022	0.0050		mg/L	1	8/13/2018 1:16:19 PM	39719
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	8/10/2018 1:33:25 PM	A53346
Surr: BFB	106	70-130		%Rec	1	8/10/2018 1:33:25 PM	A53346
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
Toluene	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
Ethylbenzene	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
Naphthalene	ND	2.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
1-Methylnaphthalene	ND	4.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
2-Methylnaphthalene	ND	4.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
Acetone	ND	10		µg/L	1	8/13/2018 6:44:00 PM	R53391
Bromobenzene	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
Bromodichloromethane	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
Bromoform	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
Bromomethane	ND	3.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
2-Butanone	ND	10		µg/L	1	8/13/2018 6:44:00 PM	R53391
Carbon disulfide	ND	10		µg/L	1	8/13/2018 6:44:00 PM	R53391
Carbon Tetrachloride	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
Chlorobenzene	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
Chloroethane	ND	2.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
Chloroform	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
Chloromethane	ND	3.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
2-Chlorotoluene	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
4-Chlorotoluene	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-27
Project: Cross Gradient and Downgradient Wells
Collection Date: 8/7/2018 8:45:00 AM
Lab ID: 1808439-003
Matrix: AQUEOUS
Received Date: 8/8/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
cis-1,2-DCE	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
Dibromochloromethane	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
Dibromomethane	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
1,2-Dichlorobenzene	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
1,3-Dichlorobenzene	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
1,4-Dichlorobenzene	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
Dichlorodifluoromethane	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
1,1-Dichloroethane	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
1,1-Dichloroethene	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
1,2-Dichloropropane	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
1,3-Dichloropropane	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
2,2-Dichloropropane	ND	2.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
1,1-Dichloropropene	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
Hexachlorobutadiene	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
2-Hexanone	ND	10		µg/L	1	8/13/2018 6:44:00 PM	R53391
Isopropylbenzene	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
4-Isopropyltoluene	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
4-Methyl-2-pentanone	ND	10		µg/L	1	8/13/2018 6:44:00 PM	R53391
Methylene Chloride	ND	3.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
n-Butylbenzene	ND	3.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
n-Propylbenzene	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
sec-Butylbenzene	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
Styrene	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
tert-Butylbenzene	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
trans-1,2-DCE	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
1,1,1-Trichloroethane	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
1,1,2-Trichloroethane	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
Trichloroethene (TCE)	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
Trichlorofluoromethane	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
1,2,3-Trichloropropane	ND	2.0		µg/L	1	8/13/2018 6:44:00 PM	R53391
Vinyl chloride	ND	1.0		µg/L	1	8/13/2018 6:44:00 PM	R53391

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Hall Environmental Analysis Laboratory, Inc.

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Project: Cross Gradient and Downgradient Wells
Collection Date: 8/7/2018 8:45:00 AM
Lab ID: 1808439-003
Matrix: AQUEOUS
Received Date: 8/8/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Xylenes, Total	ND	1.5		µg/L	1	8/13/2018 6:44:00 PM	R53391
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	8/13/2018 6:44:00 PM	R53391
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	8/13/2018 6:44:00 PM	R53391
Surr: Dibromofluoromethane	112	70-130		%Rec	1	8/13/2018 6:44:00 PM	R53391
Surr: Toluene-d8	92.8	70-130		%Rec	1	8/13/2018 6:44:00 PM	R53391

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-38
Project: Cross Gradient and Downgradient Wells
Collection Date: 8/7/2018 9:30:00 AM
Lab ID: 1808439-004
Matrix: AQUEOUS
Received Date: 8/8/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	0.40		mg/L	1	8/13/2018 2:54:07 PM	39725
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	8/13/2018 2:54:07 PM	39725
Surr: DNOP	107	76.6-135		%Rec	1	8/13/2018 2:54:07 PM	39725
CARBON DIOXIDE						Analyst:	**JRR**
Total Carbon Dioxide	630	1.0	H	mg CO2/	1	8/15/2018 5:09:59 PM	R53469
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Fluoride	0.40	0.10		mg/L	1	8/13/2018 12:07:14 PM	R53415
Chloride	140	10		mg/L	20	8/13/2018 12:19:38 PM	R53415
Bromide	1.9	0.10		mg/L	1	8/13/2018 12:07:14 PM	R53415
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	8/13/2018 12:07:14 PM	R53415
Sulfate	21	0.50		mg/L	1	8/13/2018 12:07:14 PM	R53415
Nitrate+Nitrite as N	ND	1.0		mg/L	5	8/13/2018 3:13:24 PM	R53415
SM2320B: ALKALINITY						Analyst:	**JRR**
Bicarbonate (As CaCO3)	682.4	20.00		mg/L Ca	1	8/15/2018 5:09:59 PM	R53469
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	8/15/2018 5:09:59 PM	R53469
Total Alkalinity (as CaCO3)	682.4	20.00		mg/L Ca	1	8/15/2018 5:09:59 PM	R53469
EPA METHOD 7470: MERCURY						Analyst:	**rde**
Mercury	ND	0.00020		mg/L	1	8/29/2018 11:44:19 AM	40027
EPA METHOD 7470: MERCURY						Analyst:	**rde**
Mercury	ND	0.00020	Filtered	mg/L	1	8/29/2018 11:46:37 AM	40027
EPA METHOD 6010B: DISSOLVED METALS						Analyst:	**pmf**
Arsenic	ND	0.020		mg/L	1	8/20/2018 2:14:44 PM	A53550
Barium	0.52	0.020		mg/L	1	8/20/2018 2:14:44 PM	A53550
Cadmium	ND	0.0020		mg/L	1	8/20/2018 2:14:44 PM	A53550
Calcium	120	5.0		mg/L	5	8/20/2018 2:44:28 PM	A53550
Chromium	ND	0.0060		mg/L	1	8/20/2018 2:14:44 PM	A53550
Copper	ND	0.0060		mg/L	1	8/20/2018 2:14:44 PM	A53550
Iron	0.13	0.020		mg/L	1	8/20/2018 2:14:44 PM	A53550
Lead	ND	0.0050		mg/L	1	8/20/2018 5:24:27 PM	B53550
Magnesium	20	1.0		mg/L	1	8/20/2018 2:14:44 PM	A53550
Manganese	2.7	0.010		mg/L	5	8/20/2018 2:44:28 PM	A53550
Potassium	2.2	1.0		mg/L	1	8/20/2018 2:14:44 PM	A53550
Selenium	ND	0.050		mg/L	1	8/20/2018 2:14:44 PM	A53550
Silver	ND	0.0050		mg/L	1	8/20/2018 5:24:27 PM	B53550
Sodium	210	5.0		mg/L	5	8/20/2018 2:44:28 PM	A53550
Uranium	ND	0.10		mg/L	1	8/20/2018 2:14:44 PM	A53550

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-38
Project: Cross Gradient and Downgradient Wells
Collection Date: 8/7/2018 9:30:00 AM
Lab ID: 1808439-004
Matrix: AQUEOUS
Received Date: 8/8/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **pmf**	
Zinc	ND	0.020		mg/L	1	8/20/2018 2:14:44 PM	A53550
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **pmf**	
Arsenic	ND	0.020		mg/L	1	8/13/2018 4:33:37 PM	39719
Barium	0.57	0.020		mg/L	1	8/13/2018 1:18:00 PM	39719
Cadmium	ND	0.0020		mg/L	1	8/13/2018 1:18:00 PM	39719
Chromium	ND	0.0060		mg/L	1	8/13/2018 1:18:00 PM	39719
Lead	ND	0.0050		mg/L	1	8/13/2018 8:38:11 PM	39719
Selenium	ND	0.050		mg/L	1	8/13/2018 1:18:00 PM	39719
Silver	ND	0.0050		mg/L	1	8/13/2018 1:18:00 PM	39719
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	0.18	0.050		mg/L	1	8/10/2018 1:56:35 PM	A53346
Surr: BFB	104	70-130		%Rec	1	8/10/2018 1:56:35 PM	A53346
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**	
Acenaphthene	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
Acenaphthylene	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
Aniline	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
Anthracene	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
Azobenzene	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
Benz(a)anthracene	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
Benzo(a)pyrene	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
Benzo(b)fluoranthene	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
Benzo(g,h,i)perylene	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
Benzo(k)fluoranthene	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
Benzoic acid	ND	20		µg/L	1	8/15/2018 12:23:09 PM	39765
Benzyl alcohol	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
Bis(2-chloroethyl)ether	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
4-Bromophenyl phenyl ether	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
Butyl benzyl phthalate	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
Carbazole	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
4-Chloro-3-methylphenol	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
4-Chloroaniline	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
2-Chloronaphthalene	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
2-Chlorophenol	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
Chrysene	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765

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Hall Environmental Analysis Laboratory, Inc.

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Client Sample ID: MW-38
Project: Cross Gradient and Downgradient Wells
Collection Date: 8/7/2018 9:30:00 AM
Lab ID: 1808439-004 **Matrix:** AQUEOUS **Received Date:** 8/8/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**	
Di-n-butyl phthalate	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
Di-n-octyl phthalate	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
Dibenz(a,h)anthracene	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
Dibenzofuran	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
1,2-Dichlorobenzene	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
1,3-Dichlorobenzene	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
1,4-Dichlorobenzene	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
3,3´-Dichlorobenzidine	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
Diethyl phthalate	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
Dimethyl phthalate	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
2,4-Dichlorophenol	ND	20		µg/L	1	8/15/2018 12:23:09 PM	39765
2,4-Dimethylphenol	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	8/15/2018 12:23:09 PM	39765
2,4-Dinitrophenol	ND	20		µg/L	1	8/15/2018 12:23:09 PM	39765
2,4-Dinitrotoluene	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
2,6-Dinitrotoluene	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
Fluoranthene	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
Fluorene	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
Hexachlorobenzene	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
Hexachlorobutadiene	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
Hexachlorocyclopentadiene	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
Hexachloroethane	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
Isophorone	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
1-Methylnaphthalene	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
2-Methylnaphthalene	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
2-Methylphenol	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
3+4-Methylphenol	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
N-Nitrosodimethylamine	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
N-Nitrosodiphenylamine	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
Naphthalene	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
2-Nitroaniline	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
3-Nitroaniline	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
4-Nitroaniline	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
Nitrobenzene	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
2-Nitrophenol	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
4-Nitrophenol	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
Pentachlorophenol	ND	20		µg/L	1	8/15/2018 12:23:09 PM	39765

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Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**	
Phenanthrene	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
Phenol	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
Pyrene	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
Pyridine	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
1,2,4-Trichlorobenzene	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
2,4,5-Trichlorophenol	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
2,4,6-Trichlorophenol	ND	10		µg/L	1	8/15/2018 12:23:09 PM	39765
Surr: 2-Fluorophenol	50.3	15-74.1		%Rec	1	8/15/2018 12:23:09 PM	39765
Surr: Phenol-d5	44.7	15-59.8		%Rec	1	8/15/2018 12:23:09 PM	39765
Surr: 2,4,6-Tribromophenol	64.5	22.1-112		%Rec	1	8/15/2018 12:23:09 PM	39765
Surr: Nitrobenzene-d5	75.9	33.2-94		%Rec	1	8/15/2018 12:23:09 PM	39765
Surr: 2-Fluorobiphenyl	75.8	34-90.9		%Rec	1	8/15/2018 12:23:09 PM	39765
Surr: 4-Terphenyl-d14	73.7	15-149		%Rec	1	8/15/2018 12:23:09 PM	39765
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
Toluene	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
Ethylbenzene	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
Naphthalene	ND	2.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
1-Methylnaphthalene	ND	4.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
2-Methylnaphthalene	ND	4.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
Acetone	ND	10		µg/L	1	8/13/2018 7:09:00 PM	R53391
Bromobenzene	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
Bromodichloromethane	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
Bromoform	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
Bromomethane	ND	3.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
2-Butanone	ND	10		µg/L	1	8/13/2018 7:09:00 PM	R53391
Carbon disulfide	ND	10		µg/L	1	8/13/2018 7:09:00 PM	R53391
Carbon Tetrachloride	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
Chlorobenzene	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
Chloroethane	ND	2.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
Chloroform	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
Chloromethane	ND	3.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
2-Chlorotoluene	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
4-Chlorotoluene	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-38
Project: Cross Gradient and Downgradient Wells
Collection Date: 8/7/2018 9:30:00 AM
Lab ID: 1808439-004 **Matrix:** AQUEOUS **Received Date:** 8/8/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
cis-1,2-DCE	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
Dibromochloromethane	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
Dibromomethane	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
1,2-Dichlorobenzene	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
1,3-Dichlorobenzene	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
1,4-Dichlorobenzene	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
Dichlorodifluoromethane	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
1,1-Dichloroethane	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
1,1-Dichloroethene	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
1,2-Dichloropropane	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
1,3-Dichloropropane	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
2,2-Dichloropropane	ND	2.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
1,1-Dichloropropene	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
Hexachlorobutadiene	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
2-Hexanone	ND	10		µg/L	1	8/13/2018 7:09:00 PM	R53391
Isopropylbenzene	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
4-Isopropyltoluene	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
4-Methyl-2-pentanone	ND	10		µg/L	1	8/13/2018 7:09:00 PM	R53391
Methylene Chloride	ND	3.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
n-Butylbenzene	ND	3.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
n-Propylbenzene	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
sec-Butylbenzene	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
Styrene	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
tert-Butylbenzene	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
trans-1,2-DCE	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
1,1,1-Trichloroethane	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
1,1,2-Trichloroethane	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
Trichloroethene (TCE)	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
Trichlorofluoromethane	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
1,2,3-Trichloropropane	ND	2.0		µg/L	1	8/13/2018 7:09:00 PM	R53391
Vinyl chloride	ND	1.0		µg/L	1	8/13/2018 7:09:00 PM	R53391

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-38
Project: Cross Gradient and Downgradient Wells
Collection Date: 8/7/2018 9:30:00 AM
Lab ID: 1808439-004
Matrix: AQUEOUS
Received Date: 8/8/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Xylenes, Total	ND	1.5		µg/L	1	8/13/2018 7:09:00 PM	R53391
Surr: 1,2-Dichloroethane-d4	106	70-130		%Rec	1	8/13/2018 7:09:00 PM	R53391
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	8/13/2018 7:09:00 PM	R53391
Surr: Dibromofluoromethane	112	70-130		%Rec	1	8/13/2018 7:09:00 PM	R53391
Surr: Toluene-d8	92.8	70-130		%Rec	1	8/13/2018 7:09:00 PM	R53391

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: Trip Blank
Project: Cross Gradient and Downgradient Wells
Collection Date:
Lab ID: 1808439-005
Matrix: AQUEOUS
Received Date: 8/8/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	8/10/2018 2:19:51 PM	A53346
Surr: BFB	103	70-130		%Rec	1	8/10/2018 2:19:51 PM	A53346
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
Toluene	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
Ethylbenzene	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
Naphthalene	ND	2.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
1-Methylnaphthalene	ND	4.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
2-Methylnaphthalene	ND	4.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
Acetone	ND	10		µg/L	1	8/13/2018 7:33:00 PM	R53391
Bromobenzene	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
Bromodichloromethane	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
Bromoform	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
Bromomethane	ND	3.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
2-Butanone	ND	10		µg/L	1	8/13/2018 7:33:00 PM	R53391
Carbon disulfide	ND	10		µg/L	1	8/13/2018 7:33:00 PM	R53391
Carbon Tetrachloride	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
Chlorobenzene	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
Chloroethane	ND	2.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
Chloroform	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
Chloromethane	ND	3.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
2-Chlorotoluene	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
4-Chlorotoluene	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
cis-1,2-DCE	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
Dibromochloromethane	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
Dibromomethane	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
1,2-Dichlorobenzene	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
1,3-Dichlorobenzene	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
1,4-Dichlorobenzene	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
Dichlorodifluoromethane	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
1,1-Dichloroethane	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
1,1-Dichloroethene	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: Trip Blank
Project: Cross Gradient and Downgradient Wells
Collection Date:
Lab ID: 1808439-005
Matrix: AQUEOUS
Received Date: 8/8/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,2-Dichloropropane	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
1,3-Dichloropropane	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
2,2-Dichloropropane	ND	2.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
1,1-Dichloropropene	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
Hexachlorobutadiene	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
2-Hexanone	ND	10		µg/L	1	8/13/2018 7:33:00 PM	R53391
Isopropylbenzene	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
4-Isopropyltoluene	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
4-Methyl-2-pentanone	ND	10		µg/L	1	8/13/2018 7:33:00 PM	R53391
Methylene Chloride	ND	3.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
n-Butylbenzene	ND	3.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
n-Propylbenzene	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
sec-Butylbenzene	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
Styrene	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
tert-Butylbenzene	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
trans-1,2-DCE	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
1,1,1-Trichloroethane	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
1,1,2-Trichloroethane	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
Trichloroethene (TCE)	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
Trichlorofluoromethane	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
1,2,3-Trichloropropane	ND	2.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
Vinyl chloride	ND	1.0		µg/L	1	8/13/2018 7:33:00 PM	R53391
Xylenes, Total	ND	1.5		µg/L	1	8/13/2018 7:33:00 PM	R53391
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	8/13/2018 7:33:00 PM	R53391
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	8/13/2018 7:33:00 PM	R53391
Surr: Dibromofluoromethane	108	70-130		%Rec	1	8/13/2018 7:33:00 PM	R53391
Surr: Toluene-d8	93.0	70-130		%Rec	1	8/13/2018 7:33:00 PM	R53391

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-37
Project: Cross Gradient and Downgradient Wells
Collection Date: 8/7/2018 10:10:00 AM
Lab ID: 1808439-006 **Matrix:** AQUEOUS **Received Date:** 8/8/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	0.40		mg/L	1	8/13/2018 3:18:44 PM	39725
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	8/13/2018 3:18:44 PM	39725
Surr: DNOP	117	76.6-135		%Rec	1	8/13/2018 3:18:44 PM	39725
CARBON DIOXIDE						Analyst:	**JRR**
Total Carbon Dioxide	640	1.0	H	mg CO2/	1	8/15/2018 5:34:41 PM	R53469
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Fluoride	0.44	0.10		mg/L	1	8/13/2018 12:32:03 PM	R53415
Chloride	180	10		mg/L	20	8/13/2018 12:44:27 PM	R53415
Bromide	2.6	0.10		mg/L	1	8/13/2018 12:32:03 PM	R53415
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	8/13/2018 12:32:03 PM	R53415
Sulfate	420	10		mg/L	20	8/13/2018 12:44:27 PM	R53415
Nitrate+Nitrite as N	ND	1.0		mg/L	5	8/13/2018 3:25:48 PM	R53415
SM2320B: ALKALINITY						Analyst:	**JRR**
Bicarbonate (As CaCO3)	703.0	20.00		mg/L Ca	1	8/15/2018 5:34:41 PM	R53469
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	8/15/2018 5:34:41 PM	R53469
Total Alkalinity (as CaCO3)	703.0	20.00		mg/L Ca	1	8/15/2018 5:34:41 PM	R53469
EPA METHOD 7470: MERCURY						Analyst:	**rde**
Mercury	ND	0.00020		mg/L	1	8/29/2018 11:48:56 AM	40027
EPA METHOD 7470: MERCURY						Analyst:	**rde**
Mercury	ND	0.00020	Filtered	mg/L	1	8/29/2018 11:51:07 AM	40027
EPA METHOD 6010B: DISSOLVED METALS						Analyst:	**pmf**
Arsenic	ND	0.020		mg/L	1	8/20/2018 2:16:33 PM	A53550
Barium	0.079	0.020		mg/L	1	8/20/2018 2:16:33 PM	A53550
Cadmium	ND	0.0020		mg/L	1	8/20/2018 2:16:33 PM	A53550
Calcium	120	5.0		mg/L	5	8/20/2018 2:46:17 PM	A53550
Chromium	ND	0.0060		mg/L	1	8/20/2018 2:16:33 PM	A53550
Copper	ND	0.0060		mg/L	1	8/20/2018 2:16:33 PM	A53550
Iron	0.20	0.020		mg/L	1	8/20/2018 2:16:33 PM	A53550
Lead	ND	0.0050		mg/L	1	8/20/2018 5:26:11 PM	B53550
Magnesium	21	1.0		mg/L	1	8/20/2018 2:16:33 PM	A53550
Manganese	1.1	0.010		mg/L	5	8/20/2018 2:46:17 PM	A53550
Potassium	2.7	1.0		mg/L	1	8/20/2018 2:16:33 PM	A53550
Selenium	ND	0.050		mg/L	1	8/20/2018 2:16:33 PM	A53550
Silver	ND	0.0050		mg/L	1	8/20/2018 5:26:11 PM	B53550
Sodium	430	5.0		mg/L	5	8/20/2018 2:46:17 PM	A53550
Uranium	ND	0.10		mg/L	1	8/20/2018 2:16:33 PM	A53550

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-37
Project: Cross Gradient and Downgradient Wells
Collection Date: 8/7/2018 10:10:00 AM
Lab ID: 1808439-006 **Matrix:** AQUEOUS **Received Date:** 8/8/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **pmf**	
Zinc	ND	0.020		mg/L	1	8/20/2018 2:16:33 PM	A53550
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **pmf**	
Arsenic	ND	0.020		mg/L	1	8/13/2018 4:35:04 PM	39719
Barium	0.10	0.020		mg/L	1	8/13/2018 1:19:40 PM	39719
Cadmium	ND	0.0020		mg/L	1	8/13/2018 1:19:40 PM	39719
Chromium	ND	0.0060		mg/L	1	8/13/2018 1:19:40 PM	39719
Lead	ND	0.0050		mg/L	1	8/13/2018 1:19:40 PM	39719
Selenium	ND	0.050		mg/L	1	8/13/2018 1:19:40 PM	39719
Silver	ND	0.0050		mg/L	1	8/13/2018 1:19:40 PM	39719
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	8/10/2018 2:43:08 PM	A53346
Surr: BFB	107	70-130		%Rec	1	8/10/2018 2:43:08 PM	A53346
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
Toluene	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
Ethylbenzene	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
Naphthalene	ND	2.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
1-Methylnaphthalene	ND	4.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
2-Methylnaphthalene	ND	4.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
Acetone	ND	10		µg/L	1	8/13/2018 7:57:00 PM	R53391
Bromobenzene	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
Bromodichloromethane	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
Bromoform	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
Bromomethane	ND	3.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
2-Butanone	ND	10		µg/L	1	8/13/2018 7:57:00 PM	R53391
Carbon disulfide	ND	10		µg/L	1	8/13/2018 7:57:00 PM	R53391
Carbon Tetrachloride	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
Chlorobenzene	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
Chloroethane	ND	2.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
Chloroform	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
Chloromethane	ND	3.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
2-Chlorotoluene	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
4-Chlorotoluene	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-37
Project: Cross Gradient and Downgradient Wells
Collection Date: 8/7/2018 10:10:00 AM
Lab ID: 1808439-006 **Matrix:** AQUEOUS **Received Date:** 8/8/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
cis-1,2-DCE	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
Dibromochloromethane	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
Dibromomethane	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
1,2-Dichlorobenzene	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
1,3-Dichlorobenzene	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
1,4-Dichlorobenzene	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
Dichlorodifluoromethane	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
1,1-Dichloroethane	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
1,1-Dichloroethene	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
1,2-Dichloropropane	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
1,3-Dichloropropane	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
2,2-Dichloropropane	ND	2.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
1,1-Dichloropropene	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
Hexachlorobutadiene	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
2-Hexanone	ND	10		µg/L	1	8/13/2018 7:57:00 PM	R53391
Isopropylbenzene	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
4-Isopropyltoluene	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
4-Methyl-2-pentanone	ND	10		µg/L	1	8/13/2018 7:57:00 PM	R53391
Methylene Chloride	ND	3.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
n-Butylbenzene	ND	3.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
n-Propylbenzene	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
sec-Butylbenzene	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
Styrene	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
tert-Butylbenzene	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
trans-1,2-DCE	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
1,1,1-Trichloroethane	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
1,1,2-Trichloroethane	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
Trichloroethene (TCE)	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
Trichlorofluoromethane	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
1,2,3-Trichloropropane	ND	2.0		µg/L	1	8/13/2018 7:57:00 PM	R53391
Vinyl chloride	ND	1.0		µg/L	1	8/13/2018 7:57:00 PM	R53391

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-37
Project: Cross Gradient and Downgradient Wells
Collection Date: 8/7/2018 10:10:00 AM
Lab ID: 1808439-006
Matrix: AQUEOUS
Received Date: 8/8/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Xylenes, Total	ND	1.5		µg/L	1	8/13/2018 7:57:00 PM	R53391
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	8/13/2018 7:57:00 PM	R53391
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	8/13/2018 7:57:00 PM	R53391
Surr: Dibromofluoromethane	110	70-130		%Rec	1	8/13/2018 7:57:00 PM	R53391
Surr: Toluene-d8	93.7	70-130		%Rec	1	8/13/2018 7:57:00 PM	R53391

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-35
Project: Cross Gradient and Downgradient Wells
Collection Date: 8/7/2018 10:45:00 AM
Lab ID: 1808439-007 **Matrix:** AQUEOUS **Received Date:** 8/8/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	0.40		mg/L	1	8/13/2018 3:43:13 PM	39725
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	8/13/2018 3:43:13 PM	39725
Surr: DNOP	102	76.6-135		%Rec	1	8/13/2018 3:43:13 PM	39725
CARBON DIOXIDE						Analyst:	**JRR**
Total Carbon Dioxide	940	1.0	H	mg CO2/	1	8/15/2018 5:59:54 PM	R53469
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Fluoride	ND	0.50		mg/L	5	8/13/2018 12:56:51 PM	R53415
Chloride	210	10		mg/L	20	8/13/2018 1:09:17 PM	R53415
Bromide	2.8	0.50		mg/L	5	8/13/2018 12:56:51 PM	R53415
Phosphorus, Orthophosphate (As P)	ND	2.5	H	mg/L	5	8/13/2018 12:56:51 PM	R53415
Sulfate	16	2.5		mg/L	5	8/13/2018 12:56:51 PM	R53415
Nitrate+Nitrite as N	ND	1.0		mg/L	5	8/13/2018 3:38:13 PM	R53415
SM2320B: ALKALINITY						Analyst:	**JRR**
Bicarbonate (As CaCO3)	1004	20.00		mg/L Ca	1	8/15/2018 5:59:54 PM	R53469
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	8/15/2018 5:59:54 PM	R53469
Total Alkalinity (as CaCO3)	1004	20.00		mg/L Ca	1	8/15/2018 5:59:54 PM	R53469
EPA METHOD 7470: MERCURY						Analyst:	**rde**
Mercury	ND	0.00020		mg/L	1	8/29/2018 11:53:19 AM	40027
EPA METHOD 7470: MERCURY						Analyst:	**rde**
Mercury	ND	0.00020	Filtered	mg/L	1	8/29/2018 11:55:31 AM	40027
EPA METHOD 6010B: DISSOLVED METALS						Analyst:	**pmf**
Arsenic	ND	0.020		mg/L	1	8/27/2018 2:42:59 PM	A53717
Barium	0.79	0.020		mg/L	1	8/20/2018 2:18:21 PM	A53550
Cadmium	ND	0.0020		mg/L	1	8/20/2018 2:18:21 PM	A53550
Calcium	120	5.0		mg/L	5	8/20/2018 2:48:05 PM	A53550
Chromium	ND	0.0060		mg/L	1	8/20/2018 2:18:21 PM	A53550
Copper	ND	0.0060		mg/L	1	8/20/2018 2:18:21 PM	A53550
Iron	0.13	0.020		mg/L	1	8/20/2018 2:18:21 PM	A53550
Lead	ND	0.0050		mg/L	1	8/20/2018 5:27:54 PM	B53550
Magnesium	22	1.0		mg/L	1	8/20/2018 2:18:21 PM	A53550
Manganese	1.9	0.010		mg/L	5	8/20/2018 2:48:05 PM	A53550
Potassium	2.9	1.0		mg/L	1	8/20/2018 2:18:21 PM	A53550
Selenium	ND	0.050		mg/L	1	8/27/2018 2:42:59 PM	A53717
Silver	ND	0.0050		mg/L	1	8/20/2018 5:27:54 PM	B53550
Sodium	380	5.0		mg/L	5	8/20/2018 2:48:05 PM	A53550
Uranium	ND	0.10		mg/L	1	8/20/2018 2:18:21 PM	A53550

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Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-35
Project: Cross Gradient and Downgradient Wells
Collection Date: 8/7/2018 10:45:00 AM
Lab ID: 1808439-007 **Matrix:** AQUEOUS **Received Date:** 8/8/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **pmf**	
Zinc	ND	0.020		mg/L	1	8/20/2018 2:18:21 PM	A53550
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **pmf**	
Arsenic	ND	0.020		mg/L	1	8/13/2018 4:36:30 PM	39719
Barium	0.94	0.020		mg/L	1	8/13/2018 1:26:59 PM	39719
Cadmium	ND	0.0020		mg/L	1	8/13/2018 1:26:59 PM	39719
Chromium	ND	0.0060		mg/L	1	8/13/2018 1:26:59 PM	39719
Lead	ND	0.0050		mg/L	1	8/13/2018 1:26:59 PM	39719
Selenium	ND	0.050		mg/L	1	8/13/2018 1:26:59 PM	39719
Silver	ND	0.0050		mg/L	1	8/13/2018 1:26:59 PM	39719
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	0.30	0.050		mg/L	1	8/10/2018 3:06:14 PM	A53346
Surr: BFB	110	70-130		%Rec	1	8/10/2018 3:06:14 PM	A53346
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
Toluene	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
Ethylbenzene	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
Naphthalene	ND	2.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
1-Methylnaphthalene	ND	4.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
2-Methylnaphthalene	ND	4.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
Acetone	11	10		µg/L	1	8/13/2018 8:21:00 PM	R53391
Bromobenzene	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
Bromodichloromethane	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
Bromoform	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
Bromomethane	ND	3.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
2-Butanone	ND	10		µg/L	1	8/13/2018 8:21:00 PM	R53391
Carbon disulfide	ND	10		µg/L	1	8/13/2018 8:21:00 PM	R53391
Carbon Tetrachloride	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
Chlorobenzene	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
Chloroethane	ND	2.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
Chloroform	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
Chloromethane	ND	3.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
2-Chlorotoluene	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
4-Chlorotoluene	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-35
Project: Cross Gradient and Downgradient Wells
Collection Date: 8/7/2018 10:45:00 AM
Lab ID: 1808439-007 **Matrix:** AQUEOUS **Received Date:** 8/8/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
cis-1,2-DCE	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
Dibromochloromethane	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
Dibromomethane	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
1,2-Dichlorobenzene	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
1,3-Dichlorobenzene	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
1,4-Dichlorobenzene	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
Dichlorodifluoromethane	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
1,1-Dichloroethane	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
1,1-Dichloroethene	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
1,2-Dichloropropane	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
1,3-Dichloropropane	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
2,2-Dichloropropane	ND	2.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
1,1-Dichloropropene	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
Hexachlorobutadiene	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
2-Hexanone	ND	10		µg/L	1	8/13/2018 8:21:00 PM	R53391
Isopropylbenzene	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
4-Isopropyltoluene	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
4-Methyl-2-pentanone	ND	10		µg/L	1	8/13/2018 8:21:00 PM	R53391
Methylene Chloride	ND	3.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
n-Butylbenzene	ND	3.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
n-Propylbenzene	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
sec-Butylbenzene	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
Styrene	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
tert-Butylbenzene	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
trans-1,2-DCE	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
1,1,1-Trichloroethane	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
1,1,2-Trichloroethane	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
Trichloroethene (TCE)	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
Trichlorofluoromethane	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
1,2,3-Trichloropropane	ND	2.0		µg/L	1	8/13/2018 8:21:00 PM	R53391
Vinyl chloride	ND	1.0		µg/L	1	8/13/2018 8:21:00 PM	R53391

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-35
Project: Cross Gradient and Downgradient Wells
Collection Date: 8/7/2018 10:45:00 AM
Lab ID: 1808439-007
Matrix: AQUEOUS
Received Date: 8/8/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Xylenes, Total	ND	1.5		µg/L	1	8/13/2018 8:21:00 PM	R53391
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	8/13/2018 8:21:00 PM	R53391
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	8/13/2018 8:21:00 PM	R53391
Surr: Dibromofluoromethane	106	70-130		%Rec	1	8/13/2018 8:21:00 PM	R53391
Surr: Toluene-d8	92.9	70-130		%Rec	1	8/13/2018 8:21:00 PM	R53391

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: Equipment Blank
Project: Cross Gradient and Downgradient Wells
Collection Date: 8/7/2018 11:05:00 AM
Lab ID: 1808439-008 **Matrix:** AQUEOUS **Received Date:** 8/8/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	0.40		mg/L	1	8/13/2018 4:07:51 PM	39725
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	8/13/2018 4:07:51 PM	39725
Surr: DNOP	107	76.6-135		%Rec	1	8/13/2018 4:07:51 PM	39725
CARBON DIOXIDE						Analyst:	**JRR**
Total Carbon Dioxide	9.8	1.0	H	mg CO2/	1	8/15/2018 6:34:04 PM	R53469
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Fluoride	ND	0.10		mg/L	1	8/13/2018 1:21:42 PM	R53415
Chloride	ND	0.50		mg/L	1	8/13/2018 1:21:42 PM	R53415
Bromide	ND	0.10		mg/L	1	8/13/2018 1:21:42 PM	R53415
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	8/13/2018 1:21:42 PM	R53415
Sulfate	ND	0.50		mg/L	1	8/13/2018 1:21:42 PM	R53415
Nitrate+Nitrite as N	ND	1.0		mg/L	5	8/13/2018 3:50:38 PM	R53415
SM2320B: ALKALINITY						Analyst:	**JRR**
Bicarbonate (As CaCO3)	ND	20.00		mg/L Ca	1	8/15/2018 6:34:04 PM	R53469
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	8/15/2018 6:34:04 PM	R53469
Total Alkalinity (as CaCO3)	ND	20.00		mg/L Ca	1	8/15/2018 6:34:04 PM	R53469
EPA METHOD 7470: MERCURY						Analyst:	**rde**
Mercury	ND	0.00020		mg/L	1	8/29/2018 11:57:44 AM	40027
EPA METHOD 7470: MERCURY						Analyst:	**rde**
Mercury	ND	0.00020	Filtered	mg/L	1	8/29/2018 12:04:34 PM	40027
EPA METHOD 6010B: DISSOLVED METALS						Analyst:	**pmf**
Arsenic	ND	0.020		mg/L	1	8/20/2018 2:20:10 PM	A53550
Barium	ND	0.020		mg/L	1	8/20/2018 2:20:10 PM	A53550
Cadmium	ND	0.0020		mg/L	1	8/20/2018 2:20:10 PM	A53550
Calcium	ND	1.0		mg/L	1	8/20/2018 2:20:10 PM	A53550
Chromium	ND	0.0060		mg/L	1	8/20/2018 2:20:10 PM	A53550
Copper	ND	0.0060		mg/L	1	8/20/2018 2:20:10 PM	A53550
Iron	ND	0.020		mg/L	1	8/20/2018 2:20:10 PM	A53550
Lead	ND	0.0050		mg/L	1	8/27/2018 5:32:29 PM	B53717
Magnesium	ND	1.0		mg/L	1	8/20/2018 2:20:10 PM	A53550
Manganese	ND	0.0020		mg/L	1	8/20/2018 2:20:10 PM	A53550
Potassium	ND	1.0		mg/L	1	8/20/2018 2:20:10 PM	A53550
Selenium	ND	0.050		mg/L	1	8/20/2018 2:20:10 PM	A53550
Silver	ND	0.0050		mg/L	1	8/20/2018 5:29:35 PM	B53550
Sodium	ND	1.0		mg/L	1	8/20/2018 2:20:10 PM	A53550
Uranium	ND	0.10		mg/L	1	8/20/2018 2:20:10 PM	A53550

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: Equipment Blank
Project: Cross Gradient and Downgradient Wells
Collection Date: 8/7/2018 11:05:00 AM
Lab ID: 1808439-008 **Matrix:** AQUEOUS **Received Date:** 8/8/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **pmf**	
Zinc	ND	0.020		mg/L	1	8/20/2018 2:20:10 PM	A53550
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **pmf**	
Arsenic	ND	0.020		mg/L	1	8/13/2018 4:37:56 PM	39719
Barium	ND	0.020		mg/L	1	8/13/2018 1:28:41 PM	39719
Cadmium	ND	0.0020		mg/L	1	8/13/2018 1:28:41 PM	39719
Chromium	ND	0.0060		mg/L	1	8/13/2018 1:28:41 PM	39719
Lead	ND	0.0050		mg/L	1	8/13/2018 8:42:29 PM	39719
Selenium	ND	0.050		mg/L	1	8/13/2018 1:28:41 PM	39719
Silver	ND	0.0050		mg/L	1	8/13/2018 1:28:41 PM	39719
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	8/10/2018 3:29:22 PM	A53346
Surr: BFB	103	70-130		%Rec	1	8/10/2018 3:29:22 PM	A53346
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
Toluene	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
Ethylbenzene	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
Naphthalene	ND	2.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
1-Methylnaphthalene	ND	4.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
2-Methylnaphthalene	ND	4.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
Acetone	ND	10		µg/L	1	8/13/2018 8:45:00 PM	R53391
Bromobenzene	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
Bromodichloromethane	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
Bromoform	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
Bromomethane	ND	3.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
2-Butanone	ND	10		µg/L	1	8/13/2018 8:45:00 PM	R53391
Carbon disulfide	ND	10		µg/L	1	8/13/2018 8:45:00 PM	R53391
Carbon Tetrachloride	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
Chlorobenzene	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
Chloroethane	ND	2.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
Chloroform	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
Chloromethane	ND	3.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
2-Chlorotoluene	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
4-Chlorotoluene	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: Equipment Blank
Project: Cross Gradient and Downgradient Wells
Collection Date: 8/7/2018 11:05:00 AM
Lab ID: 1808439-008 **Matrix:** AQUEOUS **Received Date:** 8/8/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
cis-1,2-DCE	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
Dibromochloromethane	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
Dibromomethane	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
1,2-Dichlorobenzene	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
1,3-Dichlorobenzene	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
1,4-Dichlorobenzene	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
Dichlorodifluoromethane	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
1,1-Dichloroethane	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
1,1-Dichloroethene	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
1,2-Dichloropropane	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
1,3-Dichloropropane	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
2,2-Dichloropropane	ND	2.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
1,1-Dichloropropene	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
Hexachlorobutadiene	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
2-Hexanone	ND	10		µg/L	1	8/13/2018 8:45:00 PM	R53391
Isopropylbenzene	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
4-Isopropyltoluene	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
4-Methyl-2-pentanone	ND	10		µg/L	1	8/13/2018 8:45:00 PM	R53391
Methylene Chloride	ND	3.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
n-Butylbenzene	ND	3.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
n-Propylbenzene	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
sec-Butylbenzene	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
Styrene	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
tert-Butylbenzene	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
trans-1,2-DCE	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
1,1,1-Trichloroethane	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
1,1,2-Trichloroethane	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
Trichloroethene (TCE)	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
Trichlorofluoromethane	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
1,2,3-Trichloropropane	ND	2.0		µg/L	1	8/13/2018 8:45:00 PM	R53391
Vinyl chloride	ND	1.0		µg/L	1	8/13/2018 8:45:00 PM	R53391

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: Equipment Blank
Project: Cross Gradient and Downgradient Wells
Collection Date: 8/7/2018 11:05:00 AM
Lab ID: 1808439-008 **Matrix:** AQUEOUS **Received Date:** 8/8/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Xylenes, Total	ND	1.5		µg/L	1	8/13/2018 8:45:00 PM	R53391
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	8/13/2018 8:45:00 PM	R53391
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	8/13/2018 8:45:00 PM	R53391
Surr: Dibromofluoromethane	109	70-130		%Rec	1	8/13/2018 8:45:00 PM	R53391
Surr: Toluene-d8	93.6	70-130		%Rec	1	8/13/2018 8:45:00 PM	R53391

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-12
Project: Cross Gradient and Downgradient Wells
Collection Date: 8/7/2018 12:10:00 PM
Lab ID: 1808439-009
Matrix: AQUEOUS
Received Date: 8/8/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE						Analyst:	**lrm**
Diesel Range Organics (DRO)	ND	0.40		mg/L	1	8/13/2018 4:32:23 PM	39725
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	8/13/2018 4:32:23 PM	39725
Surr: DNOP	108	76.6-135		%Rec	1	8/13/2018 4:32:23 PM	39725
CARBON DIOXIDE						Analyst:	**JRR**
Total Carbon Dioxide	140	1.0	H	mg CO2/	1	8/15/2018 6:40:14 PM	R53469
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Fluoride	0.31	0.10		mg/L	1	8/13/2018 1:46:30 PM	R53415
Chloride	3.5	0.50		mg/L	1	8/13/2018 1:46:30 PM	R53415
Bromide	ND	0.10		mg/L	1	8/13/2018 1:46:30 PM	R53415
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	8/13/2018 1:46:30 PM	R53415
Sulfate	45	10		mg/L	20	8/13/2018 1:58:55 PM	R53415
Nitrate+Nitrite as N	ND	1.0		mg/L	5	8/13/2018 4:03:02 PM	R53415
SM2320B: ALKALINITY						Analyst:	**JRR**
Bicarbonate (As CaCO3)	155.4	20.00		mg/L Ca	1	8/15/2018 6:40:14 PM	R53469
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	8/15/2018 6:40:14 PM	R53469
Total Alkalinity (as CaCO3)	155.4	20.00		mg/L Ca	1	8/15/2018 6:40:14 PM	R53469
EPA METHOD 7470: MERCURY						Analyst:	**rde**
Mercury	ND	0.00020		mg/L	1	8/29/2018 12:06:48 PM	40027
EPA METHOD 7470: MERCURY						Analyst:	**rde**
Mercury	ND	0.00020	Filtered	mg/L	1	8/29/2018 12:09:02 PM	40027
EPA METHOD 6010B: DISSOLVED METALS						Analyst:	**pmf**
Arsenic	ND	0.020		mg/L	1	8/20/2018 2:22:10 PM	A53550
Barium	0.038	0.020		mg/L	1	8/20/2018 2:22:10 PM	A53550
Cadmium	ND	0.0020		mg/L	1	8/20/2018 2:22:10 PM	A53550
Calcium	42	1.0		mg/L	1	8/20/2018 2:22:10 PM	A53550
Chromium	ND	0.0060		mg/L	1	8/20/2018 2:22:10 PM	A53550
Copper	ND	0.0060		mg/L	1	8/20/2018 2:22:10 PM	A53550
Iron	ND	0.020		mg/L	1	8/20/2018 2:22:10 PM	A53550
Lead	ND	0.0050		mg/L	1	8/20/2018 5:31:17 PM	B53550
Magnesium	6.5	1.0		mg/L	1	8/20/2018 2:22:10 PM	A53550
Manganese	0.0077	0.0020		mg/L	1	8/20/2018 2:22:10 PM	A53550
Potassium	ND	1.0		mg/L	1	8/20/2018 2:22:10 PM	A53550
Selenium	ND	0.050		mg/L	1	8/20/2018 2:22:10 PM	A53550
Silver	ND	0.0050		mg/L	1	8/20/2018 5:31:17 PM	B53550
Sodium	31	1.0		mg/L	1	8/20/2018 2:22:10 PM	A53550
Uranium	ND	0.10		mg/L	1	8/20/2018 2:22:10 PM	A53550

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-12
Project: Cross Gradient and Downgradient Wells
Collection Date: 8/7/2018 12:10:00 PM
Lab ID: 1808439-009
Matrix: AQUEOUS
Received Date: 8/8/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **pmf**	
Zinc	ND	0.020		mg/L	1	8/20/2018 2:22:10 PM	A53550
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **pmf**	
Arsenic	ND	0.020		mg/L	1	8/13/2018 4:43:47 PM	39719
Barium	0.064	0.020		mg/L	1	8/13/2018 1:30:42 PM	39719
Cadmium	ND	0.0020		mg/L	1	8/13/2018 1:30:42 PM	39719
Chromium	0.14	0.0060		mg/L	1	8/13/2018 1:30:42 PM	39719
Lead	ND	0.0050		mg/L	1	8/13/2018 8:43:55 PM	39719
Selenium	ND	0.050		mg/L	1	8/13/2018 1:30:42 PM	39719
Silver	ND	0.0050		mg/L	1	8/13/2018 1:30:42 PM	39719
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	8/10/2018 3:52:37 PM	A53346
Surr: BFB	105	70-130		%Rec	1	8/10/2018 3:52:37 PM	A53346
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**	
Acenaphthene	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
Acenaphthylene	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
Aniline	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
Anthracene	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
Azobenzene	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
Benz(a)anthracene	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
Benzo(a)pyrene	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
Benzo(b)fluoranthene	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
Benzo(g,h,i)perylene	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
Benzo(k)fluoranthene	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
Benzoic acid	ND	20		µg/L	1	8/15/2018 12:52:26 PM	39765
Benzyl alcohol	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
Bis(2-chloroethyl)ether	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
4-Bromophenyl phenyl ether	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
Butyl benzyl phthalate	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
Carbazole	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
4-Chloro-3-methylphenol	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
4-Chloroaniline	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
2-Chloronaphthalene	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
2-Chlorophenol	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
Chrysene	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-12
Project: Cross Gradient and Downgradient Wells
Collection Date: 8/7/2018 12:10:00 PM
Lab ID: 1808439-009 **Matrix:** AQUEOUS **Received Date:** 8/8/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**	
Di-n-butyl phthalate	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
Di-n-octyl phthalate	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
Dibenz(a,h)anthracene	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
Dibenzofuran	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
1,2-Dichlorobenzene	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
1,3-Dichlorobenzene	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
1,4-Dichlorobenzene	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
3,3´-Dichlorobenzidine	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
Diethyl phthalate	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
Dimethyl phthalate	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
2,4-Dichlorophenol	ND	20		µg/L	1	8/15/2018 12:52:26 PM	39765
2,4-Dimethylphenol	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	8/15/2018 12:52:26 PM	39765
2,4-Dinitrophenol	ND	20		µg/L	1	8/15/2018 12:52:26 PM	39765
2,4-Dinitrotoluene	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
2,6-Dinitrotoluene	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
Fluoranthene	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
Fluorene	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
Hexachlorobenzene	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
Hexachlorobutadiene	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
Hexachlorocyclopentadiene	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
Hexachloroethane	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
Isophorone	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
1-Methylnaphthalene	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
2-Methylnaphthalene	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
2-Methylphenol	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
3+4-Methylphenol	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
N-Nitrosodimethylamine	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
N-Nitrosodiphenylamine	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
Naphthalene	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
2-Nitroaniline	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
3-Nitroaniline	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
4-Nitroaniline	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
Nitrobenzene	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
2-Nitrophenol	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
4-Nitrophenol	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
Pentachlorophenol	ND	20		µg/L	1	8/15/2018 12:52:26 PM	39765

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Qualifiers:

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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-12
Project: Cross Gradient and Downgradient Wells
Collection Date: 8/7/2018 12:10:00 PM
Lab ID: 1808439-009
Matrix: AQUEOUS
Received Date: 8/8/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**	
Phenanthrene	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
Phenol	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
Pyrene	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
Pyridine	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
1,2,4-Trichlorobenzene	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
2,4,5-Trichlorophenol	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
2,4,6-Trichlorophenol	ND	10		µg/L	1	8/15/2018 12:52:26 PM	39765
Surr: 2-Fluorophenol	48.5	15-74.1		%Rec	1	8/15/2018 12:52:26 PM	39765
Surr: Phenol-d5	44.7	15-59.8		%Rec	1	8/15/2018 12:52:26 PM	39765
Surr: 2,4,6-Tribromophenol	64.4	22.1-112		%Rec	1	8/15/2018 12:52:26 PM	39765
Surr: Nitrobenzene-d5	69.2	33.2-94		%Rec	1	8/15/2018 12:52:26 PM	39765
Surr: 2-Fluorobiphenyl	68.8	34-90.9		%Rec	1	8/15/2018 12:52:26 PM	39765
Surr: 4-Terphenyl-d14	73.3	15-149		%Rec	1	8/15/2018 12:52:26 PM	39765
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
Toluene	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
Ethylbenzene	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
Naphthalene	ND	2.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
1-Methylnaphthalene	ND	4.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
2-Methylnaphthalene	ND	4.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
Acetone	ND	10		µg/L	1	8/13/2018 9:09:00 PM	R53391
Bromobenzene	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
Bromodichloromethane	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
Bromoform	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
Bromomethane	ND	3.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
2-Butanone	ND	10		µg/L	1	8/13/2018 9:09:00 PM	R53391
Carbon disulfide	ND	10		µg/L	1	8/13/2018 9:09:00 PM	R53391
Carbon Tetrachloride	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
Chlorobenzene	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
Chloroethane	ND	2.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
Chloroform	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
Chloromethane	ND	3.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
2-Chlorotoluene	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
4-Chlorotoluene	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-12
Project: Cross Gradient and Downgradient Wells
Collection Date: 8/7/2018 12:10:00 PM
Lab ID: 1808439-009
Matrix: AQUEOUS
Received Date: 8/8/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
cis-1,2-DCE	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
Dibromochloromethane	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
Dibromomethane	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
1,2-Dichlorobenzene	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
1,3-Dichlorobenzene	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
1,4-Dichlorobenzene	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
Dichlorodifluoromethane	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
1,1-Dichloroethane	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
1,1-Dichloroethene	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
1,2-Dichloropropane	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
1,3-Dichloropropane	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
2,2-Dichloropropane	ND	2.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
1,1-Dichloropropene	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
Hexachlorobutadiene	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
2-Hexanone	ND	10		µg/L	1	8/13/2018 9:09:00 PM	R53391
Isopropylbenzene	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
4-Isopropyltoluene	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
4-Methyl-2-pentanone	ND	10		µg/L	1	8/13/2018 9:09:00 PM	R53391
Methylene Chloride	ND	3.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
n-Butylbenzene	ND	3.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
n-Propylbenzene	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
sec-Butylbenzene	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
Styrene	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
tert-Butylbenzene	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
trans-1,2-DCE	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
1,1,1-Trichloroethane	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
1,1,2-Trichloroethane	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
Trichloroethene (TCE)	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
Trichlorofluoromethane	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
1,2,3-Trichloropropane	ND	2.0		µg/L	1	8/13/2018 9:09:00 PM	R53391
Vinyl chloride	ND	1.0		µg/L	1	8/13/2018 9:09:00 PM	R53391

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Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-12
Project: Cross Gradient and Downgradient Wells
Collection Date: 8/7/2018 12:10:00 PM
Lab ID: 1808439-009
Matrix: AQUEOUS
Received Date: 8/8/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Xylenes, Total	ND	1.5		µg/L	1	8/13/2018 9:09:00 PM	R53391
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	8/13/2018 9:09:00 PM	R53391
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	8/13/2018 9:09:00 PM	R53391
Surr: Dibromofluoromethane	111	70-130		%Rec	1	8/13/2018 9:09:00 PM	R53391
Surr: Toluene-d8	93.4	70-130		%Rec	1	8/13/2018 9:09:00 PM	R53391

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808439**

31-Aug-18

Client: Andeavor Bloomfield

Project: Cross Gradient and Downgradient Wells

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R53415**	RunNo: **53415**
Prep Date:	Analysis Date: **8/13/2018**	SeqNo: **1759231** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R53415**	RunNo: **53415**
Prep Date:	Analysis Date: **8/13/2018**	SeqNo: **1759232** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.46	0.10	0.5000	0	92.7	90	110			
Chloride	4.6	0.50	5.000	0	91.6	90	110			
Bromide	2.4	0.10	2.500	0	94.3	90	110			
Phosphorus, Orthophosphate (As P	4.5	0.50	5.000	0	90.9	90	110			
Sulfate	9.0	0.50	10.00	0	90.4	90	110			
Nitrate+Nitrite as N	3.3	0.20	3.500	0	95.1	90	110			

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R53580**	RunNo: **53580**
Prep Date:	Analysis Date: **8/20/2018**	SeqNo: **1766477** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.6	0.50	5.000	0	92.9	90	110			
Sulfate	9.2	0.50	10.00	0	92.3	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R53580**	RunNo: **53580**
Prep Date:	Analysis Date: **8/20/2018**	SeqNo: **1766478** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Sulfate	ND	0.50								

Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808439**

31-Aug-18

Client: Andeavor Bloomfield

Project: Cross Gradient and Downgradient Wells

Sample ID **1808439-001BMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Diesel Range**
Client ID: **MW-32**	Batch ID: **39725**	RunNo: **53384**
Prep Date: **8/10/2018**	Analysis Date: **8/13/2018**	SeqNo: **1759049** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	2.5	0.40	2.500	0	102	89.6	145			
Surr: DNOP	0.24		0.2500		97.1	76.6	135			

Sample ID **1808439-001BMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Diesel Range**
Client ID: **MW-32**	Batch ID: **39725**	RunNo: **53384**
Prep Date: **8/10/2018**	Analysis Date: **8/13/2018**	SeqNo: **1759050** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	2.0	0.40	2.500	0	80.5	89.6	145	23.3	20	SR
Surr: DNOP	0.20		0.2500		81.4	76.6	135	0	0	

Sample ID **LCS-39725**	SampType: **LCS**	TestCode: **EPA Method 8015D: Diesel Range**
Client ID: **LCSW**	Batch ID: **39725**	RunNo: **53384**
Prep Date: **8/10/2018**	Analysis Date: **8/13/2018**	SeqNo: **1759066** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	2.1	0.40	2.500	0	83.4	76.5	158			
Surr: DNOP	0.20		0.2500		81.4	76.6	135			

Sample ID **MB-39725**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Diesel Range**
Client ID: **PBW**	Batch ID: **39725**	RunNo: **53384**
Prep Date: **8/10/2018**	Analysis Date: **8/13/2018**	SeqNo: **1759067** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	0.40								
Motor Oil Range Organics (MRO)	ND	2.5								
Surr: DNOP	0.57		0.5000		114	76.6	135			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808439**

31-Aug-18

Client: Andeavor Bloomfield

Project: Cross Gradient and Downgradient Wells

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R53391**	RunNo: **53391**
Prep Date:	Analysis Date: **8/13/2018**	SeqNo: **1759339** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	110	70	130			
Toluene	20	1.0	20.00	0	99.6	70	130			
Chlorobenzene	20	1.0	20.00	0	100	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	111	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	104	70	130			
Surr: 1,2-Dichloroethane-d4	9.9		10.00		98.5	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	9.3		10.00		92.8	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R53391**	RunNo: **53391**
Prep Date:	Analysis Date: **8/13/2018**	SeqNo: **1759340** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808439**

31-Aug-18

Client: Andeavor Bloomfield

Project: Cross Gradient and Downgradient Wells

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R53391**	RunNo: **53391**
Prep Date:	Analysis Date: **8/13/2018**	SeqNo: **1759340** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808439**

31-Aug-18

Client: Andeavor Bloomfield

Project: Cross Gradient and Downgradient Wells

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R53391**	RunNo: **53391**
Prep Date:	Analysis Date: **8/13/2018**	SeqNo: **1759340** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	10		10.00		100	70	130			
Surr: Toluene-d8	9.4		10.00		93.7	70	130			

Sample ID **1808439-001ams**	SampType: **MS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MW-32**	Batch ID: **R53391**	RunNo: **53391**
Prep Date:	Analysis Date: **8/13/2018**	SeqNo: **1759346** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	111	60.5	137			
Toluene	19	1.0	20.00	0	97.1	70	130			
Chlorobenzene	20	1.0	20.00	0	98.7	70	130			
1,1-Dichloroethene	23	1.0	20.00	0	114	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	104	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		105	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	11		10.00		106	70	130			
Surr: Toluene-d8	9.3		10.00		93.2	70	130			

Sample ID **1808439-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MW-32**	Batch ID: **R53391**	RunNo: **53391**
Prep Date:	Analysis Date: **8/13/2018**	SeqNo: **1759347** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	109	60.5	137	2.29	20	
Toluene	19	1.0	20.00	0	93.1	70	130	4.19	20	
Chlorobenzene	19	1.0	20.00	0	95.8	70	130	3.01	20	
1,1-Dichloroethene	22	1.0	20.00	0	112	70	130	1.16	20	
Trichloroethene (TCE)	20	1.0	20.00	0	102	70	130	2.23	20	
Surr: 1,2-Dichloroethane-d4	11		10.00		106	70	130	0	0	
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130	0	0	
Surr: Dibromofluoromethane	11		10.00		108	70	130	0	0	
Surr: Toluene-d8	9.3		10.00		92.9	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1808439**
31-Aug-18

Client: Andeavor Bloomfield
Project: Cross Gradient and Downgradient Wells

Sample ID **mb-39765**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **39765**	RunNo: **53436**
Prep Date: **8/14/2018**	Analysis Date: **8/14/2018**	SeqNo: **1759987** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	ND	20								
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								
3,3´-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1808439**
31-Aug-18

Client: Andeavor Bloomfield
Project: Cross Gradient and Downgradient Wells

Sample ID **mb-39765**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **39765**	RunNo: **53436**
Prep Date: **8/14/2018**	Analysis Date: **8/14/2018**	SeqNo: **1759987** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								
Surr: 2-Fluorophenol	95		200.0		47.3	15	74.1			
Surr: Phenol-d5	75		200.0		37.4	15	59.8			
Surr: 2,4,6-Tribromophenol	120		200.0		59.6	22.1	112			
Surr: Nitrobenzene-d5	66		100.0		65.9	33.2	94			
Surr: 2-Fluorobiphenyl	62		100.0		61.8	34	90.9			
Surr: 4-Terphenyl-d14	73		100.0		73.0	15	149			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808439**

31-Aug-18

Client: Andeavor Bloomfield

Project: Cross Gradient and Downgradient Wells

Sample ID **1808439-004Fms**	SampType: **MS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **MW-38**	Batch ID: **39765**	RunNo: **53467**
Prep Date: **8/14/2018**	Analysis Date: **8/15/2018**	SeqNo: **1761608** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	76	10	100.0	0	75.6	15	123			
4-Chloro-3-methylphenol	160	10	200.0	0	78.6	26.6	118			
2-Chlorophenol	140	10	200.0	0	72.4	15	120			
1,4-Dichlorobenzene	72	10	100.0	0	71.8	19	108			
2,4-Dinitrotoluene	63	10	100.0	0	63.3	27.8	103			
N-Nitrosodi-n-propylamine	92	10	100.0	0	92.2	32.3	126			
4-Nitrophenol	91	10	200.0	0	45.3	15	72.1			
Pentachlorophenol	140	20	200.0	0	70.0	15	114			
Phenol	86	10	200.0	0	42.8	15	67.5			
Pyrene	77	10	100.0	0	77.4	31.2	112			
1,2,4-Trichlorobenzene	81	10	100.0	0	80.7	22.1	123			
Surr: 2-Fluorophenol	110		200.0		54.1	15	74.1			
Surr: Phenol-d5	91		200.0		45.4	15	59.8			
Surr: 2,4,6-Tribromophenol	140		200.0		71.2	22.1	112			
Surr: Nitrobenzene-d5	77		100.0		77.2	33.2	94			
Surr: 2-Fluorobiphenyl	74		100.0		74.1	34	90.9			
Surr: 4-Terphenyl-d14	82		100.0		81.7	15	149			

Sample ID **1808439-004Fmsd**	SampType: **MSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **MW-38**	Batch ID: **39765**	RunNo: **53467**
Prep Date: **8/14/2018**	Analysis Date: **8/15/2018**	SeqNo: **1761609** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	67	10	100.0	0	67.5	15	123	11.3	30.5	
4-Chloro-3-methylphenol	150	10	200.0	0	75.6	26.6	118	4.01	50	
2-Chlorophenol	130	10	200.0	0	63.2	15	120	13.6	36.3	
1,4-Dichlorobenzene	61	10	100.0	0	61.3	19	108	15.8	42.1	
2,4-Dinitrotoluene	60	10	100.0	0	59.6	27.8	103	6.05	28.5	
N-Nitrosodi-n-propylamine	80	10	100.0	0	79.8	32.3	126	14.4	25.4	
4-Nitrophenol	78	10	200.0	0	39.0	15	72.1	14.9	50	
Pentachlorophenol	130	20	200.0	0	64.3	15	114	8.46	50	
Phenol	80	10	200.0	0	39.9	15	67.5	7.03	46.1	
Pyrene	70	10	100.0	0	70.3	31.2	112	9.67	34.3	
1,2,4-Trichlorobenzene	71	10	100.0	0	70.8	22.1	123	13.1	43.6	
Surr: 2-Fluorophenol	94		200.0		46.8	15	74.1	0	0	
Surr: Phenol-d5	82		200.0		41.0	15	59.8	0	0	
Surr: 2,4,6-Tribromophenol	130		200.0		66.7	22.1	112	0	0	
Surr: Nitrobenzene-d5	68		100.0		67.8	33.2	94	0	0	
Surr: 2-Fluorobiphenyl	66		100.0		66.1	34	90.9	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1808439**
31-Aug-18

Client: Andeavor Bloomfield
Project: Cross Gradient and Downgradient Wells

Sample ID **1808439-004Fmsd**	SampType: **MSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **MW-38**	Batch ID: **39765**	RunNo: **53467**
Prep Date: **8/14/2018**	Analysis Date: **8/15/2018**	SeqNo: **1761609** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	76		100.0		76.4	15	149	0	0	

Sample ID **lcs-39765**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **39765**	RunNo: **53467**
Prep Date: **8/14/2018**	Analysis Date: **8/15/2018**	SeqNo: **1761612** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	63	10	100.0	0	62.6	55.1	104			
4-Chloro-3-methylphenol	140	10	200.0	0	71.7	57	115			
2-Chlorophenol	130	10	200.0	0	62.5	43.4	112			
1,4-Dichlorobenzene	54	10	100.0	0	54.3	38	95.2			
2,4-Dinitrotoluene	56	10	100.0	0	56.5	55.1	96.7			
N-Nitrosodi-n-propylamine	78	10	100.0	0	78.2	55	112			
4-Nitrophenol	83	10	200.0	0	41.4	16.6	93			
Pentachlorophenol	120	20	200.0	0	60.4	43.2	104			
Phenol	73	10	200.0	0	36.6	21.3	85.7			
Pyrene	66	10	100.0	0	65.8	64.9	105			
1,2,4-Trichlorobenzene	62	10	100.0	0	62.0	42.6	107			
Surr: 2-Fluorophenol	89		200.0		44.5	15	74.1			
Surr: Phenol-d5	80		200.0		39.8	15	59.8			
Surr: 2,4,6-Tribromophenol	130		200.0		63.0	22.1	112			
Surr: Nitrobenzene-d5	66		100.0		66.0	33.2	94			
Surr: 2-Fluorobiphenyl	63		100.0		63.4	34	90.9			
Surr: 4-Terphenyl-d14	67		100.0		67.4	15	149			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808439**

31-Aug-18

Client: Andeavor Bloomfield

Project: Cross Gradient and Downgradient Wells

Sample ID	**MB-40027**	SampType:	**MBLK**	TestCode:	**EPA Method 7470: Mercury**					
Client ID:	**PBW**	Batch ID:	**40027**	RunNo:	**53784**					
Prep Date:	**8/28/2018**	Analysis Date:	**8/29/2018**	SeqNo:	**1775007**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	**LCS-40027**	SampType:	**LCS**	TestCode:	**EPA Method 7470: Mercury**					
Client ID:	**LCSW**	Batch ID:	**40027**	RunNo:	**53784**					
Prep Date:	**8/28/2018**	Analysis Date:	**8/29/2018**	SeqNo:	**1775008**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0050	0.00020	0.005000	0	99.1	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808439**

31-Aug-18

Client: Andeavor Bloomfield

Project: Cross Gradient and Downgradient Wells

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A53550**	RunNo: **53550**
Prep Date:	Analysis Date: **8/20/2018**	SeqNo: **1765751** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.020								
Barium	ND	0.020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Selenium	ND	0.050								
Sodium	ND	1.0								
Uranium	ND	0.10								
Zinc	ND	0.020								

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A53550**	RunNo: **53550**
Prep Date:	Analysis Date: **8/20/2018**	SeqNo: **1765753** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.50	0.020	0.5000	0	99.9	80	120			
Barium	0.51	0.020	0.5000	0	103	80	120			
Cadmium	0.50	0.0020	0.5000	0	99.9	80	120			
Calcium	49	1.0	50.00	0	97.1	80	120			
Chromium	0.51	0.0060	0.5000	0	102	80	120			
Copper	0.50	0.0060	0.5000	0	100	80	120			
Iron	0.50	0.020	0.5000	0	101	80	120			
Magnesium	50	1.0	50.00	0	99.4	80	120			
Manganese	0.50	0.0020	0.5000	0	101	80	120			
Potassium	49	1.0	50.00	0	97.3	80	120			
Selenium	0.50	0.050	0.5000	0	99.8	80	120			
Sodium	50	1.0	50.00	0	99.9	80	120			
Uranium	0.46	0.10	0.5000	0	91.3	80	120			
Zinc	0.51	0.020	0.5000	0	102	80	120			

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B53550**	RunNo: **53550**
Prep Date:	Analysis Date: **8/20/2018**	SeqNo: **1766579** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808439**

31-Aug-18

Client: Andeavor Bloomfield

Project: Cross Gradient and Downgradient Wells

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B53550**	RunNo: **53550**
Prep Date:	Analysis Date: **8/20/2018**	SeqNo: **1766579** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.0050								
Silver	ND	0.0050								

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B53550**	RunNo: **53550**
Prep Date:	Analysis Date: **8/20/2018**	SeqNo: **1766581** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.50	0.0050	0.5000	0	99.6	80	120			
Silver	0.11	0.0050	0.1000	0	107	80	120			

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A53717**	RunNo: **53717**
Prep Date:	Analysis Date: **8/27/2018**	SeqNo: **1772819** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.020								
Selenium	ND	0.050								
Zinc	ND	0.020								

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A53717**	RunNo: **53717**
Prep Date:	Analysis Date: **8/27/2018**	SeqNo: **1772821** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.47	0.020	0.5000	0	93.2	80	120			
Selenium	0.46	0.050	0.5000	0	92.6	80	120			
Zinc	0.50	0.020	0.5000	0	99.3	80	120			

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B53717**	RunNo: **53717**
Prep Date:	Analysis Date: **8/27/2018**	SeqNo: **1772853** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.0050								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808439**

31-Aug-18

Client: Andeavor Bloomfield

Project: Cross Gradient and Downgradient Wells

Sample ID	**LCS-B**	SampType:	**LCS**	TestCode:	**EPA Method 6010B: Dissolved Metals**
Client ID:	**LCSW**	Batch ID:	**B53717**	RunNo:	**53717**
Prep Date:		Analysis Date:	**8/27/2018**	SeqNo:	**1772855** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.50	0.0050	0.5000	0	100	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808439**

31-Aug-18

Client: Andeavor Bloomfield

Project: Cross Gradient and Downgradient Wells

Sample ID **MB-39719**	SampType: **MBLK**	TestCode: **EPA 6010B: Total Recoverable Metals**
Client ID: **PBW**	Batch ID: **39719**	RunNo: **53393**
Prep Date: **8/10/2018**	Analysis Date: **8/13/2018**	SeqNo: **1758346** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Lead	0.012	0.0050								
Selenium	ND	0.050								
Silver	ND	0.0050								

Sample ID **LCS-39719**	SampType: **LCS**	TestCode: **EPA 6010B: Total Recoverable Metals**
Client ID: **LCSW**	Batch ID: **39719**	RunNo: **53393**
Prep Date: **8/10/2018**	Analysis Date: **8/13/2018**	SeqNo: **1758348** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.020	0.5000	0	100	80	120			
Cadmium	0.51	0.0020	0.5000	0	101	80	120			
Chromium	0.48	0.0060	0.5000	0	96.1	80	120			
Lead	0.49	0.0050	0.5000	0	97.9	80	120			B
Selenium	0.49	0.050	0.5000	0	98.4	80	120			
Silver	0.10	0.0050	0.1000	0	101	80	120			

Sample ID **1808439-001DMS**	SampType: **MS**	TestCode: **EPA 6010B: Total Recoverable Metals**
Client ID: **MW-32**	Batch ID: **39719**	RunNo: **53393**
Prep Date: **8/10/2018**	Analysis Date: **8/13/2018**	SeqNo: **1758373** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.51	0.020	0.5000	0	101	75	125			
Cadmium	0.50	0.0020	0.5000	0	101	75	125			
Chromium	0.47	0.0060	0.5000	0	94.2	75	125			
Selenium	0.49	0.050	0.5000	0	97.3	75	125			
Silver	0.12	0.0050	0.1000	0	117	75	125			

Sample ID **1808439-001DMSD**	SampType: **MSD**	TestCode: **EPA 6010B: Total Recoverable Metals**
Client ID: **MW-32**	Batch ID: **39719**	RunNo: **53393**
Prep Date: **8/10/2018**	Analysis Date: **8/13/2018**	SeqNo: **1758374** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.020	0.5000	0	101	75	125	0	20	
Cadmium	0.50	0.0020	0.5000	0	100	75	125	0	20	
Chromium	0.47	0.0060	0.5000	0	93.8	75	125	0	20	
Selenium	0.49	0.050	0.5000	0	97.9	75	125	0	20	
Silver	0.12	0.0050	0.1000	0	118	75	125	0	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808439**

31-Aug-18

Client: Andeavor Bloomfield

Project: Cross Gradient and Downgradient Wells

Sample ID	**MB-39719**	SampType: **MBLK**			TestCode: **EPA 6010B: Total Recoverable Metals**					
Client ID:	**PBW**	Batch ID: **39719**			RunNo: **53393**					
Prep Date:	**8/10/2018**	Analysis Date: **8/13/2018**			SeqNo: **1758434**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.020								

Sample ID	**LCS-39719**	SampType: **LCS**			TestCode: **EPA 6010B: Total Recoverable Metals**					
Client ID:	**LCSW**	Batch ID: **39719**			RunNo: **53393**					
Prep Date:	**8/10/2018**	Analysis Date: **8/13/2018**			SeqNo: **1758436**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.48	0.020	0.5000	0	95.1	80	120			

Sample ID	**1808439-001DMS**	SampType: **MS**			TestCode: **EPA 6010B: Total Recoverable Metals**					
Client ID:	**MW-32**	Batch ID: **39719**			RunNo: **53393**					
Prep Date:	**8/10/2018**	Analysis Date: **8/13/2018**			SeqNo: **1758472**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.49	0.020	0.5000	0	98.5	75	125			

Sample ID	**1808439-001DMSD**	SampType: **MSD**			TestCode: **EPA 6010B: Total Recoverable Metals**					
Client ID:	**MW-32**	Batch ID: **39719**			RunNo: **53393**					
Prep Date:	**8/10/2018**	Analysis Date: **8/13/2018**			SeqNo: **1758473**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.49	0.020	0.5000	0	97.2	75	125	1.38	20	

Sample ID	**MB-39719**	SampType: **MBLK**			TestCode: **EPA 6010B: Total Recoverable Metals**					
Client ID:	**PBW**	Batch ID: **39719**			RunNo: **53387**					
Prep Date:	**8/10/2018**	Analysis Date: **8/13/2018**			SeqNo: **1759161**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.0050								

Sample ID	**LCS-39719**	SampType: **LCS**			TestCode: **EPA 6010B: Total Recoverable Metals**					
Client ID:	**LCSW**	Batch ID: **39719**			RunNo: **53387**					
Prep Date:	**8/10/2018**	Analysis Date: **8/13/2018**			SeqNo: **1759163**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.51	0.0050	0.5000	0	101	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808439**

31-Aug-18

Client: Andeavor Bloomfield

Project: Cross Gradient and Downgradient Wells

Sample ID	**1808439-001DMS**	SampType:	**MS**		TestCode:	**EPA 6010B: Total Recoverable Metals**				
Client ID:	**MW-32**	Batch ID:	**39719**		RunNo:	**53387**				
Prep Date:	**8/10/2018**	Analysis Date:	**8/13/2018**		SeqNo:	**1759179**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.47	0.0050	0.5000	0	94.8	75	125			

Sample ID	**1808439-001DMSD**	SampType:	**MSD**		TestCode:	**EPA 6010B: Total Recoverable Metals**				
Client ID:	**MW-32**	Batch ID:	**39719**		RunNo:	**53387**				
Prep Date:	**8/10/2018**	Analysis Date:	**8/13/2018**		SeqNo:	**1759182**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.48	0.0050	0.5000	0	95.6	75	125	0.811	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808439**

31-Aug-18

Client: Andeavor Bloomfield

Project: Cross Gradient and Downgradient Wells

Sample ID	**2.5ug gro lcs**	SampType:	**LCS**		TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**LCSW**	Batch ID:	**A53346**		RunNo:	**53346**					
Prep Date:		Analysis Date:	**8/10/2018**		SeqNo:	**1757458**	Units:	**mg/L**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)		0.52	0.050	0.5000	0	103	70	130			
Surr: BFB		9.8		10.00		98.0	70	130			

Sample ID	**rb**	SampType:	**MBLK**		TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**PBW**	Batch ID:	**A53346**		RunNo:	**53346**					
Prep Date:		Analysis Date:	**8/10/2018**		SeqNo:	**1757460**	Units:	**mg/L**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)		ND	0.050								
Surr: BFB		10		10.00		104	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808439**

31-Aug-18

Client: Andeavor Bloomfield

Project: Cross Gradient and Downgradient Wells

Sample ID	**mb-1 alk**	SampType:	**MBLK**		TestCode:	**SM2320B: Alkalinity**					
Client ID:	**PBW**	Batch ID:	**R53469**		RunNo:	**53469**					
Prep Date:		Analysis Date:	**8/15/2018**		SeqNo:	**1761677**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Alkalinity (as CaCO3)	ND	20.00									

Sample ID	**lcs-1 alk**	SampType:	**LCS**		TestCode:	**SM2320B: Alkalinity**					
Client ID:	**LCSW**	Batch ID:	**R53469**		RunNo:	**53469**					
Prep Date:		Analysis Date:	**8/15/2018**		SeqNo:	**1761678**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Alkalinity (as CaCO3)	79.68	20.00	80.00	0	99.6	90	110				

Sample ID	**mb-2 alk**	SampType:	**MBLK**		TestCode:	**SM2320B: Alkalinity**					
Client ID:	**PBW**	Batch ID:	**R53469**		RunNo:	**53469**					
Prep Date:		Analysis Date:	**8/15/2018**		SeqNo:	**1761702**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Alkalinity (as CaCO3)	ND	20.00									

Sample ID	**lcs-2 alk**	SampType:	**LCS**		TestCode:	**SM2320B: Alkalinity**					
Client ID:	**LCSW**	Batch ID:	**R53469**		RunNo:	**53469**					
Prep Date:		Analysis Date:	**8/15/2018**		SeqNo:	**1761704**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Alkalinity (as CaCO3)	80.20	20.00	80.00	0	100	90	110				

Sample ID	**1808439-001cms**	SampType:	**MS**		TestCode:	**SM2320B: Alkalinity**					
Client ID:	**MW-32**	Batch ID:	**R53469**		RunNo:	**53469**					
Prep Date:		Analysis Date:	**8/15/2018**		SeqNo:	**1761709**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Alkalinity (as CaCO3)	216.6	20.00	80.00	180.7	44.9	19.8	126				

Sample ID	**1808439-001cmsd**	SampType:	**MSD**		TestCode:	**SM2320B: Alkalinity**					
Client ID:	**MW-32**	Batch ID:	**R53469**		RunNo:	**53469**					
Prep Date:		Analysis Date:	**8/15/2018**		SeqNo:	**1761711**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Alkalinity (as CaCO3)	217.0	20.00	80.00	180.7	45.3	19.8	126	0.148	20		

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: ANDEAVOR BLOOMFIEL Work Order Number: 1808439 RcptNo: 1

Received By: **Anne Thorne** 8/8/2018 7:00:00 AM Anne Thorne

Completed By: **Anne Thorne** 8/8/2018 10:55:01 AM Anne Thorne

Reviewed By: JAB 08/09/18

Labeled by: ENM 8/9/18

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Client		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: 24 (<2 or >12 unless noted)

Adjusted? NO

Checked by: ENM 8/9/18

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

16. Additional remarks: Per TP_ MW-38 @ 0930 for 8270 is correct A 08/09/18

CUSTODY SEALS ON ALL SAMPLES BOTTLES, PER TP 1 REPORT/at 8/8/18

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.8	Good	Yes			
2	1.1	Good	Yes			

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard X Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **Cross-Gradient Wells**

Date: 8-7-18

Project #: **Annual Event**

PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: X Yes ☐ No

Sample Temperature: 2.3-CF-1.0=1.3 2.1 CF-1.0=1.1 2 cokes

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Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808439	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals Total	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Dissolved Metals	Gen. Chem. - Anions	Gen. Chem. - Alkalinity&CO_2		Air Bubbles (Y or N)
8-7-18	0745	H_2O	MW-32	40ml VOA-5	HCl	001			X							X						
				250 ml amber-1	Neat	001			X													
				250 ml plastic-1	HNO_3	001							X									
				125 ml plastic-1	HNO_3	001												X				
				125 ml plastic-1	H_2SO_4	001													X			
				500 ml plastic-1	Neat	001													X	X		

Date	Time	Relinquished by:	Received by:	Date	Time
8/7/18	1540			8/7/18	1540
8/7/18	1715			08/08/18	0700

Remarks: See Analytical Methods and Target Analytes.

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name:

Date: 8-7-18

Project #: **Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**
On Ice: **X** Yes ☐ No
Sample Temperature: 2.0 °C

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Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
8/7/18	0800	H_2O	FIELD BLANK #2	40 mL VOA-5	HCl	1808439-002
				250 mL AMBER-1	NEAT	-002
				250 mL PLASTIC-1	HNO_3	-002
				125 mL PLASTIC-1	HNO_3	-002
				125 mL PLASTIC-1	H_2SO_4	-002
				500 mL PLASTIC-1	NEAT	-002

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals Total	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Dissolved Metals	General Chem.-Anions&CO_2	General Chem. - Alkalinity		Air Bubbles (Y or N)
		X							X						
		X													
						X					X				
											X				
												X	X		

Remarks: See Analytical Methods and Target Analytes.

Date	Time	Relinquished by:	Received by:	Date	Time
8/7/18	1540			8/7/18	1540
8/7/18	1751			8/8/18	0700

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard X Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **Cross-Gradient Wells**

Date: 8-7-18

Project #: **Annual Event**

PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: X Yes ☐ No

Sample Temperature: 2.8-CF-1.0=1.8 1.1-CF-1.0=0.1 2 coolers

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Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808439	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals Total	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Dissolved Metals	Gen. Chem. - Anions	Gen. Chem. - Alkalinity&CO_2		Air Bubbles (Y or N)
8/7/18	0845	H_2O	MW-27	40ml VOA-5	HCl	203			X							X						
				250 ml amber-1	Neat	203			X													
				250 ml plastic-1	HNO_3	203							X									
				125 ml plastic-1	HNO_3	203												X				
				125 ml plastic-1	H_2SO_4	203													X			
				500 ml plastic-1	Neat	203													X	X		

Date:	Time:	Relinquished by:	Received by:	Date	Time	Remarks: See Analytical Methods and Target Analytes.
8/7/18	1540			8/7/18	1540	
8/7/18	1751			8/8/18	0700	

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush

Project Name: **Downgradient Wells**

Date: 8-7-18

Project #: **Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: ☑ Yes ☐ No

Sample Temperature: 2.8-CF=1.0=1.8, 2.1-CF-1.0=1.1, 2 coolers

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www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808439	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals Total	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Dissolved Metals	Gen. Chem. - Anions	Gen. Chem. - Alkalinity&CO_2		Air Bubbles (Y or N)
8/7/18	0930	H_2O	MW-38	40ml VOA-5	HCl	004			X							X						
				250 ml amber-1	Neat	004			X													
				1 liter amber-2	Neat	004											X					
				250 ml plastic-1	HNO_3	004							X									
				125 ml plastic-1	HNO_3	004												X				
				125 ml plastic-1	H_2SO_4	004													X			
				500 ml plastic-1	Neat	004													X	X		
8/7/18	—	H_2O	TRIP BLANK	40 mL VOA-5	HCl	005										X						

Date: 8/7/18 Time: 1540 Relinquished by: — Received by: Date 8/7/18 Time 1540

Date: 8/7/18 Time: 1751 Relinquished by: Received by: Date 08/08/18 Time 702

Remarks: See Analytical Methods and Target Analytes.

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **Downgradient Wells**

Date: **8-7-18**

Project #: **Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.8-CF-1.0=1.8 2.1-CF-1.0=1.1 2 coolers

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Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808439	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals Total	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Dissolved Metals	Gen. Chem. - Anions	Gen. Chem. - Alkalinity&CO_2		Air Bubbles (Y or N)
8/7/18	1010	H_2O	MW-37	40ml VOA-5	HCl	-006			X							X						
				250 ml amber-1	Neat	-006			X													
				250 ml plastic-1	HNO_3	-006							X									
				125 ml plastic-1	HNO_3	-006												X				
				125 ml plastic-1	H_2SO_4	-006													X			
				500 ml plastic-1	Neat	-006													X	X		

Date:	Time:	Relinquished by:	Received by:	Date	Time
8/7/18	1540			8/7/18	1540
8/7/18	1751	Christ Waller		08/08/18	0700

Remarks: See Analytical Methods and Target Analytes.

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **Downgradient Wells**

Date: 8-7-18

Project #: **Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: ☒ Yes ☐ No

Sample Temperature: 3.8-CF=1.0=1.8
3.1-CF=1.0=1.1

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Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808439	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals Total	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Dissolved Metals	Gen. Chem. - Anions	Gen. Chem. - Alkalinity&CO_2		Air Bubbles (Y or N)
8/7/18	1045	H_2O	MW-35	40ml VOA-5	HCl	-001			X							X						
				250 ml amber-1	Neat	-002			X													
				250 ml plastic-1	HNO_3	-003							X									
				125 ml plastic-1	HNO_3	-004												X				
				125 ml plastic-1	H_2SO_4	-005													X			
				500 ml plastic-1	Neat	-006													X	X		

Date:	Time:	Relinquished by:	Received by:	Date	Time
8/7/18	1540			8/7/18	1540
8/7/18	1751			08/08/18	0700

Remarks: See Analytical Methods and Target Analytes.

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name:

Date: 8-7-18

Project #: **Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: **X** Yes ☐ No

Sample Temperature: 2.8-2.7-1.0=1.8 2.4-2.5-1.0=1.1

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808439
8/1/18	1105	H_2O	EQUIPMENT BLANK#1	40 ML VOA-5	HCl	-008
				250 ML AMBER-1	NEAT	-008
			PLASTIC	250 ML ~~AMBER~~ -1	HNO_3	-008
				125 ML PLASTIC	HNO_3	-008
				125 ML PLASTIC-1	H_2SO_4	-008
↓	↓	↓	↓	500ML PLASTIC-1	NEAT	-008

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals Total	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Dissolved Metals	General Chem.-Anions&CO_2	General Chem. - Alkalinity	Air Bubbles (Y or N)
		X							X					
		X												
						X								
											X			
												X		
												X	X	

Date:	Time:	Relinquished by:	Received by:	Date	Time
8/1/18	1540			8/1/18	1540
8/1/18	1751			8/1/18	1751

Remarks: See Analytical Methods and Target Analytes.

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **Downgradient Wells**

Date: 8-7-18

Project #: **Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.8 -CF-1.0= 1.8
2.1 -CF-1.0= 1.1

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4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808439	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals Total	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Dissolved Metals	Gen. Chem. - Anions	Gen. Chem. - Alkalinity&CO_2		Air Bubbles (Y or N)
8/6/18	1210	H_2O	MW-12	40ml VOA-5	HCl	2 cools -009			X							X						
				250 ml amber-1	Neat	-009			X													
				1 liter amber-1	Neat	-009											X					
				250 ml plastic-1	HNO_3	-009							X									
				125 ml plastic-1	HNO_3	-009												X				
				125 ml plastic-1	H_2SO_4	-009													X			
				500 ml plastic-1	Neat	-009													X	X		

Date:	Time:	Relinquished by:	Received by:	Date	Time
8/7/18	1540			8/7/18	1540
8/7/18	1751			08/08/18	0715

Remarks: See Analytical Methods and Target Analytes.

TABLE 2
Analytical Methods and Target Analytes
Facility-Wide Groundwater Monitoring Plan - June 2017
Western Refining Southwest, Inc. - Bloomfield Refinery

VOCs (EPA Method 8260B) [1]
- Target List
Benzene
Toluene
Ethylbenzene
Xylenes
Methyl tert butyl ether (MTBE)
SVOCs - (EPA Method 8270)
- Method List
TPH-GRO (EPA Method 8015B)
- Gasoline Range Organics
TPH-DRO (EPA Method 8015B)
- Diesel Range Organics
- Motor Oil Range Organics
Total Carbon Dioxide (Laboratory Calculated)
- Dissolved CO2
Specific Conductivity (EPA Method 120.1 or field measurement)
- Specific conductance
TDS (EPA Method 160.1 or field measurement)
- Total dissolved solids
General Chemistry - Anions (EPA Method 300.0)
Fluoride
Chloride
Bromide
Nitrogen, Nitrite (as N)
Nitrogen, Nitrate (as N)
Phosphorous, Orthophosphate (As P)
Sulfate
General Chemistry - Alkalinity (EPA Method 310.1)
Alkalinity, Total
Carbonate
Bicarbonate

Total Recoverable Metals (EPA Method 6010B/7470)	
- Target List (not applicable to River Terrace Sampling Events)	
Arsenic	*Lead*
Barium	*Mercury*
Cadmium	*Selenium*
Chromium	*Silver*
- Target List (for River Terrace Sampling Events Only)	
Lead	
Mercury (DW-1 ONLY)	
Dissolved Metals (EPA Method 6010B / 7470)	
- Target List (for Refinery Complex, Outfalls, and River)	
Arsenic	*Manganese*
Barium	*Mercury*
Cadmium	*Potassium*
Calcium	*Selenium*
Chromium	*Silver*
Copper	*Sodium*
Iron	*Uranium*
Lead	*Zinc*
Magnesium	

TPH = total petroleum hydrocarbons
GRO = gasoline range organics
VOCs = volatile organic compounds
DRO = diesel range organics
TDS = total dissolved solids

NOTES:

(1) VOCs Target List for River Terrace samples are analyzed by EPA Method 8021B per NMED's letter Approval with Direction dated June 16, 2009.

(2) Target List for San Juan River Terrace Monitoring Wells and Piezomenter Wells only, per the River Terrace Bioventing System Monitoring Plan.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

September 05, 2018

Allen Hains

Andeavor Bloomfield
111 CR 4990
Bloomfield, NM 87413
TEL: (915) 534-1483
FAX

RE: 8-8-18 RCRA WELLS and REFINERY WELLS OrderNo.: 1808540

Dear Allen Hains:

Hall Environmental Analysis Laboratory received 10 sample(s) on 8/9/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-64
Project: 8-8-18 RCRA WELLS and REFINERY
Collection Date: 8/8/2018 8:20:00 AM
Lab ID: 1808540-001
Matrix: AQUEOUS
Received Date: 8/9/2018 6:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE							Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	0.31	0.40		mg/L	1	8/13/2018 5:21:40 PM	39725
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	8/13/2018 5:21:40 PM	39725
Surr: DNOP	110	0	76.6-135		%Rec	1	8/13/2018 5:21:40 PM	39725
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.59	2.0		mg/L	20	8/9/2018 7:54:56 PM	R53348
Chloride	840	1.5	25		mg/L	50	8/21/2018 2:14:19 AM	R53555
Nitrogen, Nitrite (As N)	ND	0.96	2.0		mg/L	20	8/9/2018 7:54:56 PM	R53348
Bromide	2.5	0.027	0.10		mg/L	1	8/9/2018 7:42:05 PM	R53348
Nitrogen, Nitrate (As N)	52	0.13	2.0	*	mg/L	20	8/9/2018 7:54:56 PM	R53348
Phosphorus, Orthophosphate (As P)	5.7	1.9	10	J	mg/L	20	8/9/2018 7:54:56 PM	R53348
Sulfate	1500	10	25		mg/L	50	8/21/2018 2:14:19 AM	R53555
EPA METHOD 7470: MERCURY							Analyst: **rde**	
Mercury	0.00012	0.000038	0.00020	J	mg/L	1	8/31/2018 10:19:01 AM	40077
EPA METHOD 7470: MERCURY							Analyst: **rde**	
Mercury	0.000085	0.000038	0.00020	FilteredJ	mg/L	1	8/31/2018 10:25:41 AM	40077
EPA METHOD 6010B: DISSOLVED METALS							Analyst: **pmf**	
Arsenic	ND	0.020	0.020		mg/L	1	8/27/2018 5:36:33 PM	B53717
Barium	0.011	0.00049	0.020	J	mg/L	1	8/22/2018 5:14:32 PM	B53642
Cadmium	ND	0.00088	0.0020		mg/L	1	8/22/2018 5:14:32 PM	B53642
Calcium	450	0.15	5.0		mg/L	5	8/22/2018 5:46:59 PM	B53642
Chromium	ND	0.00081	0.0060		mg/L	1	8/22/2018 5:14:32 PM	B53642
Copper	ND	0.0026	0.0060		mg/L	1	8/22/2018 5:14:32 PM	B53642
Iron	0.057	0.010	0.020		mg/L	1	8/22/2018 5:14:32 PM	B53642
Lead	ND	0.0050	0.0050		mg/L	1	8/22/2018 5:14:32 PM	B53642
Magnesium	66	0.011	1.0		mg/L	1	8/22/2018 5:14:32 PM	B53642
Manganese	0.0015	0.00015	0.0020	J	mg/L	1	8/22/2018 5:14:32 PM	B53642
Potassium	4.5	0.075	1.0		mg/L	1	8/22/2018 5:14:32 PM	B53642
Selenium	ND	0.020	0.050		mg/L	1	8/27/2018 5:36:33 PM	B53717
Silver	0.012	0.0010	0.0050		mg/L	1	8/22/2018 5:14:32 PM	B53642
Sodium	800	2.6	10		mg/L	10	8/22/2018 5:48:49 PM	B53642
Uranium	ND	0.025	0.10		mg/L	1	8/27/2018 5:36:33 PM	B53717
Zinc	ND	0.020	0.020		mg/L	1	8/22/2018 5:14:32 PM	B53642
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: **pmf**	
Arsenic	ND	0.011	0.020		mg/L	1	8/13/2018 4:45:15 PM	39719
Barium	0.29	0.020	0.020		mg/L	1	8/13/2018 1:32:16 PM	39719
Cadmium	ND	0.00099	0.0020		mg/L	1	8/13/2018 1:32:16 PM	39719
Chromium	0.0097	0.0011	0.0060		mg/L	1	8/13/2018 1:32:16 PM	39719

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Matrix: AQUEOUS
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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: **pmf**	
Lead	ND	0.0050	0.0050		mg/L	1	8/13/2018 8:45:21 PM	39719
Selenium	ND	0.024	0.050		mg/L	1	8/13/2018 1:32:16 PM	39719
Silver	0.0081	0.0018	0.0050		mg/L	1	8/13/2018 1:32:16 PM	39719
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.17	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
Toluene	ND	0.17	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
Ethylbenzene	ND	0.22	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
Methyl tert-butyl ether (MTBE)	ND	0.32	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
1,2,4-Trimethylbenzene	ND	0.25	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
1,3,5-Trimethylbenzene	ND	0.23	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
1,2-Dibromoethane (EDB)	ND	0.23	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
Naphthalene	ND	0.29	2.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
1-Methylnaphthalene	ND	0.34	4.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
2-Methylnaphthalene	ND	0.24	4.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
Acetone	ND	0.79	10		µg/L	1	8/13/2018 10:45:00 PM	R53391
Bromobenzene	ND	0.32	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
Bromodichloromethane	ND	0.28	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
Bromoform	ND	0.32	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
Bromomethane	ND	0.26	3.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
2-Butanone	ND	1.3	10		µg/L	1	8/13/2018 10:45:00 PM	R53391
Carbon disulfide	ND	0.39	10		µg/L	1	8/13/2018 10:45:00 PM	R53391
Carbon Tetrachloride	ND	0.13	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
Chlorobenzene	ND	0.29	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
Chloroethane	ND	0.16	2.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
Chloroform	ND	0.40	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
Chloromethane	ND	0.29	3.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
cis-1,2-DCE	ND	0.38	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
cis-1,3-Dichloropropene	ND	0.30	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
1,2-Dibromo-3-chloropropane	ND	0.47	2.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
Dibromochloromethane	ND	0.24	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
Dibromomethane	ND	0.32	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
1,2-Dichlorobenzene	ND	0.31	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
1,3-Dichlorobenzene	ND	0.31	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloroethene	ND	0.12	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
1,2-Dichloropropane	ND	0.15	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
1,3-Dichloropropane	ND	0.27	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
2,2-Dichloropropane	ND	0.18	2.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
2-Hexanone	ND	0.91	10		µg/L	1	8/13/2018 10:45:00 PM	R53391
Isopropylbenzene	ND	0.22	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
4-Isopropyltoluene	ND	0.24	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
4-Methyl-2-pentanone	ND	0.45	10		µg/L	1	8/13/2018 10:45:00 PM	R53391
Methylene Chloride	ND	0.21	3.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
n-Butylbenzene	ND	0.25	3.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
n-Propylbenzene	ND	0.24	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
sec-Butylbenzene	ND	0.20	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
Styrene	ND	0.25	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
tert-Butylbenzene	ND	0.22	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
1,1,1,2-Tetrachloroethane	ND	0.25	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
1,1,2,2-Tetrachloroethane	ND	0.33	2.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
trans-1,3-Dichloropropene	ND	0.28	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
1,2,3-Trichlorobenzene	ND	0.28	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
1,2,4-Trichlorobenzene	ND	0.27	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
1,1,1-Trichloroethane	ND	0.15	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
1,1,2-Trichloroethane	ND	0.23	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
Trichloroethene (TCE)	ND	0.26	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
Trichlorofluoromethane	ND	0.17	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
1,2,3-Trichloropropane	ND	0.57	2.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
Vinyl chloride	ND	0.11	1.0		µg/L	1	8/13/2018 10:45:00 PM	R53391
Xylenes, Total	ND	0.64	1.5		µg/L	1	8/13/2018 10:45:00 PM	R53391
Surr: 1,2-Dichloroethane-d4	107	0	70-130		%Rec	1	8/13/2018 10:45:00 PM	R53391
Surr: 4-Bromofluorobenzene	105	0	70-130		%Rec	1	8/13/2018 10:45:00 PM	R53391
Surr: Dibromofluoromethane	112	0	70-130		%Rec	1	8/13/2018 10:45:00 PM	R53391
Surr: Toluene-d8	94.4	0	70-130		%Rec	1	8/13/2018 10:45:00 PM	R53391
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	0.024	0.0097	0.050	J	mg/L	1	8/10/2018 4:15:48 PM	A53346
Surr: BFB	102	0	70-130		%Rec	1	8/10/2018 4:15:48 PM	A53346
CARBON DIOXIDE							Analyst: **JRR**	

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Lab ID: 1808540-001 **Matrix:** AQUEOUS **Received Date:** 8/9/2018 6:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
CARBON DIOXIDE							Analyst: **JRR**	
Total Carbon Dioxide	270	0	1.0	H	mg CO2/	1	8/16/2018 2:32:05 PM	R53511
SM2320B: ALKALINITY							Analyst: **JRR**	
Bicarbonate (As CaCO3)	275.2	20.00	20.00		mg/L Ca	1	8/16/2018 2:32:05 PM	R53511
Carbonate (As CaCO3)	ND	2.000	2.000		mg/L Ca	1	8/16/2018 2:32:05 PM	R53511
Total Alkalinity (as CaCO3)	275.2	20.00	20.00		mg/L Ca	1	8/16/2018 2:32:05 PM	R53511

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Client Sample ID: MW-63
Project: 8-8-18 RCRA WELLS and REFINERY
Collection Date: 8/8/2018 9:30:00 AM
Lab ID: 1808540-002
Matrix: AQUEOUS
Received Date: 8/9/2018 6:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE							Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	0.31	0.40		mg/L	1	8/13/2018 5:46:18 PM	39725
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	8/13/2018 5:46:18 PM	39725
Surr: DNOP	110	0	76.6-135		%Rec	1	8/13/2018 5:46:18 PM	39725
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.030	0.10		mg/L	1	8/9/2018 8:07:49 PM	R53348
Chloride	92	0.59	10		mg/L	20	8/9/2018 8:20:41 PM	R53348
Nitrogen, Nitrite (As N)	0.057	0.048	0.10	J	mg/L	1	8/9/2018 8:07:49 PM	R53348
Bromide	1.2	0.027	0.10		mg/L	1	8/9/2018 8:07:49 PM	R53348
Nitrogen, Nitrate (As N)	32	0.13	2.0	*	mg/L	20	8/9/2018 8:20:41 PM	R53348
Phosphorus, Orthophosphate (As P)	5.3	1.9	10	J	mg/L	20	8/9/2018 8:20:41 PM	R53348
Sulfate	1200	10	25		mg/L	50	8/21/2018 2:26:43 AM	R53555
EPA METHOD 7470: MERCURY							Analyst: **rde**	
Mercury	0.00012	0.000038	0.00020	J	mg/L	1	8/31/2018 10:27:55 AM	40077
EPA METHOD 7470: MERCURY							Analyst: **rde**	
Mercury	0.000088	0.000038	0.00020	FilteredJ	mg/L	1	8/31/2018 10:30:10 AM	40077
EPA METHOD 6010B: DISSOLVED METALS							Analyst: **pmf**	
Arsenic	ND	0.020	0.020		mg/L	1	8/27/2018 5:38:33 PM	B53717
Barium	0.011	0.00049	0.020	J	mg/L	1	8/22/2018 5:16:27 PM	B53642
Cadmium	ND	0.00088	0.0020		mg/L	1	8/22/2018 5:16:27 PM	B53642
Calcium	330	0.15	5.0		mg/L	5	8/22/2018 5:56:14 PM	B53642
Chromium	ND	0.00081	0.0060		mg/L	1	8/22/2018 5:16:27 PM	B53642
Copper	ND	0.0026	0.0060		mg/L	1	8/22/2018 5:16:27 PM	B53642
Iron	0.054	0.010	0.020		mg/L	1	8/22/2018 5:16:27 PM	B53642
Lead	0.0059	0.0050	0.0050		mg/L	1	8/22/2018 5:16:27 PM	B53642
Magnesium	110	0.056	5.0		mg/L	5	8/22/2018 5:56:14 PM	B53642
Manganese	0.48	0.00015	0.0020		mg/L	1	8/22/2018 5:16:27 PM	B53642
Potassium	3.7	0.075	1.0		mg/L	1	8/22/2018 5:16:27 PM	B53642
Selenium	ND	0.020	0.050		mg/L	1	8/27/2018 5:38:33 PM	B53717
Silver	0.0088	0.0010	0.0050		mg/L	1	8/22/2018 5:16:27 PM	B53642
Sodium	380	1.3	5.0		mg/L	5	8/22/2018 5:56:14 PM	B53642
Uranium	ND	0.025	0.10		mg/L	1	8/27/2018 5:38:33 PM	B53717
Zinc	ND	0.020	0.020		mg/L	1	8/22/2018 5:16:27 PM	B53642
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: **pmf**	
Arsenic	ND	0.011	0.020		mg/L	1	8/13/2018 4:46:41 PM	39719
Barium	0.12	0.020	0.020		mg/L	1	8/13/2018 1:33:57 PM	39719
Cadmium	ND	0.00099	0.0020		mg/L	1	8/13/2018 1:33:57 PM	39719
Chromium	0.0048	0.0011	0.0060	J	mg/L	1	8/13/2018 1:33:57 PM	39719

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: **pmf**	
Lead	ND	0.0050	0.0050		mg/L	1	8/13/2018 1:33:57 PM	39719
Selenium	ND	0.024	0.050		mg/L	1	8/13/2018 1:33:57 PM	39719
Silver	0.0064	0.0018	0.0050		mg/L	1	8/13/2018 1:33:57 PM	39719
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.17	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
Toluene	ND	0.17	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
Ethylbenzene	ND	0.22	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
Methyl tert-butyl ether (MTBE)	2.9	0.32	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
1,2,4-Trimethylbenzene	ND	0.25	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
1,3,5-Trimethylbenzene	ND	0.23	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
1,2-Dichloroethane (EDC)	0.41	0.40	1.0	J	µg/L	1	8/13/2018 11:08:00 PM	R53391
1,2-Dibromoethane (EDB)	ND	0.23	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
Naphthalene	ND	0.29	2.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
1-Methylnaphthalene	ND	0.34	4.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
2-Methylnaphthalene	ND	0.24	4.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
Acetone	12	0.79	10		µg/L	1	8/13/2018 11:08:00 PM	R53391
Bromobenzene	ND	0.32	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
Bromodichloromethane	ND	0.28	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
Bromoform	ND	0.32	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
Bromomethane	ND	0.26	3.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
2-Butanone	ND	1.3	10		µg/L	1	8/13/2018 11:08:00 PM	R53391
Carbon disulfide	ND	0.39	10		µg/L	1	8/13/2018 11:08:00 PM	R53391
Carbon Tetrachloride	ND	0.13	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
Chlorobenzene	ND	0.29	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
Chloroethane	ND	0.16	2.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
Chloroform	ND	0.40	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
Chloromethane	ND	0.29	3.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
cis-1,2-DCE	ND	0.38	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
cis-1,3-Dichloropropene	ND	0.30	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
1,2-Dibromo-3-chloropropane	ND	0.47	2.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
Dibromochloromethane	ND	0.24	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
Dibromomethane	ND	0.32	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
1,2-Dichlorobenzene	ND	0.31	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
1,3-Dichlorobenzene	ND	0.31	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-63
Project: 8-8-18 RCRA WELLS and REFINERY
Collection Date: 8/8/2018 9:30:00 AM
Lab ID: 1808540-002
Matrix: AQUEOUS
Received Date: 8/9/2018 6:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloroethene	ND	0.12	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
1,2-Dichloropropane	ND	0.15	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
1,3-Dichloropropane	ND	0.27	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
2,2-Dichloropropane	ND	0.18	2.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
2-Hexanone	ND	0.91	10		µg/L	1	8/13/2018 11:08:00 PM	R53391
Isopropylbenzene	ND	0.22	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
4-Isopropyltoluene	ND	0.24	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
4-Methyl-2-pentanone	ND	0.45	10		µg/L	1	8/13/2018 11:08:00 PM	R53391
Methylene Chloride	ND	0.21	3.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
n-Butylbenzene	ND	0.25	3.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
n-Propylbenzene	ND	0.24	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
sec-Butylbenzene	ND	0.20	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
Styrene	ND	0.25	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
tert-Butylbenzene	ND	0.22	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
1,1,1,2-Tetrachloroethane	ND	0.25	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
1,1,2,2-Tetrachloroethane	ND	0.33	2.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
trans-1,3-Dichloropropene	ND	0.28	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
1,2,3-Trichlorobenzene	ND	0.28	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
1,2,4-Trichlorobenzene	ND	0.27	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
1,1,1-Trichloroethane	ND	0.15	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
1,1,2-Trichloroethane	ND	0.23	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
Trichloroethene (TCE)	ND	0.26	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
Trichlorofluoromethane	ND	0.17	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
1,2,3-Trichloropropane	ND	0.57	2.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
Vinyl chloride	ND	0.11	1.0		µg/L	1	8/13/2018 11:08:00 PM	R53391
Xylenes, Total	ND	0.64	1.5		µg/L	1	8/13/2018 11:08:00 PM	R53391
Surr: 1,2-Dichloroethane-d4	107	0	70-130		%Rec	1	8/13/2018 11:08:00 PM	R53391
Surr: 4-Bromofluorobenzene	102	0	70-130		%Rec	1	8/13/2018 11:08:00 PM	R53391
Surr: Dibromofluoromethane	112	0	70-130		%Rec	1	8/13/2018 11:08:00 PM	R53391
Surr: Toluene-d8	91.6	0	70-130		%Rec	1	8/13/2018 11:08:00 PM	R53391
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	0.034	0.0097	0.050	J	mg/L	1	8/10/2018 4:39:05 PM	A53346
Surr: BFB	103	0	70-130		%Rec	1	8/10/2018 4:39:05 PM	A53346
CARBON DIOXIDE							Analyst: **JRR**	

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-63
Project: 8-8-18 RCRA WELLS and REFINERY
Collection Date: 8/8/2018 9:30:00 AM
Lab ID: 1808540-002
Matrix: AQUEOUS
Received Date: 8/9/2018 6:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
CARBON DIOXIDE							Analyst: **JRR**	
Total Carbon Dioxide	610	0	1.0	H	mg CO2/	1	8/16/2018 2:46:20 PM	R53511
SM2320B: ALKALINITY							Analyst: **JRR**	
Bicarbonate (As CaCO3)	616.5	20.00	20.00		mg/L Ca	1	8/16/2018 2:46:20 PM	R53511
Carbonate (As CaCO3)	ND	2.000	2.000		mg/L Ca	1	8/16/2018 2:46:20 PM	R53511
Total Alkalinity (as CaCO3)	616.5	20.00	20.00		mg/L Ca	1	8/16/2018 2:46:20 PM	R53511

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-31
Project: 8-8-18 RCRA WELLS and REFINERY
Collection Date: 8/8/2018 10:00:00 AM
Lab ID: 1808540-003
Matrix: AQUEOUS
Received Date: 8/9/2018 6:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE							Analyst: **lrm**	
Diesel Range Organics (DRO)	0.64	0.31	0.40		mg/L	1	8/13/2018 6:10:56 PM	39725
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	8/13/2018 6:10:56 PM	39725
Surr: DNOP	112	0	76.6-135		%Rec	1	8/13/2018 6:10:56 PM	39725
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.030	0.10		mg/L	1	8/21/2018 2:39:08 AM	R53555
Chloride	140	0.59	10		mg/L	20	8/9/2018 9:12:07 PM	A53348
Nitrogen, Nitrite (As N)	0.053	0.048	0.10	J	mg/L	1	8/9/2018 8:59:16 PM	A53348
Bromide	1.2	0.027	0.10		mg/L	1	8/9/2018 8:59:16 PM	A53348
Nitrogen, Nitrate (As N)	0.25	0.0066	0.10		mg/L	1	8/9/2018 8:59:16 PM	A53348
Phosphorus, Orthophosphate (As P)	ND	0.093	0.50		mg/L	1	8/9/2018 8:59:16 PM	A53348
Sulfate	55	4.1	10		mg/L	20	8/9/2018 9:12:07 PM	A53348
EPA METHOD 7470: MERCURY							Analyst: **rde**	
Mercury	0.000074	0.000038	0.00020	J	mg/L	1	8/31/2018 10:32:26 AM	40077
EPA METHOD 7470: MERCURY							Analyst: **rde**	
Mercury	0.000077	0.000038	0.00020	FilteredJ	mg/L	1	8/31/2018 10:34:41 AM	40077
EPA METHOD 6010B: DISSOLVED METALS							Analyst: **pmf**	
Arsenic	ND	0.020	0.020		mg/L	1	8/27/2018 5:40:35 PM	B53717
Barium	0.89	0.00049	0.020		mg/L	1	8/22/2018 5:18:23 PM	B53642
Cadmium	ND	0.00088	0.0020		mg/L	1	8/22/2018 5:18:23 PM	B53642
Calcium	110	0.15	5.0		mg/L	5	8/22/2018 5:58:04 PM	B53642
Chromium	ND	0.00081	0.0060		mg/L	1	8/22/2018 5:18:23 PM	B53642
Copper	ND	0.0026	0.0060		mg/L	1	8/22/2018 5:18:23 PM	B53642
Iron	0.097	0.010	0.020		mg/L	1	8/22/2018 5:18:23 PM	B53642
Lead	ND	0.0050	0.0050		mg/L	1	8/22/2018 5:18:23 PM	B53642
Magnesium	38	0.011	1.0		mg/L	1	8/22/2018 5:18:23 PM	B53642
Manganese	0.65	0.00015	0.0020		mg/L	1	8/22/2018 5:18:23 PM	B53642
Potassium	4.0	0.075	1.0		mg/L	1	8/22/2018 5:18:23 PM	B53642
Selenium	ND	0.020	0.050		mg/L	1	8/27/2018 5:40:35 PM	B53717
Silver	0.0032	0.0010	0.0050	J	mg/L	1	8/22/2018 5:18:23 PM	B53642
Sodium	480	1.3	5.0		mg/L	5	8/22/2018 5:58:04 PM	B53642
Uranium	ND	0.025	0.10		mg/L	1	8/27/2018 5:40:35 PM	B53717
Zinc	ND	0.020	0.020		mg/L	1	8/22/2018 5:18:23 PM	B53642
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: **pmf**	
Arsenic	ND	0.011	0.020		mg/L	1	8/13/2018 4:48:07 PM	39719
Barium	0.90	0.020	0.020		mg/L	1	8/13/2018 1:35:36 PM	39719
Cadmium	ND	0.00099	0.0020		mg/L	1	8/13/2018 1:35:36 PM	39719
Chromium	ND	0.0011	0.0060		mg/L	1	8/13/2018 1:35:36 PM	39719

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-31
Project: 8-8-18 RCRA WELLS and REFINERY
Collection Date: 8/8/2018 10:00:00 AM
Lab ID: 1808540-003
Matrix: AQUEOUS
Received Date: 8/9/2018 6:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: **pmf**	
Lead	ND	0.0050	0.0050		mg/L	1	8/13/2018 8:52:34 PM	39719
Selenium	ND	0.024	0.050		mg/L	1	8/13/2018 1:35:36 PM	39719
Silver	0.0033	0.0018	0.0050	J	mg/L	1	8/13/2018 1:35:36 PM	39719
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	1500	17	100		µg/L	100	8/13/2018 11:32:00 PM	R53391
Toluene	760	1.7	10		µg/L	10	8/13/2018 11:56:00 PM	R53391
Ethylbenzene	820	2.2	10		µg/L	10	8/13/2018 11:56:00 PM	R53391
Methyl tert-butyl ether (MTBE)	ND	3.2	10		µg/L	10	8/13/2018 11:56:00 PM	R53391
1,2,4-Trimethylbenzene	940	25	100		µg/L	100	8/13/2018 11:32:00 PM	R53391
1,3,5-Trimethylbenzene	24	2.3	10		µg/L	10	8/13/2018 11:56:00 PM	R53391
1,2-Dichloroethane (EDC)	ND	4.0	10		µg/L	10	8/13/2018 11:56:00 PM	R53391
1,2-Dibromoethane (EDB)	ND	2.3	10		µg/L	10	8/13/2018 11:56:00 PM	R53391
Naphthalene	160	2.9	20		µg/L	10	8/13/2018 11:56:00 PM	R53391
1-Methylnaphthalene	45	3.4	40		µg/L	10	8/13/2018 11:56:00 PM	R53391
2-Methylnaphthalene	45	2.4	40		µg/L	10	8/13/2018 11:56:00 PM	R53391
Acetone	ND	7.9	100		µg/L	10	8/13/2018 11:56:00 PM	R53391
Bromobenzene	ND	3.2	10		µg/L	10	8/13/2018 11:56:00 PM	R53391
Bromodichloromethane	ND	2.8	10		µg/L	10	8/13/2018 11:56:00 PM	R53391
Bromoform	ND	3.2	10		µg/L	10	8/13/2018 11:56:00 PM	R53391
Bromomethane	ND	2.6	30		µg/L	10	8/13/2018 11:56:00 PM	R53391
2-Butanone	ND	13	100		µg/L	10	8/13/2018 11:56:00 PM	R53391
Carbon disulfide	ND	3.9	100		µg/L	10	8/13/2018 11:56:00 PM	R53391
Carbon Tetrachloride	ND	1.3	10		µg/L	10	8/13/2018 11:56:00 PM	R53391
Chlorobenzene	ND	2.9	10		µg/L	10	8/13/2018 11:56:00 PM	R53391
Chloroethane	ND	1.6	20		µg/L	10	8/13/2018 11:56:00 PM	R53391
Chloroform	ND	4.0	10		µg/L	10	8/13/2018 11:56:00 PM	R53391
Chloromethane	ND	2.9	30		µg/L	10	8/13/2018 11:56:00 PM	R53391
2-Chlorotoluene	ND	4.0	10		µg/L	10	8/13/2018 11:56:00 PM	R53391
4-Chlorotoluene	ND	4.0	10		µg/L	10	8/13/2018 11:56:00 PM	R53391
cis-1,2-DCE	ND	3.8	10		µg/L	10	8/13/2018 11:56:00 PM	R53391
cis-1,3-Dichloropropene	ND	3.0	10		µg/L	10	8/13/2018 11:56:00 PM	R53391
1,2-Dibromo-3-chloropropane	ND	4.7	20		µg/L	10	8/13/2018 11:56:00 PM	R53391
Dibromochloromethane	ND	2.4	10		µg/L	10	8/13/2018 11:56:00 PM	R53391
Dibromomethane	ND	3.2	10		µg/L	10	8/13/2018 11:56:00 PM	R53391
1,2-Dichlorobenzene	ND	3.1	10		µg/L	10	8/13/2018 11:56:00 PM	R53391
1,3-Dichlorobenzene	ND	3.1	10		µg/L	10	8/13/2018 11:56:00 PM	R53391
1,4-Dichlorobenzene	ND	4.0	10		µg/L	10	8/13/2018 11:56:00 PM	R53391
Dichlorodifluoromethane	ND	10	10		µg/L	10	8/13/2018 11:56:00 PM	R53391
1,1-Dichloroethane	ND	4.0	10		µg/L	10	8/13/2018 11:56:00 PM	R53391

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Lab ID: 1808540-003
Matrix: AQUEOUS
Received Date: 8/9/2018 6:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloroethene	ND	1.2	10		µg/L	10	8/13/2018 11:56:00 PM	R53391
1,2-Dichloropropane	ND	1.5	10		µg/L	10	8/13/2018 11:56:00 PM	R53391
1,3-Dichloropropane	ND	2.7	10		µg/L	10	8/13/2018 11:56:00 PM	R53391
2,2-Dichloropropane	ND	1.8	20		µg/L	10	8/13/2018 11:56:00 PM	R53391
1,1-Dichloropropene	ND	1.6	10		µg/L	10	8/13/2018 11:56:00 PM	R53391
Hexachlorobutadiene	ND	8.0	10		µg/L	10	8/13/2018 11:56:00 PM	R53391
2-Hexanone	ND	9.1	100		µg/L	10	8/13/2018 11:56:00 PM	R53391
Isopropylbenzene	63	2.2	10		µg/L	10	8/13/2018 11:56:00 PM	R53391
4-Isopropyltoluene	3.1	2.4	10	J	µg/L	10	8/13/2018 11:56:00 PM	R53391
4-Methyl-2-pentanone	ND	4.5	100		µg/L	10	8/13/2018 11:56:00 PM	R53391
Methylene Chloride	ND	2.1	30		µg/L	10	8/13/2018 11:56:00 PM	R53391
n-Butylbenzene	16	2.5	30	J	µg/L	10	8/13/2018 11:56:00 PM	R53391
n-Propylbenzene	210	2.4	10		µg/L	10	8/13/2018 11:56:00 PM	R53391
sec-Butylbenzene	26	2.0	10		µg/L	10	8/13/2018 11:56:00 PM	R53391
Styrene	ND	2.5	10		µg/L	10	8/13/2018 11:56:00 PM	R53391
tert-Butylbenzene	ND	2.2	10		µg/L	10	8/13/2018 11:56:00 PM	R53391
1,1,1,2-Tetrachloroethane	ND	2.5	10		µg/L	10	8/13/2018 11:56:00 PM	R53391
1,1,2,2-Tetrachloroethane	ND	3.3	20		µg/L	10	8/13/2018 11:56:00 PM	R53391
Tetrachloroethene (PCE)	ND	1.5	10		µg/L	10	8/13/2018 11:56:00 PM	R53391
trans-1,2-DCE	ND	1.8	10		µg/L	10	8/13/2018 11:56:00 PM	R53391
trans-1,3-Dichloropropene	ND	2.8	10		µg/L	10	8/13/2018 11:56:00 PM	R53391
1,2,3-Trichlorobenzene	ND	2.8	10		µg/L	10	8/13/2018 11:56:00 PM	R53391
1,2,4-Trichlorobenzene	ND	2.7	10		µg/L	10	8/13/2018 11:56:00 PM	R53391
1,1,1-Trichloroethane	ND	1.5	10		µg/L	10	8/13/2018 11:56:00 PM	R53391
1,1,2-Trichloroethane	ND	2.3	10		µg/L	10	8/13/2018 11:56:00 PM	R53391
Trichloroethene (TCE)	ND	2.6	10		µg/L	10	8/13/2018 11:56:00 PM	R53391
Trichlorofluoromethane	ND	1.7	10		µg/L	10	8/13/2018 11:56:00 PM	R53391
1,2,3-Trichloropropane	ND	5.7	20		µg/L	10	8/13/2018 11:56:00 PM	R53391
Vinyl chloride	ND	1.1	10		µg/L	10	8/13/2018 11:56:00 PM	R53391
Xylenes, Total	1400	6.4	15		µg/L	10	8/13/2018 11:56:00 PM	R53391
Surr: 1,2-Dichloroethane-d4	107	0	70-130		%Rec	10	8/13/2018 11:56:00 PM	R53391
Surr: 4-Bromofluorobenzene	103	0	70-130		%Rec	10	8/13/2018 11:56:00 PM	R53391
Surr: Dibromofluoromethane	112	0	70-130		%Rec	10	8/13/2018 11:56:00 PM	R53391
Surr: Toluene-d8	94.8	0	70-130		%Rec	10	8/13/2018 11:56:00 PM	R53391
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	18	0.19	1.0		mg/L	20	8/13/2018 4:04:15 PM	B53389
Surr: BFB	93.0	0	70-130		%Rec	20	8/13/2018 4:04:15 PM	B53389
CARBON DIOXIDE							Analyst: **sat**	

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-31
Project: 8-8-18 RCRA WELLS and REFINERY
Collection Date: 8/8/2018 10:00:00 AM
Lab ID: 1808540-003 **Matrix:** AQUEOUS **Received Date:** 8/9/2018 6:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
CARBON DIOXIDE							Analyst: **sat**	
Total Carbon Dioxide	1100	0	2.5	H	mg CO2/	2.5	8/21/2018 11:30:42 AM	R53613
SM2320B: ALKALINITY							Analyst: **sat**	
Bicarbonate (As CaCO3)	1217	50.00	50.00		mg/L Ca	2.5	8/21/2018 11:30:42 AM	R53613
Carbonate (As CaCO3)	ND	5.000	5.000		mg/L Ca	2.5	8/21/2018 11:30:42 AM	R53613
Total Alkalinity (as CaCO3)	1217	50.00	50.00		mg/L Ca	2.5	8/21/2018 11:30:42 AM	R53613

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-62
Project: 8-8-18 RCRA WELLS and REFINERY
Collection Date: 8/8/2018 10:50:00 AM
Lab ID: 1808540-004
Matrix: AQUEOUS
Received Date: 8/9/2018 6:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE							Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	0.31	0.40		mg/L	1	8/13/2018 6:35:48 PM	39725
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	8/13/2018 6:35:48 PM	39725
Surr: DNOP	112	0	76.6-135		%Rec	1	8/13/2018 6:35:48 PM	39725
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.15	0.50		mg/L	5	8/21/2018 2:51:33 AM	R53555
Chloride	11	0.029	0.50		mg/L	1	8/9/2018 9:24:59 PM	A53348
Nitrogen, Nitrite (As N)	0.068	0.048	0.10	J	mg/L	1	8/9/2018 9:24:59 PM	A53348
Bromide	0.22	0.027	0.10		mg/L	1	8/9/2018 9:24:59 PM	A53348
Nitrogen, Nitrate (As N)	0.078	0.0066	0.10	J	mg/L	1	8/9/2018 9:24:59 PM	A53348
Phosphorus, Orthophosphate (As P)	6.7	1.9	10	J	mg/L	20	8/9/2018 9:37:51 PM	A53348
Sulfate	3600	21	50		mg/L	100	8/21/2018 3:28:46 AM	R53555
EPA METHOD 7470: MERCURY							Analyst: **rde**	
Mercury	0.000066	0.000038	0.00020	J	mg/L	1	8/31/2018 10:41:35 AM	40077
EPA METHOD 7470: MERCURY							Analyst: **rde**	
Mercury	0.000074	0.000038	0.00020	FilteredJ	mg/L	1	8/31/2018 10:43:51 AM	40077
EPA METHOD 6010B: DISSOLVED METALS							Analyst: **pmf**	
Arsenic	ND	0.020	0.020		mg/L	1	8/27/2018 5:42:22 PM	B53717
Barium	0.011	0.00049	0.020	J	mg/L	1	8/22/2018 5:20:12 PM	B53642
Cadmium	ND	0.00088	0.0020		mg/L	1	8/22/2018 5:20:12 PM	B53642
Calcium	450	0.15	5.0		mg/L	5	8/22/2018 6:01:42 PM	B53642
Chromium	ND	0.00081	0.0060		mg/L	1	8/22/2018 5:20:12 PM	B53642
Copper	ND	0.0026	0.0060		mg/L	1	8/22/2018 5:20:12 PM	B53642
Iron	0.015	0.010	0.020	J	mg/L	1	8/22/2018 5:20:12 PM	B53642
Lead	ND	0.0050	0.0050		mg/L	1	8/22/2018 5:20:12 PM	B53642
Magnesium	37	0.011	1.0		mg/L	1	8/22/2018 5:20:12 PM	B53642
Manganese	1.5	0.00074	0.010		mg/L	5	8/22/2018 6:01:42 PM	B53642
Potassium	9.0	0.075	1.0		mg/L	1	8/22/2018 5:20:12 PM	B53642
Selenium	ND	0.020	0.050		mg/L	1	8/27/2018 5:42:22 PM	B53717
Silver	0.012	0.0010	0.0050		mg/L	1	8/22/2018 5:20:12 PM	B53642
Sodium	1400	5.3	20		mg/L	20	8/22/2018 6:03:32 PM	B53642
Uranium	ND	0.025	0.10		mg/L	1	8/27/2018 5:42:22 PM	B53717
Zinc	ND	0.020	0.020		mg/L	1	8/22/2018 5:20:12 PM	B53642
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: **pmf**	
Arsenic	ND	0.011	0.020		mg/L	1	8/13/2018 4:49:33 PM	39719
Barium	0.030	0.020	0.020		mg/L	1	8/13/2018 1:37:29 PM	39719
Cadmium	ND	0.00099	0.0020		mg/L	1	8/13/2018 1:37:29 PM	39719
Chromium	ND	0.0011	0.0060		mg/L	1	8/13/2018 1:37:29 PM	39719

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-62
Project: 8-8-18 RCRA WELLS and REFINERY
Collection Date: 8/8/2018 10:50:00 AM
Lab ID: 1808540-004
Matrix: AQUEOUS
Received Date: 8/9/2018 6:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: **pmf**	
Lead	ND	0.0050	0.0050		mg/L	1	8/13/2018 8:54:02 PM	39719
Selenium	ND	0.024	0.050		mg/L	1	8/13/2018 1:37:29 PM	39719
Silver	0.013	0.0018	0.0050		mg/L	1	8/13/2018 1:37:29 PM	39719
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.17	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
Toluene	ND	0.17	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
Ethylbenzene	ND	0.22	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
Methyl tert-butyl ether (MTBE)	ND	0.32	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
1,2,4-Trimethylbenzene	0.28	0.25	1.0	J	µg/L	1	8/14/2018 12:20:00 AM	R53391
1,3,5-Trimethylbenzene	ND	0.23	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
1,2-Dibromoethane (EDB)	ND	0.23	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
Naphthalene	ND	0.29	2.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
1-Methylnaphthalene	ND	0.34	4.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
2-Methylnaphthalene	ND	0.24	4.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
Acetone	ND	0.79	10		µg/L	1	8/14/2018 12:20:00 AM	R53391
Bromobenzene	ND	0.32	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
Bromodichloromethane	ND	0.28	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
Bromoform	ND	0.32	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
Bromomethane	ND	0.26	3.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
2-Butanone	ND	1.3	10		µg/L	1	8/14/2018 12:20:00 AM	R53391
Carbon disulfide	ND	0.39	10		µg/L	1	8/14/2018 12:20:00 AM	R53391
Carbon Tetrachloride	ND	0.13	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
Chlorobenzene	ND	0.29	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
Chloroethane	ND	0.16	2.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
Chloroform	ND	0.40	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
Chloromethane	ND	0.29	3.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
cis-1,2-DCE	ND	0.38	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
cis-1,3-Dichloropropene	ND	0.30	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
1,2-Dibromo-3-chloropropane	ND	0.47	2.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
Dibromochloromethane	ND	0.24	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
Dibromomethane	ND	0.32	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
1,2-Dichlorobenzene	ND	0.31	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
1,3-Dichlorobenzene	ND	0.31	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-62
Project: 8-8-18 RCRA WELLS and REFINERY
Collection Date: 8/8/2018 10:50:00 AM
Lab ID: 1808540-004
Matrix: AQUEOUS
Received Date: 8/9/2018 6:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloroethene	ND	0.12	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
1,2-Dichloropropane	ND	0.15	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
1,3-Dichloropropane	ND	0.27	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
2,2-Dichloropropane	ND	0.18	2.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
2-Hexanone	ND	0.91	10		µg/L	1	8/14/2018 12:20:00 AM	R53391
Isopropylbenzene	ND	0.22	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
4-Isopropyltoluene	ND	0.24	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
4-Methyl-2-pentanone	ND	0.45	10		µg/L	1	8/14/2018 12:20:00 AM	R53391
Methylene Chloride	ND	0.21	3.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
n-Butylbenzene	ND	0.25	3.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
n-Propylbenzene	ND	0.24	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
sec-Butylbenzene	ND	0.20	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
Styrene	ND	0.25	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
tert-Butylbenzene	ND	0.22	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
1,1,1,2-Tetrachloroethane	ND	0.25	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
1,1,2,2-Tetrachloroethane	ND	0.33	2.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
trans-1,3-Dichloropropene	ND	0.28	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
1,2,3-Trichlorobenzene	ND	0.28	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
1,2,4-Trichlorobenzene	ND	0.27	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
1,1,1-Trichloroethane	ND	0.15	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
1,1,2-Trichloroethane	ND	0.23	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
Trichloroethene (TCE)	ND	0.26	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
Trichlorofluoromethane	ND	0.17	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
1,2,3-Trichloropropane	ND	0.57	2.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
Vinyl chloride	ND	0.11	1.0		µg/L	1	8/14/2018 12:20:00 AM	R53391
Xylenes, Total	ND	0.64	1.5		µg/L	1	8/14/2018 12:20:00 AM	R53391
Surr: 1,2-Dichloroethane-d4	104	0	70-130		%Rec	1	8/14/2018 12:20:00 AM	R53391
Surr: 4-Bromofluorobenzene	103	0	70-130		%Rec	1	8/14/2018 12:20:00 AM	R53391
Surr: Dibromofluoromethane	111	0	70-130		%Rec	1	8/14/2018 12:20:00 AM	R53391
Surr: Toluene-d8	94.7	0	70-130		%Rec	1	8/14/2018 12:20:00 AM	R53391
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	0.023	0.0097	0.050	J	mg/L	1	8/13/2018 3:17:46 PM	B53389
Surr: BFB	104	0	70-130		%Rec	1	8/13/2018 3:17:46 PM	B53389
CARBON DIOXIDE							Analyst: **JRR**	

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-62
Project: 8-8-18 RCRA WELLS and REFINERY
Collection Date: 8/8/2018 10:50:00 AM
Lab ID: 1808540-004 **Matrix:** AQUEOUS **Received Date:** 8/9/2018 6:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
CARBON DIOXIDE							Analyst: **JRR**	
Total Carbon Dioxide	600	0	1.0	H	mg CO2/	1	8/16/2018 3:47:24 PM	R53511
SM2320B: ALKALINITY							Analyst: **JRR**	
Bicarbonate (As CaCO3)	622.9	20.00	20.00		mg/L Ca	1	8/16/2018 3:47:24 PM	R53511
Carbonate (As CaCO3)	ND	2.000	2.000		mg/L Ca	1	8/16/2018 3:47:24 PM	R53511
Total Alkalinity (as CaCO3)	622.9	20.00	20.00		mg/L Ca	1	8/16/2018 3:47:24 PM	R53511

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: Trip Blank
Project: 8-8-18 RCRA WELLS and REFINERY
Collection Date:
Lab ID: 1808540-005
Matrix: AQUEOUS
Received Date: 8/9/2018 6:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.17	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
Toluene	ND	0.17	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
Ethylbenzene	ND	0.22	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
Methyl tert-butyl ether (MTBE)	ND	0.32	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
1,2,4-Trimethylbenzene	ND	0.25	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
1,3,5-Trimethylbenzene	ND	0.23	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
1,2-Dibromoethane (EDB)	ND	0.23	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
Naphthalene	ND	0.29	2.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
1-Methylnaphthalene	ND	0.34	4.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
2-Methylnaphthalene	ND	0.24	4.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
Acetone	ND	0.79	10		µg/L	1	8/14/2018 12:44:00 AM	R53391
Bromobenzene	ND	0.32	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
Bromodichloromethane	ND	0.28	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
Bromoform	ND	0.32	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
Bromomethane	ND	0.26	3.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
2-Butanone	ND	1.3	10		µg/L	1	8/14/2018 12:44:00 AM	R53391
Carbon disulfide	ND	0.39	10		µg/L	1	8/14/2018 12:44:00 AM	R53391
Carbon Tetrachloride	ND	0.13	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
Chlorobenzene	ND	0.29	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
Chloroethane	ND	0.16	2.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
Chloroform	ND	0.40	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
Chloromethane	ND	0.29	3.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
cis-1,2-DCE	ND	0.38	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
cis-1,3-Dichloropropene	ND	0.30	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
1,2-Dibromo-3-chloropropane	ND	0.47	2.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
Dibromochloromethane	ND	0.24	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
Dibromomethane	ND	0.32	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
1,2-Dichlorobenzene	ND	0.31	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
1,3-Dichlorobenzene	ND	0.31	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
1,1-Dichloroethene	ND	0.12	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
1,2-Dichloropropane	ND	0.15	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
1,3-Dichloropropane	ND	0.27	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
2,2-Dichloropropane	ND	0.18	2.0		µg/L	1	8/14/2018 12:44:00 AM	R53391

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: Trip Blank
Project: 8-8-18 RCRA WELLS and REFINERY
Collection Date:
Lab ID: 1808540-005
Matrix: AQUEOUS
Received Date: 8/9/2018 6:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
2-Hexanone	ND	0.91	10		µg/L	1	8/14/2018 12:44:00 AM	R53391
Isopropylbenzene	ND	0.22	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
4-Isopropyltoluene	ND	0.24	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
4-Methyl-2-pentanone	ND	0.45	10		µg/L	1	8/14/2018 12:44:00 AM	R53391
Methylene Chloride	ND	0.21	3.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
n-Butylbenzene	ND	0.25	3.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
n-Propylbenzene	ND	0.24	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
sec-Butylbenzene	ND	0.20	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
Styrene	ND	0.25	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
tert-Butylbenzene	ND	0.22	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
1,1,1,2-Tetrachloroethane	ND	0.25	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
1,1,2,2-Tetrachloroethane	ND	0.33	2.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
trans-1,3-Dichloropropene	ND	0.28	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
1,2,3-Trichlorobenzene	ND	0.28	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
1,2,4-Trichlorobenzene	ND	0.27	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
1,1,1-Trichloroethane	ND	0.15	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
1,1,2-Trichloroethane	ND	0.23	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
Trichloroethene (TCE)	ND	0.26	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
Trichlorofluoromethane	ND	0.17	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
1,2,3-Trichloropropane	ND	0.57	2.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
Vinyl chloride	ND	0.11	1.0		µg/L	1	8/14/2018 12:44:00 AM	R53391
Xylenes, Total	ND	0.64	1.5		µg/L	1	8/14/2018 12:44:00 AM	R53391
Surr: 1,2-Dichloroethane-d4	105	0	70-130		%Rec	1	8/14/2018 12:44:00 AM	R53391
Surr: 4-Bromofluorobenzene	104	0	70-130		%Rec	1	8/14/2018 12:44:00 AM	R53391
Surr: Dibromofluoromethane	110	0	70-130		%Rec	1	8/14/2018 12:44:00 AM	R53391
Surr: Toluene-d8	93.7	0	70-130		%Rec	1	8/14/2018 12:44:00 AM	R53391
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	0.037	0.0097	0.050	J	mg/L	1	8/10/2018 5:48:38 PM	A53346
Surr: BFB	98.8	0	70-130		%Rec	1	8/10/2018 5:48:38 PM	A53346

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-65
Project: 8-8-18 RCRA WELLS and REFINERY
Collection Date: 8/8/2018 11:30:00 AM
Lab ID: 1808540-006
Matrix: AQUEOUS
Received Date: 8/9/2018 6:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE							Analyst: **lrm**	
Diesel Range Organics (DRO)	2.8	0.31	0.40		mg/L	1	8/13/2018 7:00:22 PM	39725
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	8/13/2018 7:00:22 PM	39725
Surr: DNOP	112	0	76.6-135		%Rec	1	8/13/2018 7:00:22 PM	39725
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.15	0.50		mg/L	5	8/9/2018 10:16:27 PM	A53348
Chloride	200	0.59	10		mg/L	20	8/9/2018 10:29:18 PM	A53348
Nitrogen, Nitrite (As N)	ND	0.24	0.50		mg/L	5	8/9/2018 10:16:27 PM	A53348
Bromide	5.0	0.13	0.50		mg/L	5	8/9/2018 10:16:27 PM	A53348
Nitrogen, Nitrate (As N)	0.21	0.033	0.50	J	mg/L	5	8/9/2018 10:16:27 PM	A53348
Phosphorus, Orthophosphate (As P)	3.0	0.46	2.5		mg/L	5	8/9/2018 10:16:27 PM	A53348
Sulfate	560	4.1	10		mg/L	20	8/9/2018 10:29:18 PM	A53348
EPA METHOD 7470: MERCURY							Analyst: **rde**	
Mercury	0.000075	0.000038	0.00020	J	mg/L	1	8/31/2018 10:46:09 AM	40077
EPA METHOD 7470: MERCURY							Analyst: **rde**	
Mercury	0.000070	0.000038	0.00020	FilteredJ	mg/L	1	8/31/2018 10:48:27 AM	40077
EPA METHOD 6010B: DISSOLVED METALS							Analyst: **pmf**	
Arsenic	ND	0.020	0.020		mg/L	1	8/27/2018 5:44:24 PM	B53717
Barium	0.12	0.00049	0.020		mg/L	1	8/22/2018 5:22:08 PM	B53642
Cadmium	ND	0.00088	0.0020		mg/L	1	8/22/2018 5:22:08 PM	B53642
Calcium	200	0.15	5.0		mg/L	5	8/22/2018 6:05:21 PM	B53642
Chromium	ND	0.00081	0.0060		mg/L	1	8/22/2018 5:22:08 PM	B53642
Copper	ND	0.0026	0.0060		mg/L	1	8/22/2018 5:22:08 PM	B53642
Iron	5.3	0.10	0.20		mg/L	10	8/22/2018 6:07:00 PM	B53642
Lead	ND	0.0050	0.0050		mg/L	1	8/22/2018 5:22:08 PM	B53642
Magnesium	95	0.011	1.0		mg/L	1	8/22/2018 5:22:08 PM	B53642
Manganese	1.5	0.00074	0.010		mg/L	5	8/22/2018 6:05:21 PM	B53642
Potassium	3.6	0.075	1.0		mg/L	1	8/22/2018 5:22:08 PM	B53642
Selenium	0.032	0.020	0.050	J	mg/L	1	8/27/2018 5:44:24 PM	B53717
Silver	0.0045	0.0010	0.0050	J	mg/L	1	8/22/2018 5:22:08 PM	B53642
Sodium	550	2.6	10		mg/L	10	8/22/2018 6:07:00 PM	B53642
Uranium	ND	0.025	0.10		mg/L	1	8/27/2018 5:44:24 PM	B53717
Zinc	ND	0.020	0.020		mg/L	1	8/22/2018 5:22:08 PM	B53642
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: **pmf**	
Arsenic	ND	0.011	0.020		mg/L	1	8/13/2018 4:50:59 PM	39719
Barium	0.061	0.020	0.020		mg/L	1	8/13/2018 1:39:09 PM	39719
Cadmium	ND	0.00099	0.0020		mg/L	1	8/13/2018 1:39:09 PM	39719
Chromium	ND	0.0011	0.0060		mg/L	1	8/13/2018 1:39:09 PM	39719

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-65
Project: 8-8-18 RCRA WELLS and REFINERY
Collection Date: 8/8/2018 11:30:00 AM
Lab ID: 1808540-006
Matrix: AQUEOUS
Received Date: 8/9/2018 6:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: **pmf**	
Lead	ND	0.0050	0.0050		mg/L	1	8/13/2018 8:55:28 PM	39719
Selenium	ND	0.024	0.050		mg/L	1	8/13/2018 1:39:09 PM	39719
Silver	0.0065	0.0018	0.0050		mg/L	1	8/13/2018 1:39:09 PM	39719
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Acenaphthene	ND	5.8	10		µg/L	1	8/15/2018 1:21:50 PM	39765
Acenaphthylene	ND	6.2	10		µg/L	1	8/15/2018 1:21:50 PM	39765
Aniline	ND	6.2	10		µg/L	1	8/15/2018 1:21:50 PM	39765
Anthracene	ND	5.7	10		µg/L	1	8/15/2018 1:21:50 PM	39765
Azobenzene	ND	6.7	10		µg/L	1	8/15/2018 1:21:50 PM	39765
Benz(a)anthracene	ND	5.3	10		µg/L	1	8/15/2018 1:21:50 PM	39765
Benzo(a)pyrene	ND	6.0	10		µg/L	1	8/15/2018 1:21:50 PM	39765
Benzo(b)fluoranthene	ND	7.1	10		µg/L	1	8/15/2018 1:21:50 PM	39765
Benzo(g,h,i)perylene	ND	5.7	10		µg/L	1	8/15/2018 1:21:50 PM	39765
Benzo(k)fluoranthene	ND	6.4	10		µg/L	1	8/15/2018 1:21:50 PM	39765
Benzoic acid	ND	6.3	20		µg/L	1	8/15/2018 1:21:50 PM	39765
Benzyl alcohol	ND	6.3	10		µg/L	1	8/15/2018 1:21:50 PM	39765
Bis(2-chloroethoxy)methane	ND	6.1	10		µg/L	1	8/15/2018 1:21:50 PM	39765
Bis(2-chloroethyl)ether	ND	6.3	10		µg/L	1	8/15/2018 1:21:50 PM	39765
Bis(2-chloroisopropyl)ether	ND	4.9	10		µg/L	1	8/15/2018 1:21:50 PM	39765
Bis(2-ethylhexyl)phthalate	ND	8.1	10		µg/L	1	8/15/2018 1:21:50 PM	39765
4-Bromophenyl phenyl ether	ND	6.9	10		µg/L	1	8/15/2018 1:21:50 PM	39765
Butyl benzyl phthalate	ND	6.3	10		µg/L	1	8/15/2018 1:21:50 PM	39765
Carbazole	ND	6.3	10		µg/L	1	8/15/2018 1:21:50 PM	39765
4-Chloro-3-methylphenol	ND	5.6	10		µg/L	1	8/15/2018 1:21:50 PM	39765
4-Chloroaniline	ND	6.0	10		µg/L	1	8/15/2018 1:21:50 PM	39765
2-Chloronaphthalene	ND	6.1	10		µg/L	1	8/15/2018 1:21:50 PM	39765
2-Chlorophenol	ND	5.8	10		µg/L	1	8/15/2018 1:21:50 PM	39765
4-Chlorophenyl phenyl ether	ND	7.2	10		µg/L	1	8/15/2018 1:21:50 PM	39765
Chrysene	ND	6.8	10		µg/L	1	8/15/2018 1:21:50 PM	39765
Di-n-butyl phthalate	ND	6.8	10		µg/L	1	8/15/2018 1:21:50 PM	39765
Di-n-octyl phthalate	ND	6.3	10		µg/L	1	8/15/2018 1:21:50 PM	39765
Dibenz(a,h)anthracene	ND	5.6	10		µg/L	1	8/15/2018 1:21:50 PM	39765
Dibenzofuran	ND	6.9	10		µg/L	1	8/15/2018 1:21:50 PM	39765
1,2-Dichlorobenzene	ND	6.0	10		µg/L	1	8/15/2018 1:21:50 PM	39765
1,3-Dichlorobenzene	ND	5.8	10		µg/L	1	8/15/2018 1:21:50 PM	39765
1,4-Dichlorobenzene	ND	5.8	10		µg/L	1	8/15/2018 1:21:50 PM	39765
3,3´-Dichlorobenzidine	ND	6.8	10		µg/L	1	8/15/2018 1:21:50 PM	39765
Diethyl phthalate	ND	6.3	10		µg/L	1	8/15/2018 1:21:50 PM	39765
Dimethyl phthalate	ND	6.0	10		µg/L	1	8/15/2018 1:21:50 PM	39765

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-65
Project: 8-8-18 RCRA WELLS and REFINERY
Collection Date: 8/8/2018 11:30:00 AM
Lab ID: 1808540-006
Matrix: AQUEOUS
Received Date: 8/9/2018 6:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
2,4-Dichlorophenol	ND	5.8	20		µg/L	1	8/15/2018 1:21:50 PM	39765
2,4-Dimethylphenol	21	5.9	10		µg/L	1	8/15/2018 1:21:50 PM	39765
4,6-Dinitro-2-methylphenol	ND	5.4	20		µg/L	1	8/15/2018 1:21:50 PM	39765
2,4-Dinitrophenol	ND	3.7	20		µg/L	1	8/15/2018 1:21:50 PM	39765
2,4-Dinitrotoluene	ND	5.8	10		µg/L	1	8/15/2018 1:21:50 PM	39765
2,6-Dinitrotoluene	ND	6.0	10		µg/L	1	8/15/2018 1:21:50 PM	39765
Fluoranthene	ND	5.8	10		µg/L	1	8/15/2018 1:21:50 PM	39765
Fluorene	ND	6.3	10		µg/L	1	8/15/2018 1:21:50 PM	39765
Hexachlorobenzene	ND	6.2	10		µg/L	1	8/15/2018 1:21:50 PM	39765
Hexachlorobutadiene	ND	6.4	10		µg/L	1	8/15/2018 1:21:50 PM	39765
Hexachlorocyclopentadiene	ND	3.9	10		µg/L	1	8/15/2018 1:21:50 PM	39765
Hexachloroethane	ND	6.0	10		µg/L	1	8/15/2018 1:21:50 PM	39765
Indeno(1,2,3-cd)pyrene	ND	7.0	10		µg/L	1	8/15/2018 1:21:50 PM	39765
Isophorone	ND	6.2	10		µg/L	1	8/15/2018 1:21:50 PM	39765
1-Methylnaphthalene	100	7.0	10		µg/L	1	8/15/2018 1:21:50 PM	39765
2-Methylnaphthalene	ND	6.3	10		µg/L	1	8/15/2018 1:21:50 PM	39765
2-Methylphenol	ND	6.3	10		µg/L	1	8/15/2018 1:21:50 PM	39765
3+4-Methylphenol	10	5.4	10		µg/L	1	8/15/2018 1:21:50 PM	39765
N-Nitrosodi-n-propylamine	ND	6.1	10		µg/L	1	8/15/2018 1:21:50 PM	39765
N-Nitrosodimethylamine	ND	6.9	10		µg/L	1	8/15/2018 1:21:50 PM	39765
N-Nitrosodiphenylamine	ND	6.7	10		µg/L	1	8/15/2018 1:21:50 PM	39765
Naphthalene	21	5.0	10		µg/L	1	8/15/2018 1:21:50 PM	39765
2-Nitroaniline	ND	5.9	10		µg/L	1	8/15/2018 1:21:50 PM	39765
3-Nitroaniline	ND	6.8	10		µg/L	1	8/15/2018 1:21:50 PM	39765
4-Nitroaniline	ND	6.0	10		µg/L	1	8/15/2018 1:21:50 PM	39765
Nitrobenzene	ND	6.0	10		µg/L	1	8/15/2018 1:21:50 PM	39765
2-Nitrophenol	ND	6.0	10		µg/L	1	8/15/2018 1:21:50 PM	39765
4-Nitrophenol	ND	5.6	10		µg/L	1	8/15/2018 1:21:50 PM	39765
Pentachlorophenol	ND	5.3	20		µg/L	1	8/15/2018 1:21:50 PM	39765
Phenanthrene	ND	6.0	10		µg/L	1	8/15/2018 1:21:50 PM	39765
Phenol	13	6.0	10		µg/L	1	8/15/2018 1:21:50 PM	39765
Pyrene	ND	6.5	10		µg/L	1	8/15/2018 1:21:50 PM	39765
Pyridine	ND	5.4	10		µg/L	1	8/15/2018 1:21:50 PM	39765
1,2,4-Trichlorobenzene	ND	6.4	10		µg/L	1	8/15/2018 1:21:50 PM	39765
2,4,5-Trichlorophenol	ND	5.8	10		µg/L	1	8/15/2018 1:21:50 PM	39765
2,4,6-Trichlorophenol	ND	6.4	10		µg/L	1	8/15/2018 1:21:50 PM	39765
Surr: 2-Fluorophenol	62.9	0	15-74.1		%Rec	1	8/15/2018 1:21:50 PM	39765
Surr: Phenol-d5	53.2	0	15-59.8		%Rec	1	8/15/2018 1:21:50 PM	39765
Surr: 2,4,6-Tribromophenol	72.2	0	22.1-112		%Rec	1	8/15/2018 1:21:50 PM	39765

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-65
Project: 8-8-18 RCRA WELLS and REFINERY
Collection Date: 8/8/2018 11:30:00 AM
Lab ID: 1808540-006
Matrix: AQUEOUS
Received Date: 8/9/2018 6:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Surr: Nitrobenzene-d5	80.6	0	33.2-94		%Rec	1	8/15/2018 1:21:50 PM	39765
Surr: 2-Fluorobiphenyl	76.9	0	34-90.9		%Rec	1	8/15/2018 1:21:50 PM	39765
Surr: 4-Terphenyl-d14	86.2	0	15-149		%Rec	1	8/15/2018 1:21:50 PM	39765
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	4500	17	100		µg/L	100	8/14/2018 2:51:00 PM	R53423
Toluene	7.6	1.7	10	J	µg/L	10	8/14/2018 3:16:00 PM	R53423
Ethylbenzene	1800	22	100		µg/L	100	8/14/2018 2:51:00 PM	R53423
Methyl tert-butyl ether (MTBE)	4600	32	100		µg/L	100	8/14/2018 2:51:00 PM	R53423
1,2,4-Trimethylbenzene	590	2.5	10		µg/L	10	8/14/2018 3:16:00 PM	R53423
1,3,5-Trimethylbenzene	41	2.3	10		µg/L	10	8/14/2018 3:16:00 PM	R53423
1,2-Dichloroethane (EDC)	170	4.0	10		µg/L	10	8/14/2018 3:16:00 PM	R53423
1,2-Dibromoethane (EDB)	ND	2.3	10		µg/L	10	8/14/2018 3:16:00 PM	R53423
Naphthalene	51	2.9	20		µg/L	10	8/14/2018 3:16:00 PM	R53423
1-Methylnaphthalene	110	3.4	40		µg/L	10	8/14/2018 3:16:00 PM	R53423
2-Methylnaphthalene	12	2.4	40	J	µg/L	10	8/14/2018 3:16:00 PM	R53423
Acetone	110	7.9	100		µg/L	10	8/14/2018 3:16:00 PM	R53423
Bromobenzene	ND	3.2	10		µg/L	10	8/14/2018 3:16:00 PM	R53423
Bromodichloromethane	ND	2.8	10		µg/L	10	8/14/2018 3:16:00 PM	R53423
Bromoform	ND	3.2	10		µg/L	10	8/14/2018 3:16:00 PM	R53423
Bromomethane	ND	2.6	30		µg/L	10	8/14/2018 3:16:00 PM	R53423
2-Butanone	ND	13	100		µg/L	10	8/14/2018 3:16:00 PM	R53423
Carbon disulfide	ND	3.9	100		µg/L	10	8/14/2018 3:16:00 PM	R53423
Carbon Tetrachloride	ND	1.3	10		µg/L	10	8/14/2018 3:16:00 PM	R53423
Chlorobenzene	ND	2.9	10		µg/L	10	8/14/2018 3:16:00 PM	R53423
Chloroethane	ND	1.6	20		µg/L	10	8/14/2018 3:16:00 PM	R53423
Chloroform	ND	4.0	10		µg/L	10	8/14/2018 3:16:00 PM	R53423
Chloromethane	ND	2.9	30		µg/L	10	8/14/2018 3:16:00 PM	R53423
2-Chlorotoluene	ND	4.0	10		µg/L	10	8/14/2018 3:16:00 PM	R53423
4-Chlorotoluene	ND	4.0	10		µg/L	10	8/14/2018 3:16:00 PM	R53423
cis-1,2-DCE	ND	3.8	10		µg/L	10	8/14/2018 3:16:00 PM	R53423
cis-1,3-Dichloropropene	ND	3.0	10		µg/L	10	8/14/2018 3:16:00 PM	R53423
1,2-Dibromo-3-chloropropane	ND	4.7	20		µg/L	10	8/14/2018 3:16:00 PM	R53423
Dibromochloromethane	ND	2.4	10		µg/L	10	8/14/2018 3:16:00 PM	R53423
Dibromomethane	ND	3.2	10		µg/L	10	8/14/2018 3:16:00 PM	R53423
1,2-Dichlorobenzene	ND	3.1	10		µg/L	10	8/14/2018 3:16:00 PM	R53423
1,3-Dichlorobenzene	ND	3.1	10		µg/L	10	8/14/2018 3:16:00 PM	R53423
1,4-Dichlorobenzene	ND	4.0	10		µg/L	10	8/14/2018 3:16:00 PM	R53423
Dichlorodifluoromethane	ND	10	10		µg/L	10	8/14/2018 3:16:00 PM	R53423
1,1-Dichloroethane	ND	4.0	10		µg/L	10	8/14/2018 3:16:00 PM	R53423

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Hall Environmental Analysis Laboratory, Inc.

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Lab ID: 1808540-006
Matrix: AQUEOUS
Received Date: 8/9/2018 6:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloroethene	ND	1.2	10		µg/L	10	8/14/2018 3:16:00 PM	R53423
1,2-Dichloropropane	ND	1.5	10		µg/L	10	8/14/2018 3:16:00 PM	R53423
1,3-Dichloropropane	ND	2.7	10		µg/L	10	8/14/2018 3:16:00 PM	R53423
2,2-Dichloropropane	ND	1.8	20		µg/L	10	8/14/2018 3:16:00 PM	R53423
1,1-Dichloropropene	ND	1.6	10		µg/L	10	8/14/2018 3:16:00 PM	R53423
Hexachlorobutadiene	ND	8.0	10		µg/L	10	8/14/2018 3:16:00 PM	R53423
2-Hexanone	ND	9.1	100		µg/L	10	8/14/2018 3:16:00 PM	R53423
Isopropylbenzene	91	2.2	10		µg/L	10	8/14/2018 3:16:00 PM	R53423
4-Isopropyltoluene	12	2.4	10		µg/L	10	8/14/2018 3:16:00 PM	R53423
4-Methyl-2-pentanone	ND	4.5	100		µg/L	10	8/14/2018 3:16:00 PM	R53423
Methylene Chloride	ND	2.1	30		µg/L	10	8/14/2018 3:16:00 PM	R53423
n-Butylbenzene	10	2.5	30	J	µg/L	10	8/14/2018 3:16:00 PM	R53423
n-Propylbenzene	300	2.4	10		µg/L	10	8/14/2018 3:16:00 PM	R53423
sec-Butylbenzene	18	2.0	10		µg/L	10	8/14/2018 3:16:00 PM	R53423
Styrene	ND	2.5	10		µg/L	10	8/14/2018 3:16:00 PM	R53423
tert-Butylbenzene	ND	2.2	10		µg/L	10	8/14/2018 3:16:00 PM	R53423
1,1,1,2-Tetrachloroethane	ND	2.5	10		µg/L	10	8/14/2018 3:16:00 PM	R53423
1,1,2,2-Tetrachloroethane	ND	3.3	20		µg/L	10	8/14/2018 3:16:00 PM	R53423
Tetrachloroethene (PCE)	ND	1.5	10		µg/L	10	8/14/2018 3:16:00 PM	R53423
trans-1,2-DCE	ND	1.8	10		µg/L	10	8/14/2018 3:16:00 PM	R53423
trans-1,3-Dichloropropene	ND	2.8	10		µg/L	10	8/14/2018 3:16:00 PM	R53423
1,2,3-Trichlorobenzene	ND	2.8	10		µg/L	10	8/14/2018 3:16:00 PM	R53423
1,2,4-Trichlorobenzene	ND	2.7	10		µg/L	10	8/14/2018 3:16:00 PM	R53423
1,1,1-Trichloroethane	ND	1.5	10		µg/L	10	8/14/2018 3:16:00 PM	R53423
1,1,2-Trichloroethane	ND	2.3	10		µg/L	10	8/14/2018 3:16:00 PM	R53423
Trichloroethene (TCE)	ND	2.6	10		µg/L	10	8/14/2018 3:16:00 PM	R53423
Trichlorofluoromethane	ND	1.7	10		µg/L	10	8/14/2018 3:16:00 PM	R53423
1,2,3-Trichloropropane	ND	5.7	20		µg/L	10	8/14/2018 3:16:00 PM	R53423
Vinyl chloride	ND	1.1	10		µg/L	10	8/14/2018 3:16:00 PM	R53423
Xylenes, Total	580	6.4	15		µg/L	10	8/14/2018 3:16:00 PM	R53423
Surr: 1,2-Dichloroethane-d4	103	0	70-130		%Rec	10	8/14/2018 3:16:00 PM	R53423
Surr: 4-Bromofluorobenzene	106	0	70-130		%Rec	10	8/14/2018 3:16:00 PM	R53423
Surr: Dibromofluoromethane	102	0	70-130		%Rec	10	8/14/2018 3:16:00 PM	R53423
Surr: Toluene-d8	91.4	0	70-130		%Rec	10	8/14/2018 3:16:00 PM	R53423
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	29	0.48	2.5		mg/L	50	8/10/2018 6:11:49 PM	A53346
Surr: BFB	94.9	0	70-130		%Rec	50	8/10/2018 6:11:49 PM	A53346
CARBON DIOXIDE							Analyst: **sat**	

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Collection Date: 8/8/2018 11:30:00 AM
Lab ID: 1808540-006
Matrix: AQUEOUS
Received Date: 8/9/2018 6:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
CARBON DIOXIDE							Analyst: **sat**	
Total Carbon Dioxide	1200	0	2.5	H	mg CO2/	2.5	8/21/2018 11:49:08 AM	R53613
SM2320B: ALKALINITY							Analyst: **sat**	
Bicarbonate (As CaCO3)	1305	50.00	50.00		mg/L Ca	2.5	8/21/2018 11:49:08 AM	R53613
Carbonate (As CaCO3)	ND	5.000	5.000		mg/L Ca	2.5	8/21/2018 11:49:08 AM	R53613
Total Alkalinity (as CaCO3)	1305	50.00	50.00		mg/L Ca	2.5	8/21/2018 11:49:08 AM	R53613

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-70
Project: 8-8-18 RCRA WELLS and REFINERY
Collection Date: 8/8/2018 12:25:00 PM
Lab ID: 1808540-007
Matrix: AQUEOUS
Received Date: 8/9/2018 6:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE							Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	0.31	0.40		mg/L	1	8/13/2018 7:25:05 PM	39725
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	8/13/2018 7:25:05 PM	39725
Surr: DNOP	109	0	76.6-135		%Rec	1	8/13/2018 7:25:05 PM	39725
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.15	0.50		mg/L	5	8/9/2018 10:42:11 PM	A53348
Chloride	280	0.59	10		mg/L	20	8/9/2018 10:55:02 PM	A53348
Nitrogen, Nitrite (As N)	ND	0.24	0.50		mg/L	5	8/9/2018 10:42:11 PM	A53348
Bromide	1.6	0.13	0.50		mg/L	5	8/9/2018 10:42:11 PM	A53348
Nitrogen, Nitrate (As N)	0.23	0.033	0.50	J	mg/L	5	8/9/2018 10:42:11 PM	A53348
Phosphorus, Orthophosphate (As P)	ND	0.46	2.5		mg/L	5	8/9/2018 10:42:11 PM	A53348
Sulfate	1900	10	25		mg/L	50	8/21/2018 3:41:11 AM	R53555
EPA METHOD 7470: MERCURY							Analyst: **rde**	
Mercury	0.00010	0.000038	0.00020	J	mg/L	1	8/31/2018 10:50:46 AM	40077
EPA METHOD 7470: MERCURY							Analyst: **rde**	
Mercury	0.000071	0.000038	0.00020	FilteredJ	mg/L	1	8/31/2018 10:53:05 AM	40077
EPA METHOD 6010B: DISSOLVED METALS							Analyst: **pmf**	
Arsenic	ND	0.020	0.020		mg/L	1	8/30/2018 1:18:00 PM	A53827
Barium	0.014	0.00049	0.020	J	mg/L	1	8/22/2018 5:23:48 PM	B53642
Cadmium	ND	0.00088	0.0020		mg/L	1	8/22/2018 5:23:48 PM	B53642
Calcium	560	0.31	10		mg/L	10	8/22/2018 6:10:32 PM	B53642
Chromium	ND	0.00081	0.0060		mg/L	1	8/22/2018 5:23:48 PM	B53642
Copper	ND	0.0026	0.0060		mg/L	1	8/22/2018 5:23:48 PM	B53642
Iron	9.6	0.10	0.20		mg/L	10	8/22/2018 6:10:32 PM	B53642
Lead	ND	0.0050	0.0050		mg/L	1	8/22/2018 5:23:48 PM	B53642
Magnesium	110	0.056	5.0		mg/L	5	8/22/2018 6:08:53 PM	B53642
Manganese	1.8	0.00074	0.010		mg/L	5	8/22/2018 6:08:53 PM	B53642
Potassium	4.0	0.075	1.0		mg/L	1	8/22/2018 5:23:48 PM	B53642
Selenium	ND	0.020	0.050		mg/L	1	8/27/2018 5:49:42 PM	B53717
Silver	0.015	0.0010	0.0050		mg/L	1	8/22/2018 5:23:48 PM	B53642
Sodium	530	2.6	10		mg/L	10	8/22/2018 6:10:32 PM	B53642
Uranium	ND	0.025	0.10		mg/L	1	8/27/2018 5:49:42 PM	B53717
Zinc	ND	0.020	0.020		mg/L	1	8/22/2018 5:23:48 PM	B53642
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: **pmf**	
Arsenic	ND	0.011	0.020		mg/L	1	8/13/2018 4:52:25 PM	39719
Barium	0.23	0.020	0.020		mg/L	1	8/13/2018 1:40:50 PM	39719
Cadmium	ND	0.00099	0.0020		mg/L	1	8/13/2018 1:40:50 PM	39719
Chromium	0.011	0.0011	0.0060		mg/L	1	8/13/2018 1:40:50 PM	39719

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Collection Date: 8/8/2018 12:25:00 PM
Lab ID: 1808540-007
Matrix: AQUEOUS
Received Date: 8/9/2018 6:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: **pmf**	
Lead	ND	0.0050	0.0050		mg/L	1	8/13/2018 1:40:50 PM	39719
Selenium	ND	0.024	0.050		mg/L	1	8/13/2018 1:40:50 PM	39719
Silver	0.0044	0.0018	0.0050	J	mg/L	1	8/13/2018 1:40:50 PM	39719
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.17	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
Toluene	ND	0.17	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
Ethylbenzene	ND	0.22	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
Methyl tert-butyl ether (MTBE)	ND	0.32	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
1,2,4-Trimethylbenzene	ND	0.25	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
1,3,5-Trimethylbenzene	ND	0.23	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
1,2-Dibromoethane (EDB)	ND	0.23	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
Naphthalene	ND	0.29	2.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
1-Methylnaphthalene	ND	0.34	4.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
2-Methylnaphthalene	ND	0.24	4.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
Acetone	ND	0.79	10		µg/L	1	8/14/2018 4:05:00 PM	R53423
Bromobenzene	ND	0.32	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
Bromodichloromethane	ND	0.28	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
Bromoform	ND	0.32	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
Bromomethane	ND	0.26	3.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
2-Butanone	ND	1.3	10		µg/L	1	8/14/2018 4:05:00 PM	R53423
Carbon disulfide	ND	0.39	10		µg/L	1	8/14/2018 4:05:00 PM	R53423
Carbon Tetrachloride	ND	0.13	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
Chlorobenzene	ND	0.29	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
Chloroethane	ND	0.16	2.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
Chloroform	ND	0.40	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
Chloromethane	ND	0.29	3.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
cis-1,2-DCE	ND	0.38	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
cis-1,3-Dichloropropene	ND	0.30	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
1,2-Dibromo-3-chloropropane	ND	0.47	2.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
Dibromochloromethane	ND	0.24	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
Dibromomethane	ND	0.32	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
1,2-Dichlorobenzene	ND	0.31	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
1,3-Dichlorobenzene	ND	0.31	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloroethene	ND	0.12	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
1,2-Dichloropropane	ND	0.15	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
1,3-Dichloropropane	ND	0.27	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
2,2-Dichloropropane	ND	0.18	2.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
2-Hexanone	ND	0.91	10		µg/L	1	8/14/2018 4:05:00 PM	R53423
Isopropylbenzene	ND	0.22	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
4-Isopropyltoluene	ND	0.24	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
4-Methyl-2-pentanone	ND	0.45	10		µg/L	1	8/14/2018 4:05:00 PM	R53423
Methylene Chloride	ND	0.21	3.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
n-Butylbenzene	ND	0.25	3.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
n-Propylbenzene	ND	0.24	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
sec-Butylbenzene	ND	0.20	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
Styrene	ND	0.25	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
tert-Butylbenzene	ND	0.22	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
1,1,1,2-Tetrachloroethane	ND	0.25	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
1,1,2,2-Tetrachloroethane	ND	0.33	2.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
trans-1,3-Dichloropropene	ND	0.28	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
1,2,3-Trichlorobenzene	ND	0.28	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
1,2,4-Trichlorobenzene	ND	0.27	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
1,1,1-Trichloroethane	ND	0.15	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
1,1,2-Trichloroethane	ND	0.23	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
Trichloroethene (TCE)	ND	0.26	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
Trichlorofluoromethane	ND	0.17	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
1,2,3-Trichloropropane	ND	0.57	2.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
Vinyl chloride	ND	0.11	1.0		µg/L	1	8/14/2018 4:05:00 PM	R53423
Xylenes, Total	ND	0.64	1.5		µg/L	1	8/14/2018 4:05:00 PM	R53423
Surr: 1,2-Dichloroethane-d4	105	0	70-130		%Rec	1	8/14/2018 4:05:00 PM	R53423
Surr: 4-Bromofluorobenzene	99.6	0	70-130		%Rec	1	8/14/2018 4:05:00 PM	R53423
Surr: Dibromofluoromethane	104	0	70-130		%Rec	1	8/14/2018 4:05:00 PM	R53423
Surr: Toluene-d8	91.3	0	70-130		%Rec	1	8/14/2018 4:05:00 PM	R53423
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	0.034	0.0097	0.050	J	mg/L	1	8/10/2018 7:21:05 PM	A53346
Surr: BFB	103	0	70-130		%Rec	1	8/10/2018 7:21:05 PM	A53346
CARBON DIOXIDE							Analyst: **JRR**	

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-70
Project: 8-8-18 RCRA WELLS and REFINERY
Collection Date: 8/8/2018 12:25:00 PM
Lab ID: 1808540-007 **Matrix:** AQUEOUS **Received Date:** 8/9/2018 6:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
CARBON DIOXIDE							Analyst: **JRR**	
Total Carbon Dioxide	790	0	1.0	H	mg CO2/	1	8/16/2018 4:45:45 PM	R53511
SM2320B: ALKALINITY							Analyst: **JRR**	
Bicarbonate (As CaCO3)	811.6	20.00	20.00		mg/L Ca	1	8/16/2018 4:45:45 PM	R53511
Carbonate (As CaCO3)	ND	2.000	2.000		mg/L Ca	1	8/16/2018 4:45:45 PM	R53511
Total Alkalinity (as CaCO3)	811.6	20.00	20.00		mg/L Ca	1	8/16/2018 4:45:45 PM	R53511

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-44
Project: 8-8-18 RCRA WELLS and REFINERY
Collection Date: 8/8/2018 1:05:00 PM
Lab ID: 1808540-008
Matrix: AQUEOUS
Received Date: 8/9/2018 6:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE							Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	0.31	0.40		mg/L	1	8/13/2018 7:49:41 PM	39725
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	8/13/2018 7:49:41 PM	39725
Surr: DNOP	106	0	76.6-135		%Rec	1	8/13/2018 7:49:41 PM	39725
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.15	0.50		mg/L	5	8/21/2018 3:53:35 AM	R53555
Chloride	48	0.59	10		mg/L	20	8/9/2018 11:20:45 PM	A53348
Nitrogen, Nitrite (As N)	0.079	0.048	0.10	J	mg/L	1	8/9/2018 11:07:54 PM	A53348
Bromide	0.16	0.027	0.10		mg/L	1	8/9/2018 11:07:54 PM	A53348
Nitrogen, Nitrate (As N)	0.050	0.0066	0.10	J	mg/L	1	8/9/2018 11:07:54 PM	A53348
Phosphorus, Orthophosphate (As P)	ND	1.9	10		mg/L	20	8/9/2018 11:20:45 PM	A53348
Sulfate	3000	21	50		mg/L	100	8/21/2018 4:05:59 AM	R53555
EPA METHOD 7470: MERCURY							Analyst: **rde**	
Mercury	0.000085	0.000038	0.00020	J	mg/L	1	8/31/2018 10:55:16 AM	40077
EPA METHOD 7470: MERCURY							Analyst: **rde**	
Mercury	0.000072	0.000038	0.00020	FilteredJ	mg/L	1	8/31/2018 10:57:28 AM	40077
EPA METHOD 6010B: DISSOLVED METALS							Analyst: **pmf**	
Arsenic	ND	0.020	0.020		mg/L	1	8/27/2018 6:23:48 PM	B53717
Barium	0.010	0.00049	0.020	J	mg/L	1	8/22/2018 5:25:27 PM	B53642
Cadmium	ND	0.00088	0.0020		mg/L	1	8/22/2018 5:25:27 PM	B53642
Calcium	480	0.15	5.0		mg/L	5	8/22/2018 6:19:40 PM	B53642
Chromium	ND	0.00081	0.0060		mg/L	1	8/22/2018 5:25:27 PM	B53642
Copper	ND	0.0026	0.0060		mg/L	1	8/22/2018 5:25:27 PM	B53642
Iron	0.029	0.010	0.020		mg/L	1	8/22/2018 5:25:27 PM	B53642
Lead	ND	0.0050	0.0050		mg/L	1	8/22/2018 5:25:27 PM	B53642
Magnesium	58	0.011	1.0		mg/L	1	8/22/2018 5:25:27 PM	B53642
Manganese	0.68	0.00015	0.0020		mg/L	1	8/22/2018 5:25:27 PM	B53642
Potassium	7.2	0.075	1.0		mg/L	1	8/22/2018 5:25:27 PM	B53642
Selenium	ND	0.020	0.050		mg/L	1	8/27/2018 5:51:11 PM	B53717
Silver	0.014	0.0010	0.0050		mg/L	1	8/22/2018 5:25:27 PM	B53642
Sodium	850	2.6	10		mg/L	10	8/22/2018 6:21:30 PM	B53642
Uranium	ND	0.025	0.10		mg/L	1	8/27/2018 5:51:11 PM	B53717
Zinc	ND	0.020	0.020		mg/L	1	8/22/2018 5:25:27 PM	B53642
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: **pmf**	
Arsenic	ND	0.011	0.020		mg/L	1	8/13/2018 4:53:52 PM	39719
Barium	0.068	0.020	0.020		mg/L	1	8/13/2018 1:42:37 PM	39719
Cadmium	ND	0.00099	0.0020		mg/L	1	8/13/2018 1:42:37 PM	39719
Chromium	0.0059	0.0011	0.0060	J	mg/L	1	8/13/2018 1:42:37 PM	39719

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-44
Project: 8-8-18 RCRA WELLS and REFINERY
Collection Date: 8/8/2018 1:05:00 PM
Lab ID: 1808540-008
Matrix: AQUEOUS
Received Date: 8/9/2018 6:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: **pmf**	
Lead	ND	0.0050	0.0050		mg/L	1	8/13/2018 8:58:21 PM	39719
Selenium	ND	0.024	0.050		mg/L	1	8/13/2018 1:42:37 PM	39719
Silver	0.013	0.0018	0.0050		mg/L	1	8/13/2018 1:42:37 PM	39719
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.17	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
Toluene	ND	0.17	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
Ethylbenzene	ND	0.22	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
Methyl tert-butyl ether (MTBE)	1.1	0.32	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
1,2,4-Trimethylbenzene	ND	0.25	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
1,3,5-Trimethylbenzene	ND	0.23	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
1,2-Dibromoethane (EDB)	ND	0.23	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
Naphthalene	ND	0.29	2.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
1-Methylnaphthalene	ND	0.34	4.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
2-Methylnaphthalene	ND	0.24	4.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
Acetone	ND	0.79	10		µg/L	1	8/14/2018 4:29:00 PM	R53423
Bromobenzene	ND	0.32	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
Bromodichloromethane	ND	0.28	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
Bromoform	ND	0.32	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
Bromomethane	ND	0.26	3.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
2-Butanone	ND	1.3	10		µg/L	1	8/14/2018 4:29:00 PM	R53423
Carbon disulfide	ND	0.39	10		µg/L	1	8/14/2018 4:29:00 PM	R53423
Carbon Tetrachloride	ND	0.13	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
Chlorobenzene	ND	0.29	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
Chloroethane	ND	0.16	2.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
Chloroform	ND	0.40	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
Chloromethane	ND	0.29	3.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
cis-1,2-DCE	ND	0.38	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
cis-1,3-Dichloropropene	ND	0.30	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
1,2-Dibromo-3-chloropropane	ND	0.47	2.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
Dibromochloromethane	ND	0.24	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
Dibromomethane	ND	0.32	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
1,2-Dichlorobenzene	ND	0.31	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
1,3-Dichlorobenzene	ND	0.31	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-44
Project: 8-8-18 RCRA WELLS and REFINERY
Collection Date: 8/8/2018 1:05:00 PM
Lab ID: 1808540-008
Matrix: AQUEOUS
Received Date: 8/9/2018 6:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloroethene	ND	0.12	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
1,2-Dichloropropane	ND	0.15	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
1,3-Dichloropropane	ND	0.27	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
2,2-Dichloropropane	ND	0.18	2.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
2-Hexanone	ND	0.91	10		µg/L	1	8/14/2018 4:29:00 PM	R53423
Isopropylbenzene	ND	0.22	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
4-Isopropyltoluene	ND	0.24	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
4-Methyl-2-pentanone	ND	0.45	10		µg/L	1	8/14/2018 4:29:00 PM	R53423
Methylene Chloride	ND	0.21	3.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
n-Butylbenzene	ND	0.25	3.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
n-Propylbenzene	ND	0.24	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
sec-Butylbenzene	ND	0.20	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
Styrene	ND	0.25	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
tert-Butylbenzene	ND	0.22	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
1,1,1,2-Tetrachloroethane	ND	0.25	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
1,1,2,2-Tetrachloroethane	ND	0.33	2.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
trans-1,3-Dichloropropene	ND	0.28	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
1,2,3-Trichlorobenzene	ND	0.28	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
1,2,4-Trichlorobenzene	ND	0.27	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
1,1,1-Trichloroethane	ND	0.15	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
1,1,2-Trichloroethane	ND	0.23	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
Trichloroethene (TCE)	ND	0.26	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
Trichlorofluoromethane	ND	0.17	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
1,2,3-Trichloropropane	ND	0.57	2.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
Vinyl chloride	ND	0.11	1.0		µg/L	1	8/14/2018 4:29:00 PM	R53423
Xylenes, Total	ND	0.64	1.5		µg/L	1	8/14/2018 4:29:00 PM	R53423
Surr: 1,2-Dichloroethane-d4	105	0	70-130		%Rec	1	8/14/2018 4:29:00 PM	R53423
Surr: 4-Bromofluorobenzene	102	0	70-130		%Rec	1	8/14/2018 4:29:00 PM	R53423
Surr: Dibromofluoromethane	106	0	70-130		%Rec	1	8/14/2018 4:29:00 PM	R53423
Surr: Toluene-d8	92.6	0	70-130		%Rec	1	8/14/2018 4:29:00 PM	R53423
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	0.026	0.0097	0.050	J	mg/L	1	8/10/2018 7:44:13 PM	A53346
Surr: BFB	102	0	70-130		%Rec	1	8/10/2018 7:44:13 PM	A53346
CARBON DIOXIDE							Analyst: **JRR**	

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-44
Project: 8-8-18 RCRA WELLS and REFINERY
Collection Date: 8/8/2018 1:05:00 PM
Lab ID: 1808540-008 **Matrix:** AQUEOUS **Received Date:** 8/9/2018 6:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
CARBON DIOXIDE							Analyst: **JRR**	
Total Carbon Dioxide	350	0	1.0	H	mg CO2/	1	8/16/2018 5:15:47 PM	R53511
SM2320B: ALKALINITY							Analyst: **JRR**	
Bicarbonate (As CaCO3)	373.5	20.00	20.00		mg/L Ca	1	8/16/2018 5:15:47 PM	R53511
Carbonate (As CaCO3)	ND	2.000	2.000		mg/L Ca	1	8/16/2018 5:15:47 PM	R53511
Total Alkalinity (as CaCO3)	373.5	20.00	20.00		mg/L Ca	1	8/16/2018 5:15:47 PM	R53511

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: DUPLICATE #2
Project: 8-8-18 RCRA WELLS and REFINERY
Collection Date: 8/8/2018
Lab ID: 1808540-009
Matrix: AQUEOUS
Received Date: 8/9/2018 6:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE							Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	0.31	0.40		mg/L	1	8/13/2018 8:14:22 PM	39725
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	8/13/2018 8:14:22 PM	39725
Surr: DNOP	107	0	76.6-135		%Rec	1	8/13/2018 8:14:22 PM	39725
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.15	0.50		mg/L	5	8/21/2018 4:18:24 AM	R53555
Chloride	820	1.5	25		mg/L	50	8/21/2018 4:30:49 AM	R53555
Nitrogen, Nitrite (As N)	ND	0.96	2.0		mg/L	20	8/9/2018 11:46:28 PM	A53348
Bromide	3.4	0.54	2.0		mg/L	20	8/9/2018 11:46:28 PM	A53348
Nitrogen, Nitrate (As N)	51	0.13	2.0	*	mg/L	20	8/9/2018 11:46:28 PM	A53348
Phosphorus, Orthophosphate (As P)	5.6	1.9	10	J	mg/L	20	8/9/2018 11:46:28 PM	A53348
Sulfate	1500	10	25		mg/L	50	8/21/2018 4:30:49 AM	R53555
EPA METHOD 7470: MERCURY							Analyst: **rde**	
Mercury	0.00013	0.000038	0.00020	J	mg/L	1	8/31/2018 10:59:42 AM	40077
EPA METHOD 7470: MERCURY							Analyst: **rde**	
Mercury	0.000072	0.000038	0.00020	FilteredJ	mg/L	1	8/31/2018 11:01:54 AM	40077
EPA METHOD 6010B: DISSOLVED METALS							Analyst: **pmf**	
Arsenic	ND	0.020	0.020		mg/L	1	8/27/2018 6:25:50 PM	B53717
Barium	0.011	0.00049	0.020	J	mg/L	1	8/22/2018 5:32:55 PM	B53642
Cadmium	ND	0.00088	0.0020		mg/L	1	8/22/2018 5:32:55 PM	B53642
Calcium	440	0.15	5.0		mg/L	5	8/22/2018 6:23:20 PM	B53642
Chromium	ND	0.00081	0.0060		mg/L	1	8/22/2018 5:32:55 PM	B53642
Copper	ND	0.0026	0.0060		mg/L	1	8/22/2018 5:32:55 PM	B53642
Iron	0.031	0.010	0.020		mg/L	1	8/22/2018 5:32:55 PM	B53642
Lead	ND	0.0050	0.0050		mg/L	1	8/22/2018 5:32:55 PM	B53642
Magnesium	68	0.011	1.0		mg/L	1	8/22/2018 5:32:55 PM	B53642
Manganese	0.0012	0.00015	0.0020	J	mg/L	1	8/22/2018 5:32:55 PM	B53642
Potassium	4.6	0.075	1.0		mg/L	1	8/22/2018 5:32:55 PM	B53642
Selenium	ND	0.020	0.050		mg/L	1	8/27/2018 5:53:13 PM	B53717
Silver	0.013	0.0010	0.0050		mg/L	1	8/22/2018 5:32:55 PM	B53642
Sodium	740	2.6	10		mg/L	10	8/22/2018 6:25:10 PM	B53642
Uranium	ND	0.025	0.10		mg/L	1	8/27/2018 5:53:13 PM	B53717
Zinc	ND	0.020	0.020		mg/L	1	8/22/2018 5:32:55 PM	B53642
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: **pmf**	
Arsenic	ND	0.011	0.020		mg/L	1	8/13/2018 4:55:19 PM	39719
Barium	0.22	0.020	0.020		mg/L	1	8/13/2018 1:51:15 PM	39719
Cadmium	ND	0.00099	0.0020		mg/L	1	8/13/2018 1:51:15 PM	39719
Chromium	0.0086	0.0011	0.0060		mg/L	1	8/13/2018 1:51:15 PM	39719

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: DUPLICATE #2
Project: 8-8-18 RCRA WELLS and REFINERY
Collection Date: 8/8/2018
Lab ID: 1808540-009
Matrix: AQUEOUS
Received Date: 8/9/2018 6:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: **pmf**	
Lead	ND	0.0050	0.0050		mg/L	1	8/13/2018 8:59:48 PM	39719
Selenium	ND	0.024	0.050		mg/L	1	8/13/2018 1:51:15 PM	39719
Silver	0.010	0.0018	0.0050		mg/L	1	8/13/2018 1:51:15 PM	39719
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.17	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
Toluene	ND	0.17	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
Ethylbenzene	ND	0.22	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
Methyl tert-butyl ether (MTBE)	ND	0.32	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
1,2,4-Trimethylbenzene	ND	0.25	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
1,3,5-Trimethylbenzene	ND	0.23	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
1,2-Dibromoethane (EDB)	ND	0.23	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
Naphthalene	ND	0.29	2.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
1-Methylnaphthalene	ND	0.34	4.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
2-Methylnaphthalene	ND	0.24	4.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
Acetone	ND	0.79	10		µg/L	1	8/14/2018 4:54:00 PM	R53423
Bromobenzene	ND	0.32	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
Bromodichloromethane	ND	0.28	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
Bromoform	ND	0.32	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
Bromomethane	ND	0.26	3.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
2-Butanone	ND	1.3	10		µg/L	1	8/14/2018 4:54:00 PM	R53423
Carbon disulfide	ND	0.39	10		µg/L	1	8/14/2018 4:54:00 PM	R53423
Carbon Tetrachloride	ND	0.13	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
Chlorobenzene	ND	0.29	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
Chloroethane	ND	0.16	2.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
Chloroform	ND	0.40	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
Chloromethane	ND	0.29	3.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
cis-1,2-DCE	ND	0.38	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
cis-1,3-Dichloropropene	ND	0.30	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
1,2-Dibromo-3-chloropropane	ND	0.47	2.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
Dibromochloromethane	ND	0.24	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
Dibromomethane	ND	0.32	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
1,2-Dichlorobenzene	ND	0.31	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
1,3-Dichlorobenzene	ND	0.31	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: DUPLICATE #2
Project: 8-8-18 RCRA WELLS and REFINERY
Collection Date: 8/8/2018
Lab ID: 1808540-009
Matrix: AQUEOUS
Received Date: 8/9/2018 6:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloroethene	ND	0.12	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
1,2-Dichloropropane	ND	0.15	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
1,3-Dichloropropane	ND	0.27	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
2,2-Dichloropropane	ND	0.18	2.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
2-Hexanone	ND	0.91	10		µg/L	1	8/14/2018 4:54:00 PM	R53423
Isopropylbenzene	ND	0.22	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
4-Isopropyltoluene	ND	0.24	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
4-Methyl-2-pentanone	ND	0.45	10		µg/L	1	8/14/2018 4:54:00 PM	R53423
Methylene Chloride	ND	0.21	3.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
n-Butylbenzene	ND	0.25	3.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
n-Propylbenzene	ND	0.24	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
sec-Butylbenzene	ND	0.20	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
Styrene	ND	0.25	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
tert-Butylbenzene	ND	0.22	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
1,1,1,2-Tetrachloroethane	ND	0.25	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
1,1,2,2-Tetrachloroethane	ND	0.33	2.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
trans-1,3-Dichloropropene	ND	0.28	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
1,2,3-Trichlorobenzene	ND	0.28	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
1,2,4-Trichlorobenzene	ND	0.27	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
1,1,1-Trichloroethane	ND	0.15	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
1,1,2-Trichloroethane	ND	0.23	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
Trichloroethene (TCE)	ND	0.26	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
Trichlorofluoromethane	ND	0.17	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
1,2,3-Trichloropropane	ND	0.57	2.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
Vinyl chloride	ND	0.11	1.0		µg/L	1	8/14/2018 4:54:00 PM	R53423
Xylenes, Total	ND	0.64	1.5		µg/L	1	8/14/2018 4:54:00 PM	R53423
Surr: 1,2-Dichloroethane-d4	105	0	70-130		%Rec	1	8/14/2018 4:54:00 PM	R53423
Surr: 4-Bromofluorobenzene	103	0	70-130		%Rec	1	8/14/2018 4:54:00 PM	R53423
Surr: Dibromofluoromethane	105	0	70-130		%Rec	1	8/14/2018 4:54:00 PM	R53423
Surr: Toluene-d8	92.3	0	70-130		%Rec	1	8/14/2018 4:54:00 PM	R53423
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	0.028	0.0097	0.050	J	mg/L	1	8/10/2018 10:25:25 PM	A53346
Surr: BFB	103	0	70-130		%Rec	1	8/10/2018 10:25:25 PM	A53346
CARBON DIOXIDE							Analyst: **JRR**	

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: DUPLICATE #2
Project: 8-8-18 RCRA WELLS and REFINERY
Collection Date: 8/8/2018
Lab ID: 1808540-009
Matrix: AQUEOUS
Received Date: 8/9/2018 6:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
CARBON DIOXIDE							Analyst: **JRR**	
Total Carbon Dioxide	260	0	1.0	H	mg CO2/	1	8/16/2018 5:32:04 PM	R53511
SM2320B: ALKALINITY							Analyst: **JRR**	
Bicarbonate (As CaCO3)	278.7	20.00	20.00		mg/L Ca	1	8/16/2018 5:32:04 PM	R53511
Carbonate (As CaCO3)	ND	2.000	2.000		mg/L Ca	1	8/16/2018 5:32:04 PM	R53511
Total Alkalinity (as CaCO3)	278.7	20.00	20.00		mg/L Ca	1	8/16/2018 5:32:04 PM	R53511

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: Trip Blank
Project: 8-8-18 RCRA WELLS and REFINERY
Collection Date:
Lab ID: 1808540-010
Matrix: AQUEOUS
Received Date: 8/9/2018 6:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.17	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
Toluene	ND	0.17	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
Ethylbenzene	ND	0.22	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
Methyl tert-butyl ether (MTBE)	ND	0.32	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
1,2,4-Trimethylbenzene	ND	0.25	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
1,3,5-Trimethylbenzene	ND	0.23	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
1,2-Dibromoethane (EDB)	ND	0.23	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
Naphthalene	ND	0.29	2.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
1-Methylnaphthalene	ND	0.34	4.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
2-Methylnaphthalene	ND	0.24	4.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
Acetone	ND	0.79	10		µg/L	1	8/14/2018 5:19:00 PM	R53423
Bromobenzene	ND	0.32	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
Bromodichloromethane	ND	0.28	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
Bromoform	ND	0.32	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
Bromomethane	ND	0.26	3.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
2-Butanone	ND	1.3	10		µg/L	1	8/14/2018 5:19:00 PM	R53423
Carbon disulfide	ND	0.39	10		µg/L	1	8/14/2018 5:19:00 PM	R53423
Carbon Tetrachloride	ND	0.13	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
Chlorobenzene	ND	0.29	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
Chloroethane	ND	0.16	2.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
Chloroform	ND	0.40	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
Chloromethane	ND	0.29	3.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
cis-1,2-DCE	ND	0.38	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
cis-1,3-Dichloropropene	ND	0.30	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
1,2-Dibromo-3-chloropropane	ND	0.47	2.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
Dibromochloromethane	ND	0.24	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
Dibromomethane	ND	0.32	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
1,2-Dichlorobenzene	ND	0.31	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
1,3-Dichlorobenzene	ND	0.31	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
1,1-Dichloroethene	ND	0.12	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
1,2-Dichloropropane	ND	0.15	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
1,3-Dichloropropane	ND	0.27	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
2,2-Dichloropropane	ND	0.18	2.0		µg/L	1	8/14/2018 5:19:00 PM	R53423

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: Trip Blank
Project: 8-8-18 RCRA WELLS and REFINERY
Collection Date:
Lab ID: 1808540-010
Matrix: AQUEOUS
Received Date: 8/9/2018 6:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
2-Hexanone	ND	0.91	10		µg/L	1	8/14/2018 5:19:00 PM	R53423
Isopropylbenzene	ND	0.22	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
4-Isopropyltoluene	ND	0.24	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
4-Methyl-2-pentanone	ND	0.45	10		µg/L	1	8/14/2018 5:19:00 PM	R53423
Methylene Chloride	ND	0.21	3.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
n-Butylbenzene	ND	0.25	3.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
n-Propylbenzene	ND	0.24	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
sec-Butylbenzene	ND	0.20	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
Styrene	ND	0.25	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
tert-Butylbenzene	ND	0.22	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
1,1,1,2-Tetrachloroethane	ND	0.25	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
1,1,2,2-Tetrachloroethane	ND	0.33	2.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
trans-1,3-Dichloropropene	ND	0.28	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
1,2,3-Trichlorobenzene	ND	0.28	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
1,2,4-Trichlorobenzene	ND	0.27	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
1,1,1-Trichloroethane	ND	0.15	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
1,1,2-Trichloroethane	ND	0.23	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
Trichloroethene (TCE)	ND	0.26	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
Trichlorofluoromethane	ND	0.17	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
1,2,3-Trichloropropane	ND	0.57	2.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
Vinyl chloride	ND	0.11	1.0		µg/L	1	8/14/2018 5:19:00 PM	R53423
Xylenes, Total	ND	0.64	1.5		µg/L	1	8/14/2018 5:19:00 PM	R53423
Surr: 1,2-Dichloroethane-d4	104	0	70-130		%Rec	1	8/14/2018 5:19:00 PM	R53423
Surr: 4-Bromofluorobenzene	102	0	70-130		%Rec	1	8/14/2018 5:19:00 PM	R53423
Surr: Dibromofluoromethane	106	0	70-130		%Rec	1	8/14/2018 5:19:00 PM	R53423
Surr: Toluene-d8	91.5	0	70-130		%Rec	1	8/14/2018 5:19:00 PM	R53423
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	0.038	0.0097	0.050	J	mg/L	1	8/10/2018 10:48:27 PM	A53346
Surr: BFB	107	0	70-130		%Rec	1	8/10/2018 10:48:27 PM	A53346

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808540**

05-Sep-18

Client: Andeavor Bloomfield

Project: 8-8-18 RCRA WELLS and REFINERY WELL

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R53348**	RunNo: **53348**
Prep Date:	Analysis Date: **8/9/2018**	SeqNo: **1756567** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P	0.26	0.50								J

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R53348**	RunNo: **53348**
Prep Date:	Analysis Date: **8/9/2018**	SeqNo: **1756568** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.53	0.10	0.5000	0	105	90	110			
Chloride	4.7	0.50	5.000	0	93.5	90	110			
Nitrogen, Nitrite (As N)	0.97	0.10	1.000	0	97.3	90	110			
Bromide	2.4	0.10	2.500	0	95.8	90	110			
Nitrogen, Nitrate (As N)	2.4	0.10	2.500	0	95.5	90	110			
Phosphorus, Orthophosphate (As P	4.7	0.50	5.000	0	94.8	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **A53348**	RunNo: **53348**
Prep Date:	Analysis Date: **8/9/2018**	SeqNo: **1756619** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	0.18	0.50								J
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P	0.26	0.50								J
Sulfate	ND	0.50								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **A53348**	RunNo: **53348**
Prep Date:	Analysis Date: **8/9/2018**	SeqNo: **1756620** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.7	0.50	5.000	0	93.3	90	110			
Nitrogen, Nitrite (As N)	0.97	0.10	1.000	0	97.0	90	110			
Bromide	2.4	0.10	2.500	0	95.7	90	110			
Nitrogen, Nitrate (As N)	2.4	0.10	2.500	0	95.3	90	110			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808540**

05-Sep-18

Client: Andeavor Bloomfield

Project: 8-8-18 RCRA WELLS and REFINERY WELL

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **A53348**	RunNo: **53348**
Prep Date:	Analysis Date: **8/9/2018**	SeqNo: **1756620** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Phosphorus, Orthophosphate (As P	4.9	0.50	5.000	0	97.3	90	110			
Sulfate	9.2	0.50	10.00	0	91.8	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R53555**	RunNo: **53555**
Prep Date:	Analysis Date: **8/20/2018**	SeqNo: **1766371** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	0.14	0.50								J
Sulfate	ND	0.50								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R53555**	RunNo: **53555**
Prep Date:	Analysis Date: **8/20/2018**	SeqNo: **1766372** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.47	0.10	0.5000	0	94.3	90	110			
Chloride	4.7	0.50	5.000	0	93.1	90	110			
Sulfate	9.2	0.50	10.00	0	92.0	90	110			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808540**

05-Sep-18

Client: Andeavor Bloomfield

Project: 8-8-18 RCRA WELLS and REFINERY WELL

Sample ID **LCS-39725**	SampType: **LCS**	TestCode: **EPA Method 8015D: Diesel Range**
Client ID: **LCSW**	Batch ID: **39725**	RunNo: **53384**
Prep Date: **8/10/2018**	Analysis Date: **8/13/2018**	SeqNo: **1759066** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	2.1	0.40	2.500	0	83.4	76.5	158			
Surr: DNOP	0.20		0.2500		81.4	76.6	135			

Sample ID **MB-39725**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Diesel Range**
Client ID: **PBW**	Batch ID: **39725**	RunNo: **53384**
Prep Date: **8/10/2018**	Analysis Date: **8/13/2018**	SeqNo: **1759067** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	0.40								
Motor Oil Range Organics (MRO)	ND	2.5								
Surr: DNOP	0.57		0.5000		114	76.6	135			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1808540**
05-Sep-18

Client: Andeavor Bloomfield
Project: 8-8-18 RCRA WELLS and REFINERY WELL

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R53391**	RunNo: **53391**
Prep Date:	Analysis Date: **8/13/2018**	SeqNo: **1759339** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	110	70	130			
Toluene	20	1.0	20.00	0	99.6	70	130			
Chlorobenzene	20	1.0	20.00	0	100	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	111	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	104	70	130			
Surr: 1,2-Dichloroethane-d4	9.9		10.00		98.5	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	9.3		10.00		92.8	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R53391**	RunNo: **53391**
Prep Date:	Analysis Date: **8/13/2018**	SeqNo: **1759340** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	0.41	10								J
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1808540**
05-Sep-18

Client: Andeavor Bloomfield
Project: 8-8-18 RCRA WELLS and REFINERY WELL

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R53391**	RunNo: **53391**
Prep Date:	Analysis Date: **8/13/2018**	SeqNo: **1759340** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808540**

05-Sep-18

Client: Andeavor Bloomfield

Project: 8-8-18 RCRA WELLS and REFINERY WELL

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R53391**	RunNo: **53391**
Prep Date:	Analysis Date: **8/13/2018**	SeqNo: **1759340** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	10		10.00		100	70	130			
Surr: Toluene-d8	9.4		10.00		93.7	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R53423**	RunNo: **53423**
Prep Date:	Analysis Date: **8/14/2018**	SeqNo: **1759990** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	110	70	130			
Toluene	19	1.0	20.00	0	94.9	70	130			
Chlorobenzene	19	1.0	20.00	0	96.8	70	130			
1,1-Dichloroethene	23	1.0	20.00	0	113	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	104	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		102	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	10		10.00		105	70	130			
Surr: Toluene-d8	9.2		10.00		91.5	70	130			

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R53423**	RunNo: **53423**
Prep Date:	Analysis Date: **8/14/2018**	SeqNo: **1760004** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								

Qualifiers:

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808540**

05-Sep-18

Client: Andeavor Bloomfield

Project: 8-8-18 RCRA WELLS and REFINERY WELL

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R53423**	RunNo: **53423**
Prep Date:	Analysis Date: **8/14/2018**	SeqNo: **1760004** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	1.5	10								J
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808540**

05-Sep-18

Client: Andeavor Bloomfield

Project: 8-8-18 RCRA WELLS and REFINERY WELL

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R53423**	RunNo: **53423**
Prep Date:	Analysis Date: **8/14/2018**	SeqNo: **1760004** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		102	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		99.0	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	9.0		10.00		89.6	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808540**

05-Sep-18

Client: Andeavor Bloomfield

Project: 8-8-18 RCRA WELLS and REFINERY WELL

Sample ID **mb-39765**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **39765**	RunNo: **53436**
Prep Date: **8/14/2018**	Analysis Date: **8/14/2018**	SeqNo: **1759987** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	8.0	20								J
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								
3,3´-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								

Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1808540**
05-Sep-18

Client: Andeavor Bloomfield
Project: 8-8-18 RCRA WELLS and REFINERY WELL

Sample ID **mb-39765**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **39765**	RunNo: **53436**
Prep Date: **8/14/2018**	Analysis Date: **8/14/2018**	SeqNo: **1759987** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								
Surr: 2-Fluorophenol	95		200.0		47.3	15	74.1			
Surr: Phenol-d5	75		200.0		37.4	15	59.8			
Surr: 2,4,6-Tribromophenol	120		200.0		59.6	22.1	112			
Surr: Nitrobenzene-d5	66		100.0		65.9	33.2	94			
Surr: 2-Fluorobiphenyl	62		100.0		61.8	34	90.9			
Surr: 4-Terphenyl-d14	73		100.0		73.0	15	149			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808540**

05-Sep-18

Client: Andeavor Bloomfield

Project: 8-8-18 RCRA WELLS and REFINERY WELL

Sample ID	**lcs-39765**	SampType:	**LCS**	TestCode:	**EPA Method 8270C: Semivolatiles**					
Client ID:	**LCSW**	Batch ID:	**39765**	RunNo:	**53467**					
Prep Date:	**8/14/2018**	Analysis Date:	**8/15/2018**	SeqNo:	**1761612**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	63	10	100.0	0	62.6	55.1	104			
4-Chloro-3-methylphenol	140	10	200.0	0	71.7	57	115			
2-Chlorophenol	130	10	200.0	0	62.5	43.4	112			
1,4-Dichlorobenzene	54	10	100.0	0	54.3	38	95.2			
2,4-Dinitrotoluene	56	10	100.0	0	56.5	55.1	96.7			
N-Nitrosodi-n-propylamine	78	10	100.0	0	78.2	55	112			
4-Nitrophenol	83	10	200.0	0	41.4	16.6	93			
Pentachlorophenol	120	20	200.0	0	60.4	43.2	104			
Phenol	73	10	200.0	0	36.6	21.3	85.7			
Pyrene	66	10	100.0	0	65.8	64.9	105			
1,2,4-Trichlorobenzene	62	10	100.0	0	62.0	42.6	107			
Surr: 2-Fluorophenol	89		200.0		44.5	15	74.1			
Surr: Phenol-d5	80		200.0		39.8	15	59.8			
Surr: 2,4,6-Tribromophenol	130		200.0		63.0	22.1	112			
Surr: Nitrobenzene-d5	66		100.0		66.0	33.2	94			
Surr: 2-Fluorobiphenyl	63		100.0		63.4	34	90.9			
Surr: 4-Terphenyl-d14	67		100.0		67.4	15	149			

Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808540**

05-Sep-18

Client: Andeavor Bloomfield

Project: 8-8-18 RCRA WELLS and REFINERY WELL

Sample ID	**MB-40077**	SampType:	**MBLK**	TestCode:	**EPA Method 7470: Mercury**					
Client ID:	**PBW**	Batch ID:	**40077**	RunNo:	**53851**					
Prep Date:	**8/30/2018**	Analysis Date:	**8/31/2018**	SeqNo:	**1776938**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.000048	0.00020								J

Sample ID	**LCS-40077**	SampType:	**LCS**	TestCode:	**EPA Method 7470: Mercury**					
Client ID:	**LCSW**	Batch ID:	**40077**	RunNo:	**53851**					
Prep Date:	**8/30/2018**	Analysis Date:	**8/31/2018**	SeqNo:	**1776939**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0049	0.00020	0.005000	0	97.6	80	120			

Sample ID	**1808540-001DMS**	SampType:	**MS**	TestCode:	**EPA Method 7470: Mercury**					
Client ID:	**MW-64**	Batch ID:	**40077**	RunNo:	**53851**					
Prep Date:	**8/30/2018**	Analysis Date:	**8/31/2018**	SeqNo:	**1776941**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0050	0.00020	0.005000	0.0001239	97.7	75	125			

Sample ID	**1808540-001DMSD**	SampType:	**MSD**	TestCode:	**EPA Method 7470: Mercury**					
Client ID:	**MW-64**	Batch ID:	**40077**	RunNo:	**53851**					
Prep Date:	**8/30/2018**	Analysis Date:	**8/31/2018**	SeqNo:	**1776942**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0050	0.00020	0.005000	0.0001239	97.8	75	125	0.105	20	

Qualifiers:

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808540**

05-Sep-18

Client: Andeavor Bloomfield

Project: 8-8-18 RCRA WELLS and REFINERY WELL

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B53642**	RunNo: **53642**
Prep Date:	Analysis Date: **8/22/2018**	SeqNo: **1769047** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Lead	ND	0.0050								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	0.10	1.0								J
Silver	ND	0.0050								
Sodium	0.29	1.0								J
Zinc	ND	0.020								

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B53642**	RunNo: **53642**
Prep Date:	Analysis Date: **8/22/2018**	SeqNo: **1769049** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.52	0.020	0.5000	0	104	80	120			
Cadmium	0.52	0.0020	0.5000	0	105	80	120			
Calcium	49	1.0	50.00	0	98.1	80	120			
Chromium	0.49	0.0060	0.5000	0	98.2	80	120			
Copper	0.50	0.0060	0.5000	0	99.5	80	120			
Iron	0.51	0.020	0.5000	0	103	80	120			
Lead	0.50	0.0050	0.5000	0	99.9	80	120			
Magnesium	50	1.0	50.00	0	100	80	120			
Manganese	0.49	0.0020	0.5000	0	98.7	80	120			
Potassium	50	1.0	50.00	0	99.5	80	120			
Silver	0.11	0.0050	0.1000	0	111	80	120			
Sodium	51	1.0	50.00	0	103	80	120			
Zinc	0.48	0.020	0.5000	0	95.9	80	120			

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B53717**	RunNo: **53717**
Prep Date:	Analysis Date: **8/27/2018**	SeqNo: **1772853** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.020								
Selenium	ND	0.050								

Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808540**

05-Sep-18

Client: Andeavor Bloomfield

Project: 8-8-18 RCRA WELLS and REFINERY WELL

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B53717**	RunNo: **53717**
Prep Date:	Analysis Date: **8/27/2018**	SeqNo: **1772853** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	ND	0.10								

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B53717**	RunNo: **53717**
Prep Date:	Analysis Date: **8/27/2018**	SeqNo: **1772855** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.49	0.020	0.5000	0	98.6	80	120			
Selenium	0.49	0.050	0.5000	0	98.0	80	120			
Uranium	0.51	0.10	0.5000	0	102	80	120			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A53827**	RunNo: **53827**
Prep Date:	Analysis Date: **8/30/2018**	SeqNo: **1776447** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.020								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A53827**	RunNo: **53827**
Prep Date:	Analysis Date: **8/30/2018**	SeqNo: **1776449** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.47	0.020	0.5000	0	93.6	80	120			

Qualifiers:

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808540**

05-Sep-18

Client: Andeavor Bloomfield

Project: 8-8-18 RCRA WELLS and REFINERY WELL

Sample ID	**MB-39719**	SampType:	**MBLK**	TestCode:	**EPA 6010B: Total Recoverable Metals**					
Client ID:	**PBW**	Batch ID:	**39719**	RunNo:	**53393**					
Prep Date:	**8/10/2018**	Analysis Date:	**8/13/2018**	SeqNo:	**1758346**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Lead	0.012	0.0050								
Selenium	ND	0.050								
Silver	ND	0.0050								

Sample ID	**LCS-39719**	SampType:	**LCS**	TestCode:	**EPA 6010B: Total Recoverable Metals**					
Client ID:	**LCSW**	Batch ID:	**39719**	RunNo:	**53393**					
Prep Date:	**8/10/2018**	Analysis Date:	**8/13/2018**	SeqNo:	**1758348**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.020	0.5000	0	100	80	120			
Cadmium	0.51	0.0020	0.5000	0	101	80	120			
Chromium	0.48	0.0060	0.5000	0	96.1	80	120			
Lead	0.49	0.0050	0.5000	0	97.9	80	120			B
Selenium	0.49	0.050	0.5000	0	98.4	80	120			
Silver	0.10	0.0050	0.1000	0	101	80	120			

Sample ID	**MB-39719**	SampType:	**MBLK**	TestCode:	**EPA 6010B: Total Recoverable Metals**					
Client ID:	**PBW**	Batch ID:	**39719**	RunNo:	**53393**					
Prep Date:	**8/10/2018**	Analysis Date:	**8/13/2018**	SeqNo:	**1758434**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.020								

Sample ID	**LCS-39719**	SampType:	**LCS**	TestCode:	**EPA 6010B: Total Recoverable Metals**					
Client ID:	**LCSW**	Batch ID:	**39719**	RunNo:	**53393**					
Prep Date:	**8/10/2018**	Analysis Date:	**8/13/2018**	SeqNo:	**1758436**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.48	0.020	0.5000	0	95.1	80	120			

Sample ID	**MB-39719**	SampType:	**MBLK**	TestCode:	**EPA 6010B: Total Recoverable Metals**					
Client ID:	**PBW**	Batch ID:	**39719**	RunNo:	**53387**					
Prep Date:	**8/10/2018**	Analysis Date:	**8/13/2018**	SeqNo:	**1759161**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.0050								

Qualifiers:

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808540**

05-Sep-18

Client: Andeavor Bloomfield

Project: 8-8-18 RCRA WELLS and REFINERY WELL

Sample ID	**LCS-39719**	SampType:	**LCS**	TestCode:	**EPA 6010B: Total Recoverable Metals**
Client ID:	**LCSW**	Batch ID:	**39719**	RunNo:	**53387**
Prep Date:	**8/10/2018**	Analysis Date:	**8/13/2018**	SeqNo:	**1759163** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.51	0.0050	0.5000	0	101	80	120			

Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808540**

05-Sep-18

Client: Andeavor Bloomfield

Project: 8-8-18 RCRA WELLS and REFINERY WELL

Sample ID	**1808540-006ams**	SampType:	**MS**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**MW-65**	Batch ID:	**A53346**		RunNo:	**53346**				
Prep Date:		Analysis Date:	**8/10/2018**		SeqNo:	**1757448**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	55	2.5	25.00	29.15	103	63.4	130			
Surr: BFB	490		500.0		97.0	70	130			

Sample ID	**1808540-006amsd**	SampType:	**MSD**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**MW-65**	Batch ID:	**A53346**		RunNo:	**53346**				
Prep Date:		Analysis Date:	**8/10/2018**		SeqNo:	**1757449**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	54	2.5	25.00	29.15	101	63.4	130	1.03	20	
Surr: BFB	490		500.0		98.2	70	130	0	0	

Sample ID	**2.5ug gro lcs**	SampType:	**LCS**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**LCSW**	Batch ID:	**A53346**		RunNo:	**53346**				
Prep Date:		Analysis Date:	**8/10/2018**		SeqNo:	**1757458**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.52	0.050	0.5000	0	103	70	130			
Surr: BFB	9.8		10.00		98.0	70	130			

Sample ID	**rb**	SampType:	**MBLK**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**PBW**	Batch ID:	**A53346**		RunNo:	**53346**				
Prep Date:		Analysis Date:	**8/10/2018**		SeqNo:	**1757460**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.025	0.050								J
Surr: BFB	10		10.00		104	70	130			

Sample ID	**2.5ug gro lcs**	SampType:	**LCS**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**LCSW**	Batch ID:	**B53389**		RunNo:	**53389**				
Prep Date:		Analysis Date:	**8/13/2018**		SeqNo:	**1758838**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.52	0.050	0.5000	0	104	70	130			
Surr: BFB	9.5		10.00		95.5	70	130			

Sample ID	**rb**	SampType:	**MBLK**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**PBW**	Batch ID:	**B53389**		RunNo:	**53389**				
Prep Date:		Analysis Date:	**8/13/2018**		SeqNo:	**1758839**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808540**

05-Sep-18

Client: Andeavor Bloomfield

Project: 8-8-18 RCRA WELLS and REFINERY WELL

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **B53389**	RunNo: **53389**
Prep Date:	Analysis Date: **8/13/2018**	SeqNo: **1758839** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.022	0.050								J
Surr: BFB	11		10.00		105	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808540**

05-Sep-18

Client: Andeavor Bloomfield

Project: 8-8-18 RCRA WELLS and REFINERY WELL

Sample ID	**mb-1 alk**	SampType:	**MBLK**	TestCode:	**SM2320B: Alkalinity**					
Client ID:	**PBW**	Batch ID:	**R53511**	RunNo:	**53511**					
Prep Date:		Analysis Date:	**8/16/2018**	SeqNo:	**1763637**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID	**lcs-1 alk**	SampType:	**LCS**	TestCode:	**SM2320B: Alkalinity**					
Client ID:	**LCSW**	Batch ID:	**R53511**	RunNo:	**53511**					
Prep Date:		Analysis Date:	**8/16/2018**	SeqNo:	**1763638**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79.48	20.00	80.00	0	99.4	90	110			

Sample ID	**mb-2 alk**	SampType:	**MBLK**	TestCode:	**SM2320B: Alkalinity**					
Client ID:	**PBW**	Batch ID:	**R53511**	RunNo:	**53511**					
Prep Date:		Analysis Date:	**8/16/2018**	SeqNo:	**1763661**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID	**lcs-2 alk**	SampType:	**LCS**	TestCode:	**SM2320B: Alkalinity**					
Client ID:	**LCSW**	Batch ID:	**R53511**	RunNo:	**53511**					
Prep Date:		Analysis Date:	**8/16/2018**	SeqNo:	**1763662**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	80.12	20.00	80.00	0	100	90	110			

Sample ID	**mb-1 alk**	SampType:	**MBLK**	TestCode:	**SM2320B: Alkalinity**					
Client ID:	**PBW**	Batch ID:	**R53613**	RunNo:	**53613**					
Prep Date:		Analysis Date:	**8/21/2018**	SeqNo:	**1768149**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID	**lcs-1 alk**	SampType:	**LCS**	TestCode:	**SM2320B: Alkalinity**					
Client ID:	**LCSW**	Batch ID:	**R53613**	RunNo:	**53613**					
Prep Date:		Analysis Date:	**8/21/2018**	SeqNo:	**1768150**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	77.44	20.00	80.00	0	96.8	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808540**

05-Sep-18

Client: Andeavor Bloomfield

Project: 8-8-18 RCRA WELLS and REFINERY WELL

Sample ID	**mb-2 alk**	SampType:	**mblk**	TestCode:	**SM2320B: Alkalinity**					
Client ID:	**PBW**	Batch ID:	**R53613**	RunNo:	**53613**					
Prep Date:		Analysis Date:	**8/21/2018**	SeqNo:	**1768175**	Units:	**mg/L CaCO3**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID	**lcs-2 alk**	SampType:	**LCS**	TestCode:	**SM2320B: Alkalinity**					
Client ID:	**LCSW**	Batch ID:	**R53613**	RunNo:	**53613**					
Prep Date:		Analysis Date:	**8/21/2018**	SeqNo:	**1768176**	Units:	**mg/L CaCO3**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	80.40	20.00	80.00	0	101	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: ANDEAVOR BLOOMFIEL Work Order Number: 1808540 RcptNo: 1

Received By: Anne Thorne 8/9/2018 6:50:00 AM Anne Thorne

Completed By: Anne Thorne 8/9/2018 10:14:16 AM Anne Thorne

Reviewed By: IO 08/09/18

LB: ENM 8/9/18

Chain of Custody

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☑ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☐ No ☑
8. Was preserved added to bottles? Yes ☑ No ☐ NA ☐
9. VOA vials have zero headspace? Yes ☑ No ☐ No VOA Vials ☐
10. Were any sample containers received broken? Yes ☐ No ☑
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
13. Is it clear what analyses were requested? Yes ☑ No ☐
14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

HNO3

# of preserved bottles checked for pH: 24
(<2 or >12 unless noted)
Adjusted? NT YES
ENM 8/9/18
Checked by: ENM 8/9/18

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☑ No ☐ NA ☐

Person Notified: ____ Date: ____
By Whom: ____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: ____
Client Instructions: ____

16. Additional remarks:

CUSTODY SEALS ON ALL SAMPLE BOTTLES, PER TP 1 REPORT-at 8/9/18 For acceptable pH for metals analysis added approx 1mL HNO3 to -003, -006 and -007. Samples held for 24hrs. Prior to analysis. -ENM 8/9/18 @ 12.25

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
3	1.0	Good	Yes			

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush_____

Project Name: **RCRA Wells**

Date: **8 - 8 - 18**

Project #: **Annual Event**

PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: **X** Yes ☐ No

Sample Temperature: **3 coolers 1.0**

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808540	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH (Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals Total	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Dissolved Metals	Gen. Chem. - Anions	Gen. Chem. - Alkalinity&CO_2		Air Bubbles (Y or N)
8/8/18	0820	H_2O	MW-64	40ml VOA-5	HCl	001			X							X						
				250 ml amber-1	Neat	001			X													
				250 ml plastic-1	HNO_3	001							X									
				125 ml plastic-1	HNO_3	001												X				
				125 ml plastic-1	H_2SO_4	001													X			
				500 ml plastic-1	Neat	001													X	X		

Analysis Request

Date	Time	Relinquished by:	Received by:	Date	Time
8/8/18	1610			8/8/18	1610
8/8/18	1840			08/09/18	0650

Remarks: See Analytical Methods and Target Analytes.

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush

Project Name: **RCRA Wells**

Date: 8-8-18

Project #: **Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**
On Ice: ☒ Yes ☐ No
Sample Temperature: 3 coolers 1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808540	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH (Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals Total	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Dissolved Metals	Gen. Chem. - Anions	Gen. Chem. - Alkalinity&CO_2		Air Bubbles (Y or N)
8/8/18	0930	H_2O	MW-63	40ml VOA-5	HCl	-002			X							X						
				250 ml amber-1	Neat	002			X													
				250 ml plastic-1	HNO_3	ATO81 09/18 003							X									
				125 ml plastic-1	HNO_3	002												X				
				125 ml plastic-1	H_2SO_4	002													X			
				500 ml plastic-1	Neat	002													X	X		

Analysis Request

Date	Time	Relinquished by:	Received by:	Date	Time
8/8/18	1610			8/8/18	1610
8/8/18	1840			08/09/18	

Remarks: See Analytical Methods and Target Analytes.

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **Refinery Wells**

Date: **8-8-18**

Project #: **Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: ☒ Yes ☐ No

Sample Temperature: 3 coolers 1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY
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4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808540	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals Total	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Dissolved Metals	Gen. Chem. - Anions	Gen. Chem. - Alkalinity&CO_2		Air Bubbles (Y or N)
8/8/18	1000	H_2O	MW-31	40ml VOA-5	HCl	003			X							X						
				250 ml amber-1	Neat	003			X													
				250 ml plastic-1	HNO_3	003							X									
				125 ml plastic-1	HNO_3	003												X				
				125 ml plastic-1	H_2SO_4	003													X			
				500 ml plastic-1	Neat	003													X	X		

Analysis Request

Date	Time	Relinquished by:	Received by:	Date	Time
8/8/18	1610			8/8/18	1610
8/8/18	1840			08/09/18	0850

Remarks: See Analytical Methods and Target Analytes.

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **RCRA Wells**

Date: 8-8-18

Project #: **Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: **X** Yes ☐ No

Sample Temperature: 3 coolers 1.0

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Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808540	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH (Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals Total	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Dissolved Metals	Gen. Chem. - Anions	Gen. Chem. - Alkalinity&CO_2		Air Bubbles (Y or N)
8/8/18	1050	H_2O	MW-62	40ml VOA-5	HCl	-004			X							X						
				250 ml amber-1	Neat	-004			X													
				250 ml plastic-1	HNO_3	-004							X									
				125 ml plastic-1	HNO_3	-004												X				
				125 ml plastic-1	H_2SO_4	-004													X			
				500 ml plastic-1	Neat	-004													X	X		
8/8/18	—	H_2O	TRIP BLANK	40 ML VOA-3	HCl	-005										X						

Date	Time	Relinquished by:	Received by:	Date	Time
8/8/18	1610			8/8/18	1610
8/8/18	1840			08/09/18	0650

Remarks: See Analytical Methods and Target Analytes.

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **RCRA Wells**

Date: 8-8-18

Project #: **Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: ☒ Yes ☐ No

Sample Temperature: 3 coolers 1.0

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Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 808540	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH (Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals Total	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Dissolved Metals	Gen. Chem. - Anions	Gen. Chem. - Alkalinity&CO_2		Air Bubbles (Y or N)
8/8/18	1130	H_2O	MW-65	40ml VOA-5	HCl	001			X							X						
				250 ml amber-1	Neat	002			X													
				1 liter amber-2	Neat	003											X					
				250 ml plastic-1	HNO_3	004							X									
				125 ml plastic-1	HNO_3	005												X				
				125 ml plastic-1	H_2SO_4	006													X			
				500 ml plastic-1	Neat	007													X	X		

Date	Time	Relinquished by:	Received by:	Date	Time
8/8/18	1610			8/8/18	1610
8/8/18	1840			08/09/18	0650

Remarks: See Analytical Methods and Target Analytes.

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **RCRA Wells**

Date: 8-8-18

Project #: **Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: ☒ Yes ☐ No

Sample Temperature: 3 coolers 1.0

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4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. B08540	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH (Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals Total	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Dissolved Metals	Gen. Chem. - Anions	Gen. Chem. - Alkalinity&CO_2		Air Bubbles (Y or N)
8/8/18	1225	H_2O	MW-70	40ml VOA-5	HCl	001			X							X						
				250 ml amber-1	Neat	002			X													
				250 ml plastic-1	HNO_3	003							X									
				125 ml plastic-1	HNO_3	004												X				
				125 ml plastic-1	H_2SO_4	005													X			
				500 ml plastic-1	Neat	006													X	X		

Date	Time	Relinquished by:	Received by:	Date	Time
8/8/18	1610			8/8/18	1610
8/8/18	1840			08/09/18	0650

Remarks: See Analytical Methods and Target Analytes.

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **Refinery Wells**

Date: 8-8-18

Project #: **Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: ☑ Yes ☐ No

Sample Temperature: 3 cubes 1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808540	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals Total	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Dissolved Metals	Gen. Chem. - Anions	Gen. Chem. - Alkalinity&CO_2		Air Bubbles (Y or N)
8/8/18	1305	H_2O	MW-44	40ml VOA-5	HCl	008			X							X						
				250 ml amber-1	Neat	008			X													
				250 ml plastic-1	HNO_3	008							X									
				125 ml plastic-1	HNO_3	008												X				
				125 ml plastic-1	H_2SO_4	008													X			
				500 ml plastic-1	Neat	008													X	X		

Analysis Request

Date	Time	Relinquished by:	Received by:	Date	Time
8/8/18	1610			8/8/18	1610
8/8/18	1840			8/8/18	0650

Remarks: See Analytical Methods and Target Analytes.

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name:

Date: 8-8-18

Project #: **Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: **X** Yes ☐ No

Sample Temperature: 3 cooler / 0

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808540	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals Total	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Dissolved Metals	General Chem.-Anions	General Chem. - Alkalinity	CO_2	Air Bubbles (Y or N)
8/8/18	—	H_2O	DUPLICATE #2	40 mL VOA-5	HCl	009			X							X						
				250 mL AMBER-1	NEAT	009			X													
				250 mL PLASTIC-1	HNO_3	009							X									
				125 mL PLASTIC-1	HNO_3	009												X				
				125 mL PLASTIC-1	H_2SO_4	009													X			
				500 mL PLASTIC-1	NEAT	009													X	X		
8/8/18	—	H_2O	TRIP BLANK	40 mL VOA-3	HCL	010										X						

Date: 8/8/18 Time: 1610 Relinquished by: _____ Received by: _____ Date: 8/8/18 Time: 1610

Date: 8/8/18 Time: 1840 Relinquished by: _____ Received by: _____ Date: 08/09/18 Time: 0652

Remarks: See Analytical Methods and Target Analytes.

TABLE 2
Analytical Methods and Target Analytes
Facility-Wide Groundwater Monitoring Plan - June 2014
Western Refining Southwest, Inc. - Bloomfield Terminal

VOCs (EPA Method 8260B) [1]
- Target List
Benzene
Toluene
Ethylbenzene
Xylenes
Methyl tert butyl ether (MTBE)
SVOCs - (EPA Method 8270)
- Method List
TPH-GRO (EPA Method 8015B)
- Gasoline Range Organics
TPH-DRO (EPA Method 8015B)
- Diesel Range Organics
- Motor Oil Range Organics
Total Carbon Dioxide (Laboratory Calculated)
- Dissolved CO2
Specific Conductivity (EPA Method 120.1 or field measurement)
- Specific conductance
TDS (EPA Method 160.1 or field measurement)
- Total dissolved solids
General Chemistry - Anions (EPA Method 300.0)
Fluoride
Chloride
Bromide
Nitrogen, Nitrite (as N)
Nitrogen, Nitrate (as N)
Phosphorous, Orthophosphate (As P)
Sulfate
General Chemistry - Alkalinity (EPA Method 310.1)
Alkalinity, Total
Carbonate
Bicarbonate

Total Recoverable Metals (EPA Method 6010B/7470)	
- Target List (not applicable to River Terrace Sampling Events)	
Arsenic	*Lead*
Barium	*Mercury*
Cadmium	*Selenium*
Chromium	*Silver*
- Target List (for River Terrace Sampling Events Only)	
Lead	
Mercury (DW-1 ONLY)	
Dissolved Metals (EPA Method 6010B / 7470)	
- Target List (for Refinery Complex, Outfalls, and River)	
Arsenic	*Manganese*
Barium	*Mercury*
Cadmium	*Potassium*
Calcium	*Selenium*
Chromium	*Silver*
Copper	*Sodium*
Iron	*Uranium*
Lead	*Zinc*
Magnesium	

TPH = total petroleum hydrocarbons
GRO = gasoline range organics
VOCs = volatile organic compounds
DRO = diesel range organics
TDS = total dissolved solids

NOTES:

(1) VOCs Target List for River Terrace samples are analyzed by EPA Method 8021B per NMED's letter Approval with Direction dated June 16, 2009.

(2) Target List for San Juan River Terrace Monitoring Wells and Piezomenter Wells only, per the River Terrace Bioventing System Monitoring Plan.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

September 05, 2018

Allen Hains

Andeavor Bloomfield
111 CR 4990
Bloomfield, NM 87413
TEL: (915) 534-1483
FAX

RE: Refinery Wells NBB Collection Wells NBB Observation Well OrderNo.: 1808649

Dear Allen Hains:

Hall Environmental Analysis Laboratory received 7 sample(s) on 8/10/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-52
Project: Refinery Wells NBB Collection Wells N
Collection Date: 8/8/2018 3:00:00 PM
Lab ID: 1808649-001
Matrix: AQUEOUS
Received Date: 8/10/2018 8:10:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE							Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	0.31	0.40		mg/L	1	8/16/2018 12:41:23 PM	39797
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	8/16/2018 12:41:23 PM	39797
Surr: DNOP	93.8	0	76.6-135		%Rec	1	8/16/2018 12:41:23 PM	39797
EPA METHOD 300.0: ANIONS							Analyst: **smb**	
Fluoride	ND	0.15	0.50		mg/L	5	8/13/2018 8:49:56 PM	R53419
Chloride	880	2.9	50		mg/L	100	8/21/2018 8:37:37 PM	A53614
Bromide	1.9	0.13	0.50		mg/L	5	8/13/2018 8:49:56 PM	R53419
Phosphorus, Orthophosphate (As P)	1.6	0.46	2.5	JH	mg/L	5	8/13/2018 8:49:56 PM	R53419
Sulfate	1100	21	50		mg/L	100	8/21/2018 8:37:37 PM	A53614
Nitrate+Nitrite as N	27	0.27	1.0	*	mg/L	5	8/13/2018 9:41:23 PM	R53419
EPA METHOD 200.7: METALS							Analyst: **pmf**	
Barium	0.012	0.0010	0.0020		mg/L	1	8/15/2018 9:31:27 PM	39768
Cadmium	ND	0.0010	0.0020		mg/L	1	8/15/2018 9:31:27 PM	39768
Chromium	ND	0.0018	0.0060		mg/L	1	8/15/2018 9:31:27 PM	39768
Silver	0.0088	0.0018	0.0050		mg/L	1	8/16/2018 4:03:20 PM	39768
EPA 200.8: METALS							Analyst: **ELS**	
Arsenic	0.0043	0.0021	0.0050	J	mg/L	5	8/24/2018 9:21:17 AM	39768
Lead	ND	0.00023	0.00050		mg/L	1	8/24/2018 7:25:27 AM	39768
Selenium	0.033	0.0049	0.0050		mg/L	5	8/24/2018 9:21:17 AM	39768
EPA METHOD 245.1: MERCURY							Analyst: **rde**	
Mercury	0.000091	0.000037	0.00020	J	mg/L	1	8/23/2018 6:12:11 PM	39963
EPA METHOD 7470: MERCURY							Analyst: **rde**	
Mercury	0.000073	0.000038	0.00020	JFiltered	mg/L	1	8/31/2018 11:13:12 AM	40078
EPA METHOD 6010B: DISSOLVED METALS							Analyst: **pmf**	
Arsenic	ND	0.020	0.020		mg/L	1	8/27/2018 6:27:51 PM	B53717
Barium	0.014	0.00049	0.020	J	mg/L	1	8/22/2018 5:34:52 PM	B53642
Cadmium	ND	0.00088	0.0020		mg/L	1	8/22/2018 5:34:52 PM	B53642
Calcium	330	0.15	5.0		mg/L	5	8/22/2018 6:27:00 PM	B53642
Chromium	ND	0.00081	0.0060		mg/L	1	8/22/2018 5:34:52 PM	B53642
Copper	ND	0.0026	0.0060		mg/L	1	8/22/2018 5:34:52 PM	B53642
Iron	ND	0.010	0.020		mg/L	1	8/22/2018 5:34:52 PM	B53642
Lead	ND	0.0050	0.0050		mg/L	1	8/22/2018 5:34:52 PM	B53642
Magnesium	89	0.011	1.0		mg/L	1	8/22/2018 5:34:52 PM	B53642
Manganese	3.5	0.00074	0.010		mg/L	5	8/22/2018 6:27:00 PM	B53642
Potassium	4.7	0.075	1.0		mg/L	1	8/22/2018 5:34:52 PM	B53642
Selenium	ND	0.020	0.050		mg/L	1	8/27/2018 5:55:14 PM	B53717

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-52
Project: Refinery Wells NBB Collection Wells N
Collection Date: 8/8/2018 3:00:00 PM
Lab ID: 1808649-001
Matrix: AQUEOUS
Received Date: 8/10/2018 8:10:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: DISSOLVED METALS							Analyst: **pmf**	
Silver	0.0099	0.0010	0.0050		mg/L	1	8/22/2018 5:34:52 PM	B53642
Sodium	630	2.6	10		mg/L	10	8/22/2018 6:28:48 PM	B53642
Uranium	ND	0.025	0.10		mg/L	1	8/27/2018 5:55:14 PM	B53717
Zinc	ND	0.020	0.020		mg/L	1	8/22/2018 5:34:52 PM	B53642
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.17	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
Toluene	ND	0.17	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
Ethylbenzene	ND	0.22	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
Methyl tert-butyl ether (MTBE)	ND	0.32	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
1,2,4-Trimethylbenzene	ND	0.25	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
1,3,5-Trimethylbenzene	ND	0.23	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
1,2-Dibromoethane (EDB)	ND	0.23	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
Naphthalene	ND	0.29	2.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
1-Methylnaphthalene	ND	0.34	4.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
2-Methylnaphthalene	ND	0.24	4.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
Acetone	ND	0.79	10		µg/L	1	8/13/2018 9:32:00 PM	R53391
Bromobenzene	ND	0.32	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
Bromodichloromethane	ND	0.28	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
Bromoform	ND	0.32	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
Bromomethane	ND	0.26	3.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
2-Butanone	ND	1.3	10		µg/L	1	8/13/2018 9:32:00 PM	R53391
Carbon disulfide	ND	0.39	10		µg/L	1	8/13/2018 9:32:00 PM	R53391
Carbon Tetrachloride	ND	0.13	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
Chlorobenzene	ND	0.29	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
Chloroethane	ND	0.16	2.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
Chloroform	ND	0.40	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
Chloromethane	ND	0.29	3.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
cis-1,2-DCE	ND	0.38	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
cis-1,3-Dichloropropene	ND	0.30	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
1,2-Dibromo-3-chloropropane	ND	0.47	2.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
Dibromochloromethane	ND	0.24	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
Dibromomethane	ND	0.32	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
1,2-Dichlorobenzene	ND	0.31	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
1,3-Dichlorobenzene	ND	0.31	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-52
Project: Refinery Wells NBB Collection Wells N
Collection Date: 8/8/2018 3:00:00 PM
Lab ID: 1808649-001
Matrix: AQUEOUS
Received Date: 8/10/2018 8:10:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
1,1-Dichloroethene	ND	0.12	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
1,2-Dichloropropane	ND	0.15	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
1,3-Dichloropropane	ND	0.27	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
2,2-Dichloropropane	ND	0.18	2.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
2-Hexanone	ND	0.91	10		µg/L	1	8/13/2018 9:32:00 PM	R53391
Isopropylbenzene	ND	0.22	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
4-Isopropyltoluene	ND	0.24	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
4-Methyl-2-pentanone	ND	0.45	10		µg/L	1	8/13/2018 9:32:00 PM	R53391
Methylene Chloride	ND	0.21	3.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
n-Butylbenzene	ND	0.25	3.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
n-Propylbenzene	ND	0.24	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
sec-Butylbenzene	ND	0.20	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
Styrene	ND	0.25	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
tert-Butylbenzene	ND	0.22	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
1,1,1,2-Tetrachloroethane	ND	0.25	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
1,1,2,2-Tetrachloroethane	ND	0.33	2.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
trans-1,3-Dichloropropene	ND	0.28	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
1,2,3-Trichlorobenzene	ND	0.28	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
1,2,4-Trichlorobenzene	ND	0.27	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
1,1,1-Trichloroethane	ND	0.15	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
1,1,2-Trichloroethane	ND	0.23	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
Trichloroethene (TCE)	ND	0.26	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
Trichlorofluoromethane	ND	0.17	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
1,2,3-Trichloropropane	ND	0.57	2.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
Vinyl chloride	ND	0.11	1.0		µg/L	1	8/13/2018 9:32:00 PM	R53391
Xylenes, Total	ND	0.64	1.5		µg/L	1	8/13/2018 9:32:00 PM	R53391
Surr: 1,2-Dichloroethane-d4	106	0	70-130		%Rec	1	8/13/2018 9:32:00 PM	R53391
Surr: 4-Bromofluorobenzene	101	0	70-130		%Rec	1	8/13/2018 9:32:00 PM	R53391
Surr: Dibromofluoromethane	109	0	70-130		%Rec	1	8/13/2018 9:32:00 PM	R53391
Surr: Toluene-d8	93.8	0	70-130		%Rec	1	8/13/2018 9:32:00 PM	R53391
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	0.034	0.0097	0.050	J	mg/L	1	8/11/2018 4:57:38 AM	B53346
Surr: BFB	102	0	70-130		%Rec	1	8/11/2018 4:57:38 AM	B53346

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-52
Project: Refinery Wells NBB Collection Wells N
Collection Date: 8/8/2018 3:00:00 PM
Lab ID: 1808649-001 **Matrix:** AQUEOUS **Received Date:** 8/10/2018 8:10:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
CARBON DIOXIDE							Analyst: **JRR**	
Total Carbon Dioxide	200	0	1.0	H	mg CO2/	1	8/16/2018 5:45:36 PM	R53511
SM2320B: ALKALINITY							Analyst: **JRR**	
Bicarbonate (As CaCO3)	202.6	20.00	20.00		mg/L Ca	1	8/16/2018 5:45:36 PM	R53511
Carbonate (As CaCO3)	ND	2.000	2.000		mg/L Ca	1	8/16/2018 5:45:36 PM	R53511
Total Alkalinity (as CaCO3)	202.6	20.00	20.00		mg/L Ca	1	8/16/2018 5:45:36 PM	R53511

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-29
Project: Refinery Wells NBB Collection Wells N
Collection Date: 8/8/2018 4:20:00 PM
Lab ID: 1808649-002
Matrix: AQUEOUS
Received Date: 8/10/2018 8:10:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE							Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	0.31	0.40		mg/L	1	8/16/2018 1:47:49 PM	39797
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	8/16/2018 1:47:49 PM	39797
Surr: DNOP	99.5	0	76.6-135		%Rec	1	8/16/2018 1:47:49 PM	39797
EPA METHOD 300.0: ANIONS							Analyst: **smb**	
Fluoride	ND	0.15	0.50		mg/L	5	8/13/2018 9:15:39 PM	R53419
Chloride	110	0.59	10		mg/L	20	8/13/2018 9:28:31 PM	R53419
Bromide	0.87	0.13	0.50		mg/L	5	8/13/2018 9:15:39 PM	R53419
Phosphorus, Orthophosphate (As P)	1.4	0.46	2.5	JH	mg/L	5	8/13/2018 9:15:39 PM	R53419
Sulfate	320	4.1	10		mg/L	20	8/13/2018 9:28:31 PM	R53419
Nitrate+Nitrite as N	7.1	0.27	1.0		mg/L	5	8/13/2018 9:54:15 PM	R53419
EPA METHOD 200.7: METALS							Analyst: **pmf**	
Barium	0.038	0.0010	0.0020		mg/L	1	8/15/2018 9:35:50 PM	39768
Cadmium	ND	0.0010	0.0020		mg/L	1	8/15/2018 9:35:50 PM	39768
Chromium	ND	0.0018	0.0060		mg/L	1	8/15/2018 9:35:50 PM	39768
Silver	0.0036	0.0018	0.0050	J	mg/L	1	8/16/2018 4:05:37 PM	39768
EPA 200.8: METALS							Analyst: **ELS**	
Arsenic	0.0022	0.00042	0.0010		mg/L	1	8/24/2018 7:27:48 AM	39768
Lead	0.00031	0.00023	0.00050	J	mg/L	1	8/24/2018 7:27:48 AM	39768
Selenium	0.0017	0.00098	0.0010		mg/L	1	8/24/2018 7:27:48 AM	39768
EPA METHOD 245.1: MERCURY							Analyst: **rde**	
Mercury	0.000085	0.000037	0.00020	J	mg/L	1	8/23/2018 6:14:31 PM	39963
EPA METHOD 7470: MERCURY							Analyst: **rde**	
Mercury	0.000068	0.000038	0.00020	JFiltered	mg/L	1	8/31/2018 11:15:27 AM	40078
EPA METHOD 6010B: DISSOLVED METALS							Analyst: **pmf**	
Arsenic	ND	0.020	0.020		mg/L	1	8/27/2018 6:29:53 PM	B53717
Barium	0.031	0.00049	0.020		mg/L	1	8/22/2018 5:36:47 PM	B53642
Cadmium	ND	0.00088	0.0020		mg/L	1	8/22/2018 5:36:47 PM	B53642
Calcium	130	0.15	5.0		mg/L	5	8/22/2018 6:30:40 PM	B53642
Chromium	ND	0.00081	0.0060		mg/L	1	8/22/2018 5:36:47 PM	B53642
Copper	ND	0.0026	0.0060		mg/L	1	8/22/2018 5:36:47 PM	B53642
Iron	ND	0.010	0.020		mg/L	1	8/22/2018 5:36:47 PM	B53642
Lead	0.0053	0.0050	0.0050		mg/L	1	8/22/2018 5:36:47 PM	B53642
Magnesium	30	0.011	1.0		mg/L	1	8/22/2018 5:36:47 PM	B53642
Manganese	2.6	0.00074	0.010		mg/L	5	8/22/2018 6:30:40 PM	B53642
Potassium	2.7	0.075	1.0		mg/L	1	8/22/2018 5:36:47 PM	B53642
Selenium	ND	0.020	0.050		mg/L	1	8/27/2018 5:57:16 PM	B53717

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-29
Project: Refinery Wells NBB Collection Wells N
Collection Date: 8/8/2018 4:20:00 PM
Lab ID: 1808649-002
Matrix: AQUEOUS
Received Date: 8/10/2018 8:10:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: DISSOLVED METALS							Analyst: **pmf**	
Silver	0.0040	0.0010	0.0050	J	mg/L	1	8/22/2018 5:36:47 PM	B53642
Sodium	190	1.3	5.0		mg/L	5	8/22/2018 6:30:40 PM	B53642
Uranium	ND	0.025	0.10		mg/L	1	8/27/2018 5:57:16 PM	B53717
Zinc	ND	0.020	0.020		mg/L	1	8/22/2018 5:36:47 PM	B53642
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.17	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
Toluene	ND	0.17	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
Ethylbenzene	ND	0.22	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
Methyl tert-butyl ether (MTBE)	0.67	0.32	1.0	J	µg/L	1	8/13/2018 9:56:00 PM	R53391
1,2,4-Trimethylbenzene	ND	0.25	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
1,3,5-Trimethylbenzene	ND	0.23	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
1,2-Dibromoethane (EDB)	ND	0.23	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
Naphthalene	ND	0.29	2.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
1-Methylnaphthalene	ND	0.34	4.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
2-Methylnaphthalene	ND	0.24	4.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
Acetone	ND	0.79	10		µg/L	1	8/13/2018 9:56:00 PM	R53391
Bromobenzene	ND	0.32	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
Bromodichloromethane	ND	0.28	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
Bromoform	ND	0.32	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
Bromomethane	ND	0.26	3.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
2-Butanone	ND	1.3	10		µg/L	1	8/13/2018 9:56:00 PM	R53391
Carbon disulfide	ND	0.39	10		µg/L	1	8/13/2018 9:56:00 PM	R53391
Carbon Tetrachloride	ND	0.13	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
Chlorobenzene	ND	0.29	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
Chloroethane	ND	0.16	2.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
Chloroform	ND	0.40	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
Chloromethane	ND	0.29	3.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
cis-1,2-DCE	ND	0.38	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
cis-1,3-Dichloropropene	ND	0.30	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
1,2-Dibromo-3-chloropropane	ND	0.47	2.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
Dibromochloromethane	ND	0.24	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
Dibromomethane	ND	0.32	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
1,2-Dichlorobenzene	ND	0.31	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
1,3-Dichlorobenzene	ND	0.31	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-29
Project: Refinery Wells NBB Collection Wells N
Collection Date: 8/8/2018 4:20:00 PM
Lab ID: 1808649-002
Matrix: AQUEOUS
Received Date: 8/10/2018 8:10:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
1,1-Dichloroethene	ND	0.12	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
1,2-Dichloropropane	ND	0.15	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
1,3-Dichloropropane	ND	0.27	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
2,2-Dichloropropane	ND	0.18	2.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
2-Hexanone	ND	0.91	10		µg/L	1	8/13/2018 9:56:00 PM	R53391
Isopropylbenzene	ND	0.22	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
4-Isopropyltoluene	ND	0.24	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
4-Methyl-2-pentanone	ND	0.45	10		µg/L	1	8/13/2018 9:56:00 PM	R53391
Methylene Chloride	ND	0.21	3.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
n-Butylbenzene	ND	0.25	3.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
n-Propylbenzene	ND	0.24	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
sec-Butylbenzene	ND	0.20	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
Styrene	ND	0.25	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
tert-Butylbenzene	ND	0.22	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
1,1,1,2-Tetrachloroethane	ND	0.25	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
1,1,2,2-Tetrachloroethane	ND	0.33	2.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
trans-1,3-Dichloropropene	ND	0.28	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
1,2,3-Trichlorobenzene	ND	0.28	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
1,2,4-Trichlorobenzene	ND	0.27	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
1,1,1-Trichloroethane	ND	0.15	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
1,1,2-Trichloroethane	ND	0.23	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
Trichloroethene (TCE)	ND	0.26	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
Trichlorofluoromethane	ND	0.17	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
1,2,3-Trichloropropane	ND	0.57	2.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
Vinyl chloride	ND	0.11	1.0		µg/L	1	8/13/2018 9:56:00 PM	R53391
Xylenes, Total	ND	0.64	1.5		µg/L	1	8/13/2018 9:56:00 PM	R53391
Surr: 1,2-Dichloroethane-d4	106	0	70-130		%Rec	1	8/13/2018 9:56:00 PM	R53391
Surr: 4-Bromofluorobenzene	101	0	70-130		%Rec	1	8/13/2018 9:56:00 PM	R53391
Surr: Dibromofluoromethane	109	0	70-130		%Rec	1	8/13/2018 9:56:00 PM	R53391
Surr: Toluene-d8	93.0	0	70-130		%Rec	1	8/13/2018 9:56:00 PM	R53391
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	0.024	0.0097	0.050	J	mg/L	1	8/11/2018 5:20:43 AM	B53346
Surr: BFB	102	0	70-130		%Rec	1	8/11/2018 5:20:43 AM	B53346

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-29
Project: Refinery Wells NBB Collection Wells N
Collection Date: 8/8/2018 4:20:00 PM
Lab ID: 1808649-002 **Matrix:** AQUEOUS **Received Date:** 8/10/2018 8:10:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
CARBON DIOXIDE							Analyst: **JRR**	
Total Carbon Dioxide	280	0	1.0	H	mg CO2/	1	8/16/2018 5:57:27 PM	R53511
SM2320B: ALKALINITY							Analyst: **JRR**	
Bicarbonate (As CaCO3)	309.2	20.00	20.00		mg/L Ca	1	8/16/2018 5:57:27 PM	R53511
Carbonate (As CaCO3)	ND	2.000	2.000		mg/L Ca	1	8/16/2018 5:57:27 PM	R53511
Total Alkalinity (as CaCO3)	309.2	20.00	20.00		mg/L Ca	1	8/16/2018 5:57:27 PM	R53511

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: CW 0+60
Project: Refinery Wells NBB Collection Wells N
Collection Date: 8/9/2018 8:00:00 AM
Lab ID: 1808649-003
Matrix: AQUEOUS
Received Date: 8/10/2018 8:10:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE							Analyst: **lrm**	
Diesel Range Organics (DRO)	0.33	0.31	0.40	J	mg/L	1	8/16/2018 2:09:51 PM	39797
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	8/16/2018 2:09:51 PM	39797
Surr: DNOP	91.3	0	76.6-135		%Rec	1	8/16/2018 2:09:51 PM	39797
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: **AG**	
Benzene	0.70	0.17	1.0	J	µg/L	1	8/11/2018 5:43:43 AM	C53346
Toluene	ND	0.17	1.0		µg/L	1	8/11/2018 5:43:43 AM	C53346
Ethylbenzene	1.8	0.22	1.0		µg/L	1	8/11/2018 5:43:43 AM	C53346
Methyl tert-butyl ether (MTBE)	ND	0.32	1.0		µg/L	1	8/11/2018 5:43:43 AM	C53346
Xylenes, Total	ND	0.64	1.5		µg/L	1	8/11/2018 5:43:43 AM	C53346
Surr: 4-Bromofluorobenzene	122	0	70-130		%Rec	1	8/11/2018 5:43:43 AM	C53346
Surr: Toluene-d8	103	0	70-130		%Rec	1	8/11/2018 5:43:43 AM	C53346

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: FIELD BLANK #3
Project: Refinery Wells NBB Collection Wells N
Collection Date: 8/9/2018 8:25:00 AM
Lab ID: 1808649-004
Matrix: AQUEOUS
Received Date: 8/10/2018 8:10:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE							Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	0.31	0.40		mg/L	1	8/16/2018 2:32:02 PM	39797
Surr: DNOP	87.4	0	76.6-135		%Rec	1	8/16/2018 2:32:02 PM	39797
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: **AG**	
Benzene	ND	0.17	1.0		µg/L	1	8/11/2018 6:06:53 AM	C53346
Toluene	0.22	0.17	1.0	J	µg/L	1	8/11/2018 6:06:53 AM	C53346
Ethylbenzene	ND	0.22	1.0		µg/L	1	8/11/2018 6:06:53 AM	C53346
Methyl tert-butyl ether (MTBE)	ND	0.32	1.0		µg/L	1	8/11/2018 6:06:53 AM	C53346
Xylenes, Total	ND	0.64	1.5		µg/L	1	8/11/2018 6:06:53 AM	C53346
Surr: 4-Bromofluorobenzene	120	0	70-130		%Rec	1	8/11/2018 6:06:53 AM	C53346
Surr: Toluene-d8	104	0	70-130		%Rec	1	8/11/2018 6:06:53 AM	C53346

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: OW 25+70
Project: Refinery Wells NBB Collection Wells N
Collection Date: 8/9/2018 11:30:00 AM
Lab ID: 1808649-005
Matrix: AQUEOUS
Received Date: 8/10/2018 8:10:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE							Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	0.31	0.40		mg/L	1	8/16/2018 2:54:05 PM	39797
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	8/16/2018 2:54:05 PM	39797
Surr: DNOP	95.2	0	76.6-135		%Rec	1	8/16/2018 2:54:05 PM	39797
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: **AG**	
Benzene	ND	0.17	1.0		µg/L	1	8/11/2018 6:29:55 AM	C53346
Toluene	ND	0.17	1.0		µg/L	1	8/11/2018 6:29:55 AM	C53346
Ethylbenzene	ND	0.22	1.0		µg/L	1	8/11/2018 6:29:55 AM	C53346
Methyl tert-butyl ether (MTBE)	0.40	0.32	1.0	J	µg/L	1	8/11/2018 6:29:55 AM	C53346
Xylenes, Total	ND	0.64	1.5		µg/L	1	8/11/2018 6:29:55 AM	C53346
Surr: 4-Bromofluorobenzene	120	0	70-130		%Rec	1	8/11/2018 6:29:55 AM	C53346
Surr: Toluene-d8	101	0	70-130		%Rec	1	8/11/2018 6:29:55 AM	C53346
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	0.14	0.0097	0.050		mg/L	1	8/11/2018 6:29:55 AM	B53346
Surr: BFB	106	0	70-130		%Rec	1	8/11/2018 6:29:55 AM	B53346

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: DUPLICATE #3
Project: Refinery Wells NBB Collection Wells N
Collection Date: 8/9/2018
Lab ID: 1808649-006
Matrix: AQUEOUS
Received Date: 8/10/2018 8:10:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE							Analyst: **lrm**	
Diesel Range Organics (DRO)	0.37	0.31	0.40	J	mg/L	1	8/16/2018 3:16:18 PM	39797
Surr: DNOP	85.3	0	76.6-135		%Rec	1	8/16/2018 3:16:18 PM	39797
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: **AG**	
Benzene	0.73	0.17	1.0	J	µg/L	1	8/11/2018 6:53:03 AM	C53346
Toluene	ND	0.17	1.0		µg/L	1	8/11/2018 6:53:03 AM	C53346
Ethylbenzene	1.6	0.22	1.0		µg/L	1	8/11/2018 6:53:03 AM	C53346
Methyl tert-butyl ether (MTBE)	ND	0.32	1.0		µg/L	1	8/11/2018 6:53:03 AM	C53346
Xylenes, Total	ND	0.64	1.5		µg/L	1	8/11/2018 6:53:03 AM	C53346
Surr: 4-Bromofluorobenzene	121	0	70-130		%Rec	1	8/11/2018 6:53:03 AM	C53346
Surr: Toluene-d8	103	0	70-130		%Rec	1	8/11/2018 6:53:03 AM	C53346

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: Trip Blank
Project: Refinery Wells NBB Collection Wells N
Collection Date:
Lab ID: 1808649-007
Matrix: AQUEOUS
Received Date: 8/10/2018 8:10:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.17	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
Toluene	ND	0.17	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
Ethylbenzene	ND	0.22	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
Methyl tert-butyl ether (MTBE)	ND	0.32	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
1,2,4-Trimethylbenzene	ND	0.25	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
1,3,5-Trimethylbenzene	ND	0.23	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
1,2-Dibromoethane (EDB)	ND	0.23	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
Naphthalene	ND	0.29	2.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
1-Methylnaphthalene	ND	0.34	4.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
2-Methylnaphthalene	ND	0.24	4.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
Acetone	ND	0.79	10		µg/L	1	8/13/2018 10:20:00 PM	R53391
Bromobenzene	ND	0.32	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
Bromodichloromethane	ND	0.28	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
Bromoform	ND	0.32	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
Bromomethane	ND	0.26	3.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
2-Butanone	ND	1.3	10		µg/L	1	8/13/2018 10:20:00 PM	R53391
Carbon disulfide	ND	0.39	10		µg/L	1	8/13/2018 10:20:00 PM	R53391
Carbon Tetrachloride	ND	0.13	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
Chlorobenzene	ND	0.29	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
Chloroethane	ND	0.16	2.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
Chloroform	ND	0.40	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
Chloromethane	ND	0.29	3.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
cis-1,2-DCE	ND	0.38	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
cis-1,3-Dichloropropene	ND	0.30	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
1,2-Dibromo-3-chloropropane	ND	0.47	2.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
Dibromochloromethane	ND	0.24	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
Dibromomethane	ND	0.32	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
1,2-Dichlorobenzene	ND	0.31	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
1,3-Dichlorobenzene	ND	0.31	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
1,1-Dichloroethene	ND	0.12	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
1,2-Dichloropropane	ND	0.15	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
1,3-Dichloropropane	ND	0.27	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
2,2-Dichloropropane	ND	0.18	2.0		µg/L	1	8/13/2018 10:20:00 PM	R53391

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: Trip Blank
Project: Refinery Wells NBB Collection Wells N
Collection Date:
Lab ID: 1808649-007
Matrix: AQUEOUS
Received Date: 8/10/2018 8:10:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
2-Hexanone	ND	0.91	10		µg/L	1	8/13/2018 10:20:00 PM	R53391
Isopropylbenzene	ND	0.22	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
4-Isopropyltoluene	ND	0.24	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
4-Methyl-2-pentanone	ND	0.45	10		µg/L	1	8/13/2018 10:20:00 PM	R53391
Methylene Chloride	ND	0.21	3.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
n-Butylbenzene	ND	0.25	3.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
n-Propylbenzene	ND	0.24	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
sec-Butylbenzene	ND	0.20	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
Styrene	ND	0.25	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
tert-Butylbenzene	ND	0.22	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
1,1,1,2-Tetrachloroethane	ND	0.25	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
1,1,2,2-Tetrachloroethane	ND	0.33	2.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
trans-1,3-Dichloropropene	ND	0.28	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
1,2,3-Trichlorobenzene	ND	0.28	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
1,2,4-Trichlorobenzene	ND	0.27	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
1,1,1-Trichloroethane	ND	0.15	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
1,1,2-Trichloroethane	ND	0.23	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
Trichloroethene (TCE)	ND	0.26	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
Trichlorofluoromethane	ND	0.17	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
1,2,3-Trichloropropane	ND	0.57	2.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
Vinyl chloride	ND	0.11	1.0		µg/L	1	8/13/2018 10:20:00 PM	R53391
Xylenes, Total	ND	0.64	1.5		µg/L	1	8/13/2018 10:20:00 PM	R53391
Surr: 1,2-Dichloroethane-d4	103	0	70-130		%Rec	1	8/13/2018 10:20:00 PM	R53391
Surr: 4-Bromofluorobenzene	101	0	70-130		%Rec	1	8/13/2018 10:20:00 PM	R53391
Surr: Dibromofluoromethane	109	0	70-130		%Rec	1	8/13/2018 10:20:00 PM	R53391
Surr: Toluene-d8	93.5	0	70-130		%Rec	1	8/13/2018 10:20:00 PM	R53391
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	0.043	0.0097	0.050	J	mg/L	1	8/13/2018 3:41:05 PM	B53389
Surr: BFB	102	0	70-130		%Rec	1	8/13/2018 3:41:05 PM	B53389

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808649**

05-Sep-18

Client: Andeavor Bloomfield

Project: Refinery Wells NBB Collection Wells NBB Obs

Sample ID	**MB-39768**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Metals**					
Client ID:	**PBW**	Batch ID:	**39768**	RunNo:	**53461**					
Prep Date:	**8/14/2018**	Analysis Date:	**8/15/2018**	SeqNo:	**1761947**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Silver	ND	0.0050								

Sample ID	**LCS-39768**	SampType:	**LCS**	TestCode:	**EPA Method 200.7: Metals**					
Client ID:	**LCSW**	Batch ID:	**39768**	RunNo:	**53461**					
Prep Date:	**8/14/2018**	Analysis Date:	**8/15/2018**	SeqNo:	**1761949**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.0020	0.5000	0	100	85	115			
Cadmium	0.51	0.0020	0.5000	0	102	85	115			
Chromium	0.51	0.0060	0.5000	0	101	85	115			
Silver	0.10	0.0050	0.1000	0	104	85	115			

Sample ID	**LLLCS-39768**	SampType:	**LCSLL**	TestCode:	**EPA Method 200.7: Metals**					
Client ID:	**BatchQC**	Batch ID:	**39768**	RunNo:	**53461**					
Prep Date:	**8/14/2018**	Analysis Date:	**8/15/2018**	SeqNo:	**1761964**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0020	0.0020	0.002000	0	101	50	150			
Cadmium	0.0018	0.0020	0.002000	0	88.5	50	150			J
Chromium	0.0055	0.0060	0.006000	0	92.2	50	150			J
Silver	0.0054	0.0050	0.005000	0	107	50	150			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808649**

05-Sep-18

Client: Andeavor Bloomfield

Project: Refinery Wells NBB Collection Wells NBB Obs

Sample ID	**MB-39768**	SampType:	**MBLK**	TestCode:	**EPA 200.8: Metals**					
Client ID:	**PBW**	Batch ID:	**39768**	RunNo:	**53477**					
Prep Date:	**8/14/2018**	Analysis Date:	**8/16/2018**	SeqNo:	**1762350**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								

Sample ID	**MSLLLCS-39768**	SampType:	**LCSLL**	TestCode:	**EPA 200.8: Metals**					
Client ID:	**BatchQC**	Batch ID:	**39768**	RunNo:	**53477**					
Prep Date:	**8/14/2018**	Analysis Date:	**8/16/2018**	SeqNo:	**1762351**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0010	0.0010	0.001000	0	101	50	150			
Lead	0.00047	0.00050	0.0005000	0	94.7	50	150			J
Selenium	0.0010	0.0010	0.001000	0	99.6	50	150			J

Sample ID	**MSLCS-39768**	SampType:	**LCS**	TestCode:	**EPA 200.8: Metals**					
Client ID:	**LCSW**	Batch ID:	**39768**	RunNo:	**53477**					
Prep Date:	**8/14/2018**	Analysis Date:	**8/16/2018**	SeqNo:	**1762352**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	98.4	85	115			
Lead	0.012	0.00050	0.01250	0	96.8	85	115			
Selenium	0.025	0.0010	0.02500	0	98.5	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808649**

05-Sep-18

Client: Andeavor Bloomfield

Project: Refinery Wells NBB Collection Wells NBB Obs

Sample ID	**MB-39963**	SampType:	**MBLK**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PBW**	Batch ID:	**39963**	RunNo:	**53674**					
Prep Date:	**8/23/2018**	Analysis Date:	**8/23/2018**	SeqNo:	**1770019**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.000071	0.00020								J

Sample ID	**LCS-39963**	SampType:	**LCS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**LCSW**	Batch ID:	**39963**	RunNo:	**53674**					
Prep Date:	**8/23/2018**	Analysis Date:	**8/23/2018**	SeqNo:	**1770020**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0051	0.00020	0.005000	0	101	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808649**

05-Sep-18

Client: Andeavor Bloomfield

Project: Refinery Wells NBB Collection Wells NBB Obs

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R53419**	RunNo: **53419**
Prep Date:	Analysis Date: **8/13/2018**	SeqNo: **1759422** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	0.25	0.50								J
Sulfate	ND	0.50								
Nitrate+Nitrite as N	0.055	0.20								J

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R53419**	RunNo: **53419**
Prep Date:	Analysis Date: **8/13/2018**	SeqNo: **1759423** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.50	0.10	0.5000	0	99.9	90	110			
Chloride	4.6	0.50	5.000	0	92.6	90	110			
Bromide	2.4	0.10	2.500	0	95.2	90	110			
Phosphorus, Orthophosphate (As P	4.6	0.50	5.000	0	92.9	90	110			
Sulfate	9.1	0.50	10.00	0	91.5	90	110			
Nitrate+Nitrite as N	3.3	0.20	3.500	0	94.9	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **A53614**	RunNo: **53614**
Prep Date:	Analysis Date: **8/21/2018**	SeqNo: **1768425** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Sulfate	ND	0.50								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **A53614**	RunNo: **53614**
Prep Date:	Analysis Date: **8/21/2018**	SeqNo: **1768426** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.7	0.50	5.000	0	94.7	90	110			
Sulfate	9.3	0.50	10.00	0	93.4	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808649**

05-Sep-18

Client: Andeavor Bloomfield

Project: Refinery Wells NBB Collection Wells NBB Obs

Sample ID **LCS-39797**	SampType: **LCS**	TestCode: **EPA Method 8015D: Diesel Range**
Client ID: **LCSW**	Batch ID: **39797**	RunNo: **53482**
Prep Date: **8/15/2018**	Analysis Date: **8/16/2018**	SeqNo: **1762631** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	2.3	0.40	2.500	0	90.1	76.5	158			
Surr: DNOP	0.22		0.2500		86.8	76.6	135			

Sample ID **MB-39797**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Diesel Range**
Client ID: **PBW**	Batch ID: **39797**	RunNo: **53482**
Prep Date: **8/15/2018**	Analysis Date: **8/16/2018**	SeqNo: **1762632** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	0.40								
Motor Oil Range Organics (MRO)	ND	2.5								
Surr: DNOP	0.47		0.5000		94.0	76.6	135			

Sample ID **1808649-001BMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Diesel Range**
Client ID: **MW-52**	Batch ID: **39797**	RunNo: **53482**
Prep Date: **8/15/2018**	Analysis Date: **8/16/2018**	SeqNo: **1762947** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	2.6	0.40	2.500	0	103	89.6	145			
Surr: DNOP	0.23		0.2500		91.2	76.6	135			

Sample ID **1808649-001BMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Diesel Range**
Client ID: **MW-52**	Batch ID: **39797**	RunNo: **53482**
Prep Date: **8/15/2018**	Analysis Date: **8/16/2018**	SeqNo: **1762948** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	2.6	0.40	2.500	0	106	89.6	145	2.50	20	
Surr: DNOP	0.23		0.2500		92.3	76.6	135	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808649**

05-Sep-18

Client: Andeavor Bloomfield

Project: Refinery Wells NBB Collection Wells NBB Obs

Sample ID **100ng lcs**	SampType: **LCS4**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **BatchQC**	Batch ID: **C53346**	RunNo: **53346**
Prep Date:	Analysis Date: **8/10/2018**	SeqNo: **1757485** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	100	80	120			
Toluene	21	1.0	20.00	0	106	80	120			
Ethylbenzene	21	1.0	20.00	0	104	80	120			
Methyl tert-butyl ether (MTBE)	19	1.0	20.00	0	94.6	80	120			
Xylenes, Total	62	1.5	60.00	0	104	80	120			
Surr: 4-Bromofluorobenzene	11		10.00		107	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **C53346**	RunNo: **53346**
Prep Date:	Analysis Date: **8/10/2018**	SeqNo: **1757490** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 4-Bromofluorobenzene	12		10.00		116	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808649**

05-Sep-18

Client: Andeavor Bloomfield

Project: Refinery Wells NBB Collection Wells NBB Obs

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R53391**	RunNo: **53391**
Prep Date:	Analysis Date: **8/13/2018**	SeqNo: **1759339** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	110	70	130			
Toluene	20	1.0	20.00	0	99.6	70	130			
Chlorobenzene	20	1.0	20.00	0	100	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	111	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	104	70	130			
Surr: 1,2-Dichloroethane-d4	9.9		10.00		98.5	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	9.3		10.00		92.8	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R53391**	RunNo: **53391**
Prep Date:	Analysis Date: **8/13/2018**	SeqNo: **1759340** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	0.41	10								J
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1808649**
05-Sep-18

Client: Andeavor Bloomfield
Project: Refinery Wells NBB Collection Wells NBB Obs

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R53391**	RunNo: **53391**
Prep Date:	Analysis Date: **8/13/2018**	SeqNo: **1759340** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808649**

05-Sep-18

Client: Andeavor Bloomfield

Project: Refinery Wells NBB Collection Wells NBB Obs

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R53391**	RunNo: **53391**
Prep Date:	Analysis Date: **8/13/2018**	SeqNo: **1759340** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	10		10.00		100	70	130			
Surr: Toluene-d8	9.4		10.00		93.7	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808649**

05-Sep-18

Client: Andeavor Bloomfield

Project: Refinery Wells NBB Collection Wells NBB Obs

Sample ID	**MB-40078**	SampType: **MBLK**			TestCode: **EPA Method 7470: Mercury**					
Client ID:	**PBW**	Batch ID: **40078**			RunNo: **53851**					
Prep Date:	**8/30/2018**	Analysis Date: **8/31/2018**			SeqNo: **1776962**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.000068	0.00020								J

Sample ID	**LCS-40078**	SampType: **LCS**			TestCode: **EPA Method 7470: Mercury**					
Client ID:	**LCSW**	Batch ID: **40078**			RunNo: **53851**					
Prep Date:	**8/30/2018**	Analysis Date: **8/31/2018**			SeqNo: **1776963**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0050	0.00020	0.005000	0	99.6	80	120			

Sample ID	**1808649-002EMS**	SampType: **MS**			TestCode: **EPA Method 7470: Mercury**					
Client ID:	**MW-29**	Batch ID: **40078**			RunNo: **53851**					
Prep Date:	**8/30/2018**	Analysis Date: **8/31/2018**			SeqNo: **1776966**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0051	0.00020	0.005000	.00006800	101	75	125			

Sample ID	**1808649-002EMSD**	SampType: **MSD**			TestCode: **EPA Method 7470: Mercury**					
Client ID:	**MW-29**	Batch ID: **40078**			RunNo: **53851**					
Prep Date:	**8/30/2018**	Analysis Date: **8/31/2018**			SeqNo: **1776967**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0051	0.00020	0.005000	.00006800	100	75	125	0.614	20	

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808649**

05-Sep-18

Client: Andeavor Bloomfield

Project: Refinery Wells NBB Collection Wells NBB Obs

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B53642**	RunNo: **53642**
Prep Date:	Analysis Date: **8/22/2018**	SeqNo: **1769047** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Lead	ND	0.0050								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	0.10	1.0								J
Silver	ND	0.0050								
Sodium	0.29	1.0								J
Zinc	ND	0.020								

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B53642**	RunNo: **53642**
Prep Date:	Analysis Date: **8/22/2018**	SeqNo: **1769049** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.52	0.020	0.5000	0	104	80	120			
Cadmium	0.52	0.0020	0.5000	0	105	80	120			
Calcium	49	1.0	50.00	0	98.1	80	120			
Chromium	0.49	0.0060	0.5000	0	98.2	80	120			
Copper	0.50	0.0060	0.5000	0	99.5	80	120			
Iron	0.51	0.020	0.5000	0	103	80	120			
Lead	0.50	0.0050	0.5000	0	99.9	80	120			
Magnesium	50	1.0	50.00	0	100	80	120			
Manganese	0.49	0.0020	0.5000	0	98.7	80	120			
Potassium	50	1.0	50.00	0	99.5	80	120			
Silver	0.11	0.0050	0.1000	0	111	80	120			
Sodium	51	1.0	50.00	0	103	80	120			
Zinc	0.48	0.020	0.5000	0	95.9	80	120			

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B53717**	RunNo: **53717**
Prep Date:	Analysis Date: **8/27/2018**	SeqNo: **1772853** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.020								
Selenium	ND	0.050								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808649**

05-Sep-18

Client: Andeavor Bloomfield

Project: Refinery Wells NBB Collection Wells NBB Obs

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B53717**	RunNo: **53717**
Prep Date:	Analysis Date: **8/27/2018**	SeqNo: **1772853** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	ND	0.10								

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B53717**	RunNo: **53717**
Prep Date:	Analysis Date: **8/27/2018**	SeqNo: **1772855** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.49	0.020	0.5000	0	98.6	80	120			
Selenium	0.49	0.050	0.5000	0	98.0	80	120			
Uranium	0.51	0.10	0.5000	0	102	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808649**

05-Sep-18

Client: Andeavor Bloomfield

Project: Refinery Wells NBB Collection Wells NBB Obs

Sample ID **2.5ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **A53346**	RunNo: **53346**
Prep Date:	Analysis Date: **8/10/2018**	SeqNo: **1757458** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	9.8		10.00		98.0	70	130			

Sample ID **2.5ug gro lcs2**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **B53346**	RunNo: **53346**
Prep Date:	Analysis Date: **8/10/2018**	SeqNo: **1757459** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.50	0.050	0.5000	0	99.3	70	130			
Surr: BFB	9.8		10.00		98.0	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **A53346**	RunNo: **53346**
Prep Date:	Analysis Date: **8/10/2018**	SeqNo: **1757460** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	10		10.00		104	70	130			

Sample ID **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **B53346**	RunNo: **53346**
Prep Date:	Analysis Date: **8/10/2018**	SeqNo: **1757472** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.020	0.050								J
Surr: BFB	10		10.00		102	70	130			

Sample ID **2.5ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **B53389**	RunNo: **53389**
Prep Date:	Analysis Date: **8/13/2018**	SeqNo: **1758838** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.52	0.050	0.5000	0	104	70	130			
Surr: BFB	9.5		10.00		95.5	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **B53389**	RunNo: **53389**
Prep Date:	Analysis Date: **8/13/2018**	SeqNo: **1758839** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.022	0.050								J
Surr: BFB	11		10.00		105	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808649**

05-Sep-18

Client: Andeavor Bloomfield

Project: Refinery Wells NBB Collection Wells NBB Obs

Sample ID	**mb-1 alk**	SampType:	**MBLK**		TestCode:	**SM2320B: Alkalinity**				
Client ID:	**PBW**	Batch ID:	**R53511**		RunNo:	**53511**				
Prep Date:		Analysis Date:	**8/16/2018**		SeqNo:	**1763637**	Units:	**mg/L CaCO3**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID	**lcs-1 alk**	SampType:	**LCS**		TestCode:	**SM2320B: Alkalinity**				
Client ID:	**LCSW**	Batch ID:	**R53511**		RunNo:	**53511**				
Prep Date:		Analysis Date:	**8/16/2018**		SeqNo:	**1763638**	Units:	**mg/L CaCO3**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79.48	20.00	80.00	0	99.4	90	110			

Sample ID	**mb-2 alk**	SampType:	**MBLK**		TestCode:	**SM2320B: Alkalinity**				
Client ID:	**PBW**	Batch ID:	**R53511**		RunNo:	**53511**				
Prep Date:		Analysis Date:	**8/16/2018**		SeqNo:	**1763661**	Units:	**mg/L CaCO3**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID	**lcs-2 alk**	SampType:	**LCS**		TestCode:	**SM2320B: Alkalinity**				
Client ID:	**LCSW**	Batch ID:	**R53511**		RunNo:	**53511**				
Prep Date:		Analysis Date:	**8/16/2018**		SeqNo:	**1763662**	Units:	**mg/L CaCO3**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	80.12	20.00	80.00	0	100	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: ANDEAVOR BLOOMFIEL Work Order Number: 1808649 RcptNo: 1

Received By: **Anne Thorne** 8/10/2018 8:10:00 AM Anne Thorne

Completed By: **Anne Thorne** 8/10/2018 8:35:31 AM Anne Thorne

Reviewed By: VVZ 08/10/18

Labeled by! AT 08/10/18

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: 4

(<2 or >12 unless noted)

Adjusted? ✓

Checked by: AT 08/10/18

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: ____ Date ____

By Whom: ____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: ____

Client Instructions: ____

16. Additional remarks:

CUSTODY SEALS INTACT ON ALL SAMPLE BOTTLES, PER TP 1 REPORT/at 8/10/18

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard X Level 4 (Full Validation)
☐ Other _____
X EDD (Type) EXCEL

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **Refinery Wells**

Date: 8-8-18

Project #: **Annual Event**

PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: X Yes ☐ No

Sample Temperature: 1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808649
8/8/18	1500	H_2O	MW-52	40ml VOA-5	HCl	-001
				250 ml amber-1	Neat	-001
				250 ml plastic-1	HNO_3	-001
				125 ml plastic-1	HNO_3	-001
				125 ml plastic-1	H_2SO_4	-001
				500 ml plastic-1	Neat	-001

Analysis Request

BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals Total	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Dissolved Metals	Gen. Chem. - Anions	Gen. Chem. - Alkalinity&CO_2		Air Bubbles (Y or N)
		X							X						
		X													
						X									
											X				
												X			
												X	X		

Date:	Time:	Relinquished by:	Received by:	Date	Time
8/9/18	1331			8/9/18	1331
8/9/18	1440			08/10/18	0810

Remarks: See Analytical Methods and Target Analytes.

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **Refinery Wells**

Date: **8-8-18**

Project #: **Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: **X** Yes ☐ No

Sample Temperature: **1.0**

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808649	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals Total	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Dissolved Metals	Gen. Chem. - Anions	Gen. Chem. - Alkalinity&CO_2		Air Bubbles (Y or N)
8/8/18	1620	H_2O	MW-29	40ml VOA-5	HCl	-002			X							X						
				250 ml amber-1	Neat	-002			X													
				250 ml plastic-1	HNO_3	-002							X									
				125 ml plastic-1	HNO_3	-002												X				
				125 ml plastic-1	H_2SO_4	-002													X			
				500 ml plastic-1	Neat	-002													X	X		

Date:	Time:	Relinquished by:	Received by:	Date	Time
8/9/18	1331		Chrysta Waeky	8/9/18	1331
8/9/18	1440			08/10/18	0810

Remarks: See Analytical Methods and Target Analytes.

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **NBB - Collection Wells**

Date: **8-9-18**

Project #: **Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: **X** Yes ☐ No

Sample Temperature: 1.0

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Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808649	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (DRO EXTENDED only)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA) BTEX, MTBE only	8270 (Semi-VOA)					Air Bubbles (Y or N)
8/9/18	0800	H_2O	CW 0+60	40ml VOA-5	HCl	003										X						
↓	↓	↓	↓	250 ml amber-1	Neat	003			X													

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Date	Time	Remarks:
8/9/18	1331			8/9/18	1331	
8/9/11	1840			08/10/18	0815	

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name:

Date: 8-9-18

Project #: **Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**
On Ice: X Yes ☐ No
Sample Temperature: 1.6

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4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808t49	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO/DRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals Total	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA) BTEX & MTBE ONLY	8270 (Semi-VOA)	Dissolved Metals	General Chem.-Anions&CO_2	General Chem. - Alkalinity		Air Bubbles (Y or N)
8/9/18	0825	H_2O	FIELD BLANK #3	40 mL VOA-5	HCl	-004										X						
↓	↓	↓	↓	250 mL AMBER-1	NEAT	-004			X													

Date:	Time:	Relinquished by:	Received by:	Date	Time
8/9/18	1331			8/9/18	1331
8/9/18	1448			08/10/18	0810

Remarks: See Analytical Methods and Target Analytes.

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard X Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **NBB - Observation Wells**

Date: 8-9-18

Project #: **Annual Event**

PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.0

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Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808649	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA) BTEX,MTBE only	8270 (Semi-VOA)					Air Bubbles (Y or N)
						Analysis Request																
8.9.18	1130	H_2O	OW 25+70	40ml VOA-5	HCl	205			X							X						
↓	↓	↓	↓	250 ml amber-1	Neat	205			X													

Remarks: See Analytical Methods and Target Analytes.

Date	Time	Relinquished by:	Received by:	Date	Time
8.9.18	1331			8/9/18	1331
8/9/18	1440			08/10/18	0910

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name:

Date: 8-9-18

Project #: **Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**
On Ice: **X** Yes ☐ No
Sample Temperature: 4.0

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4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808649	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO/DRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals Total	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA) BTEX/MTBE ONLY	8270 (Semi-VOA)	Dissolved Metals	General Chem.-Anions&CO_2	General Chem. - Alkalinity		Air Bubbles (Y or N)
8/9/18	—	H_2O	DUPLICATE #3	40 ML VOA-S	HCl	206		A	[redacted]							X						
↓	↓	↓	↓	250 ML AMBER-1	NEAT	206			X													
8/9/18	—	H_2O	TRIP BLANK	40 ML VOA-3	HCl	207										X						

Remarks: See Analytical Methods and Target Analytes.

Date:	Time:	Relinquished by:	Received by:	Date	Time
8/9/18	1331			8/9/18	1331
8/9/18	1448			8/10/18	810

TABLE 2
Analytical Methods and Target Analytes
Facility-Wide Groundwater Monitoring Plan - June 2014
Western Refining Southwest, Inc. - Bloomfield Terminal

VOCs (EPA Method 8260B) [1]
- Target List
Benzene
Toluene
Ethylbenzene
Xylenes
Methyl tert butyl ether (MTBE)
SVOCs - (EPA Method 8270)
- Method List
TPH-GRO (EPA Method 8015B)
- Gasoline Range Organics
TPH-DRO (EPA Method 8015B)
- Diesel Range Organics
- Motor Oil Range Organics
Total Carbon Dioxide (Laboratory Calculated)
- Dissolved CO2
Specific Conductivity (EPA Method 120.1 or field measurement)
- Specific conductance
TDS (EPA Method 160.1 or field measurement)
- Total dissolved solids
General Chemistry - Anions (EPA Method 300.0)
Fluoride
Chloride
Bromide
Nitrogen, Nitrite (as N)
Nitrogen, Nitrate (as N)
Phosphorous, Orthophosphate (As P)
Sulfate
General Chemistry - Alkalinity (EPA Method 310.1)
Alkalinity, Total
Carbonate
Bicarbonate

Total Recoverable Metals (EPA Method 6010B/7470)	
- Target List (not applicable to River Terrace Sampling Events)	
Arsenic	*Lead*
Barium	*Mercury*
Cadmium	*Selenium*
Chromium	*Silver*
- Target List (for River Terrace Sampling Events Only)	
Lead	
Mercury (DW-1 ONLY)	
Dissolved Metals (EPA Method 6010B / 7470)	
- Target List (for Refinery Complex, Outfalls, and River)	
Arsenic	*Manganese*
Barium	*Mercury*
Cadmium	*Potassium*
Calcium	*Selenium*
Chromium	*Silver*
Copper	*Sodium*
Iron	*Uranium*
Lead	*Zinc*
Magnesium	

TPH = total petroleum hydrocarbons
GRO = gasoline range organics
VOCs = volatile organic compounds
DRO = diesel range organics
TDS = total dissolved solids

NOTES:

(1) VOCs Target List for River Terrace samples are analyzed by EPA Method 8021B per NMED's letter Approval with Direction dated June 16, 2009.

(2) Target List for San Juan River Terrace Monitoring Wells and Piezomenter Wells only, per the River Terrace Bioventing System Monitoring Plan.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

September 05, 2018

Allen Hains

Andeavor Bloomfield
111 CR 4990
Bloomfield, NM 87413
TEL: (915) 534-1483
FAX

RE: 8-9-2018 San Juan River Bluff NBB Observation and Collecti OrderNo.: 1808728

Dear Allen Hains:

Hall Environmental Analysis Laboratory received 5 sample(s) on 8/11/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1808728**
Date Reported: **9/5/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: East Outfall #3
Project: 8-9-2018 San Juan River Bluff NBB Obs
Collection Date: 8/9/2018 2:10:00 PM
Lab ID: 1808728-001
Matrix: AQUEOUS
Received Date: 8/11/2018 10:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.16	0.030	0.10		mg/L	1	8/14/2018 4:28:51 PM	R53448
Chloride	3.1	0.029	0.50		mg/L	1	8/14/2018 4:28:51 PM	R53448
Bromide	0.041	0.027	0.10	J	mg/L	1	8/14/2018 4:28:51 PM	R53448
Phosphorus, Orthophosphate (As P)	0.33	0.093	0.50	JH	mg/L	1	8/14/2018 4:28:51 PM	R53448
Sulfate	44	4.1	10		mg/L	20	8/14/2018 4:41:43 PM	R53448
Nitrate+Nitrite as N	0.48	0.27	1.0	J	mg/L	5	8/14/2018 5:20:17 PM	R53448
EPA METHOD 7470: MERCURY							Analyst: **rde**	
Mercury	0.000060	0.000038	0.00020	J	mg/L	1	8/31/2018 11:22:14 AM	40078
EPA METHOD 7470: MERCURY							Analyst: **rde**	
Mercury	0.000064	0.000038	0.00020	JFiltered	mg/L	1	8/31/2018 11:24:31 AM	40078
EPA METHOD 6010B: DISSOLVED METALS							Analyst: **pmf**	
Arsenic	ND	0.020	0.020		mg/L	1	8/27/2018 6:31:54 PM	B53717
Barium	0.065	0.00049	0.020		mg/L	1	8/22/2018 5:38:36 PM	B53642
Cadmium	ND	0.00088	0.0020		mg/L	1	8/22/2018 5:38:36 PM	B53642
Calcium	36	0.031	1.0		mg/L	1	8/22/2018 5:38:36 PM	B53642
Chromium	ND	0.00081	0.0060		mg/L	1	8/22/2018 5:38:36 PM	B53642
Copper	ND	0.0026	0.0060		mg/L	1	8/22/2018 5:38:36 PM	B53642
Iron	ND	0.010	0.020		mg/L	1	8/22/2018 5:38:36 PM	B53642
Lead	ND	0.0050	0.0050		mg/L	1	8/22/2018 5:38:36 PM	B53642
Magnesium	6.2	0.011	1.0		mg/L	1	8/22/2018 5:38:36 PM	B53642
Manganese	0.0013	0.00015	0.0020	J	mg/L	1	8/22/2018 5:38:36 PM	B53642
Potassium	1.8	0.075	1.0		mg/L	1	8/22/2018 5:38:36 PM	B53642
Selenium	ND	0.020	0.050		mg/L	1	8/27/2018 5:59:16 PM	B53717
Silver	ND	0.0010	0.0050		mg/L	1	8/22/2018 5:38:36 PM	B53642
Sodium	18	0.26	1.0		mg/L	1	8/22/2018 5:38:36 PM	B53642
Uranium	ND	0.025	0.10		mg/L	1	8/27/2018 5:59:16 PM	B53717
Zinc	0.056	0.020	0.020		mg/L	1	8/22/2018 5:38:36 PM	B53642
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: **ELS**	
Arsenic	ND	0.011	0.020		mg/L	1	8/15/2018 10:45:16 AM	39790
Barium	0.065	0.020	0.020		mg/L	1	8/15/2018 10:45:16 AM	39790
Cadmium	ND	0.00099	0.0020		mg/L	1	8/15/2018 10:45:16 AM	39790
Calcium	36	0.020	1.0		mg/L	1	8/15/2018 10:45:16 AM	39790
Chromium	ND	0.0011	0.0060		mg/L	1	8/15/2018 10:45:16 AM	39790
Copper	0.0024	0.0010	0.0060	J	mg/L	1	8/20/2018 12:03:45 PM	39790
Iron	0.15	0.0067	0.050		mg/L	1	8/15/2018 10:45:16 AM	39790
Lead	ND	0.0050	0.0050		mg/L	1	8/15/2018 10:45:16 AM	39790
Magnesium	6.2	0.10	1.0		mg/L	1	8/15/2018 10:45:16 AM	39790

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: East Outfall #3
Project: 8-9-2018 San Juan River Bluff NBB Obs
Collection Date: 8/9/2018 2:10:00 PM
Lab ID: 1808728-001 **Matrix:** AQUEOUS **Received Date:** 8/11/2018 10:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: **ELS**	
Manganese	0.0053	0.00021	0.0020		mg/L	1	8/15/2018 10:45:16 AM	39790
Potassium	1.6	0.061	1.0		mg/L	1	8/15/2018 10:45:16 AM	39790
Selenium	ND	0.024	0.050		mg/L	1	8/15/2018 10:45:16 AM	39790
Silver	ND	0.0018	0.0050		mg/L	1	8/15/2018 10:45:16 AM	39790
Sodium	17	0.16	1.0		mg/L	1	8/15/2018 10:45:16 AM	39790
Uranium	ND	0.029	0.10		mg/L	1	8/20/2018 12:03:45 PM	39790
Zinc	ND	0.0033	0.020		mg/L	1	8/20/2018 12:03:45 PM	39790
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: **DJF**	
Benzene	ND	0.17	1.0		µg/L	1	8/15/2018 3:15:56 PM	X53468
Toluene	ND	0.17	1.0		µg/L	1	8/15/2018 3:15:56 PM	X53468
Ethylbenzene	ND	0.22	1.0		µg/L	1	8/15/2018 3:15:56 PM	X53468
Methyl tert-butyl ether (MTBE)	ND	0.32	1.0		µg/L	1	8/15/2018 3:15:56 PM	X53468
Xylenes, Total	ND	0.64	1.5		µg/L	1	8/15/2018 3:15:56 PM	X53468
Surr: 1,2-Dichloroethane-d4	110	0	70-130		%Rec	1	8/15/2018 3:15:56 PM	X53468
Surr: 4-Bromofluorobenzene	96.9	0	70-130		%Rec	1	8/15/2018 3:15:56 PM	X53468
Surr: Dibromofluoromethane	117	0	70-130		%Rec	1	8/15/2018 3:15:56 PM	X53468
Surr: Toluene-d8	102	0	70-130		%Rec	1	8/15/2018 3:15:56 PM	X53468
CARBON DIOXIDE							Analyst: **JRR**	
Total Carbon Dioxide	86	0	1.0	H	mg CO2/	1	8/16/2018 6:42:19 PM	R53511
SM2320B: ALKALINITY							Analyst: **JRR**	
Bicarbonate (As CaCO3)	93.12	20.00	20.00		mg/L Ca	1	8/16/2018 6:42:19 PM	R53511
Carbonate (As CaCO3)	ND	2.000	2.000		mg/L Ca	1	8/16/2018 6:42:19 PM	R53511
Total Alkalinity (as CaCO3)	93.12	20.00	20.00		mg/L Ca	1	8/16/2018 6:42:19 PM	R53511

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: East Outfall #2
Project: 8-9-2018 San Juan River Bluff NBB Obs
Collection Date: 8/10/2018 7:45:00 AM
Lab ID: 1808728-002 **Matrix:** AQUEOUS **Received Date:** 8/11/2018 10:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.43	0.030	0.10		mg/L	1	8/14/2018 4:54:34 PM	R53448
Chloride	4.4	0.029	0.50		mg/L	1	8/14/2018 4:54:34 PM	R53448
Bromide	0.074	0.027	0.10	J	mg/L	1	8/14/2018 4:54:34 PM	R53448
Phosphorus, Orthophosphate (As P)	0.64	0.093	0.50	H	mg/L	1	8/14/2018 4:54:34 PM	R53448
Sulfate	58	4.1	10		mg/L	20	8/14/2018 5:07:26 PM	R53448
Nitrate+Nitrite as N	ND	0.27	1.0		mg/L	5	8/14/2018 5:33:09 PM	R53448
EPA METHOD 7470: MERCURY							Analyst: **rde**	
Mercury	0.000085	0.000038	0.00020	J	mg/L	1	8/31/2018 11:26:48 AM	40078
EPA METHOD 7470: MERCURY							Analyst: **rde**	
Mercury	0.000070	0.000038	0.00020	JFiltered	mg/L	1	8/31/2018 11:29:05 AM	40078
EPA METHOD 6010B: DISSOLVED METALS							Analyst: **pmf**	
Arsenic	ND	0.020	0.020		mg/L	1	8/27/2018 6:33:55 PM	B53717
Barium	0.055	0.00049	0.020		mg/L	1	8/22/2018 5:40:26 PM	B53642
Cadmium	ND	0.00088	0.0020		mg/L	1	8/22/2018 5:40:26 PM	B53642
Calcium	74	0.031	1.0		mg/L	1	8/22/2018 5:40:26 PM	B53642
Chromium	ND	0.00081	0.0060		mg/L	1	8/22/2018 5:40:26 PM	B53642
Copper	ND	0.0026	0.0060		mg/L	1	8/22/2018 5:40:26 PM	B53642
Iron	ND	0.010	0.020		mg/L	1	8/22/2018 5:40:26 PM	B53642
Lead	ND	0.0050	0.0050		mg/L	1	8/22/2018 5:40:26 PM	B53642
Magnesium	14	0.011	1.0		mg/L	1	8/22/2018 5:40:26 PM	B53642
Manganese	0.0043	0.00015	0.0020		mg/L	1	8/22/2018 5:40:26 PM	B53642
Potassium	1.0	0.075	1.0		mg/L	1	8/22/2018 5:40:26 PM	B53642
Selenium	ND	0.020	0.050		mg/L	1	8/27/2018 6:01:17 PM	B53717
Silver	0.0024	0.0010	0.0050	J	mg/L	1	8/22/2018 5:40:26 PM	B53642
Sodium	36	0.26	1.0		mg/L	1	8/22/2018 5:40:26 PM	B53642
Uranium	ND	0.025	0.10		mg/L	1	8/27/2018 6:01:17 PM	B53717
Zinc	0.065	0.020	0.020		mg/L	1	8/22/2018 5:40:26 PM	B53642
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: **ELS**	
Arsenic	ND	0.011	0.020		mg/L	1	8/15/2018 11:05:28 AM	39790
Barium	0.060	0.020	0.020		mg/L	1	8/15/2018 11:05:28 AM	39790
Cadmium	ND	0.00099	0.0020		mg/L	1	8/15/2018 11:05:28 AM	39790
Calcium	72	0.020	1.0		mg/L	1	8/15/2018 11:05:28 AM	39790
Chromium	ND	0.0011	0.0060		mg/L	1	8/15/2018 11:05:28 AM	39790
Copper	0.0015	0.0010	0.0060	J	mg/L	1	8/20/2018 12:09:19 PM	39790
Iron	0.41	0.0067	0.050		mg/L	1	8/15/2018 11:05:28 AM	39790
Lead	ND	0.0050	0.0050		mg/L	1	8/15/2018 11:05:28 AM	39790
Magnesium	13	0.10	1.0		mg/L	1	8/15/2018 11:05:28 AM	39790

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: East Outfall #2
Project: 8-9-2018 San Juan River Bluff NBB Obs
Collection Date: 8/10/2018 7:45:00 AM
Lab ID: 1808728-002
Matrix: AQUEOUS
Received Date: 8/11/2018 10:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: **ELS**	
Manganese	0.056	0.00021	0.0020		mg/L	1	8/15/2018 11:05:28 AM	39790
Potassium	0.89	0.061	1.0	J	mg/L	1	8/15/2018 11:05:28 AM	39790
Selenium	ND	0.024	0.050		mg/L	1	8/15/2018 11:05:28 AM	39790
Silver	ND	0.0018	0.0050		mg/L	1	8/15/2018 11:05:28 AM	39790
Sodium	34	0.16	1.0		mg/L	1	8/15/2018 11:05:28 AM	39790
Uranium	ND	0.029	0.10		mg/L	1	8/20/2018 12:09:19 PM	39790
Zinc	0.0050	0.0033	0.020	J	mg/L	1	8/20/2018 12:09:19 PM	39790
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: **DJF**	
Benzene	ND	0.17	1.0		µg/L	1	8/15/2018 3:45:30 PM	X53468
Toluene	ND	0.17	1.0		µg/L	1	8/15/2018 3:45:30 PM	X53468
Ethylbenzene	ND	0.22	1.0		µg/L	1	8/15/2018 3:45:30 PM	X53468
Methyl tert-butyl ether (MTBE)	ND	0.32	1.0		µg/L	1	8/15/2018 3:45:30 PM	X53468
Xylenes, Total	ND	0.64	1.5		µg/L	1	8/15/2018 3:45:30 PM	X53468
Surr: 1,2-Dichloroethane-d4	106	0	70-130		%Rec	1	8/15/2018 3:45:30 PM	X53468
Surr: 4-Bromofluorobenzene	98.4	0	70-130		%Rec	1	8/15/2018 3:45:30 PM	X53468
Surr: Dibromofluoromethane	112	0	70-130		%Rec	1	8/15/2018 3:45:30 PM	X53468
Surr: Toluene-d8	98.0	0	70-130		%Rec	1	8/15/2018 3:45:30 PM	X53468
CARBON DIOXIDE							Analyst: **JRR**	
Total Carbon Dioxide	210	0	1.0	H	mg CO2/	1	8/16/2018 6:50:38 PM	R53511
SM2320B: ALKALINITY							Analyst: **JRR**	
Bicarbonate (As CaCO3)	233.9	20.00	20.00		mg/L Ca	1	8/16/2018 6:50:38 PM	R53511
Carbonate (As CaCO3)	ND	2.000	2.000		mg/L Ca	1	8/16/2018 6:50:38 PM	R53511
Total Alkalinity (as CaCO3)	233.9	20.00	20.00		mg/L Ca	1	8/16/2018 6:50:38 PM	R53511

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: OW 23+10
Project: 8-9-2018 San Juan River Bluff NBB Obs
Collection Date: 8/10/2018 8:40:00 AM
Lab ID: 1808728-003
Matrix: AQUEOUS
Received Date: 8/11/2018 10:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE							Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	0.31	0.40		mg/L	1	8/16/2018 3:38:23 PM	39797
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	8/16/2018 3:38:23 PM	39797
Surr: DNOP	88.1	0	76.6-135		%Rec	1	8/16/2018 3:38:23 PM	39797
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: **DJF**	
Benzene	ND	0.17	1.0		µg/L	1	8/15/2018 4:15:04 PM	X53468
Toluene	ND	0.17	1.0		µg/L	1	8/15/2018 4:15:04 PM	X53468
Ethylbenzene	ND	0.22	1.0		µg/L	1	8/15/2018 4:15:04 PM	X53468
Methyl tert-butyl ether (MTBE)	0.45	0.32	1.0	J	µg/L	1	8/15/2018 4:15:04 PM	X53468
Xylenes, Total	ND	0.64	1.5		µg/L	1	8/15/2018 4:15:04 PM	X53468
Surr: 1,2-Dichloroethane-d4	110	0	70-130		%Rec	1	8/15/2018 4:15:04 PM	X53468
Surr: 4-Bromofluorobenzene	99.9	0	70-130		%Rec	1	8/15/2018 4:15:04 PM	X53468
Surr: Dibromofluoromethane	113	0	70-130		%Rec	1	8/15/2018 4:15:04 PM	X53468
Surr: Toluene-d8	98.4	0	70-130		%Rec	1	8/15/2018 4:15:04 PM	X53468
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	0.12	0.0097	0.050		mg/L	1	8/15/2018 4:15:04 PM	Z53468
Surr: BFB	92.9	0	70-130		%Rec	1	8/15/2018 4:15:04 PM	Z53468

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: CW 25+95
Project: 8-9-2018 San Juan River Bluff NBB Obs
Collection Date: 8/10/2018 9:05:00 AM
Lab ID: 1808728-004
Matrix: AQUEOUS
Received Date: 8/11/2018 10:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE							Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	0.31	0.40		mg/L	1	8/16/2018 4:00:32 PM	39797
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	8/16/2018 4:00:32 PM	39797
Surr: DNOP	93.1	0	76.6-135		%Rec	1	8/16/2018 4:00:32 PM	39797
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: **DJF**	
Benzene	ND	0.17	1.0		µg/L	1	8/15/2018 4:44:36 PM	X53468
Toluene	ND	0.17	1.0		µg/L	1	8/15/2018 4:44:36 PM	X53468
Ethylbenzene	ND	0.22	1.0		µg/L	1	8/15/2018 4:44:36 PM	X53468
Methyl tert-butyl ether (MTBE)	0.89	0.32	1.0	J	µg/L	1	8/15/2018 4:44:36 PM	X53468
Xylenes, Total	ND	0.64	1.5		µg/L	1	8/15/2018 4:44:36 PM	X53468
Surr: 1,2-Dichloroethane-d4	114	0	70-130		%Rec	1	8/15/2018 4:44:36 PM	X53468
Surr: 4-Bromofluorobenzene	103	0	70-130		%Rec	1	8/15/2018 4:44:36 PM	X53468
Surr: Dibromofluoromethane	109	0	70-130		%Rec	1	8/15/2018 4:44:36 PM	X53468
Surr: Toluene-d8	105	0	70-130		%Rec	1	8/15/2018 4:44:36 PM	X53468
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	0.44	0.0097	0.050		mg/L	1	8/15/2018 4:44:36 PM	Z53468
Surr: BFB	99.2	0	70-130		%Rec	1	8/15/2018 4:44:36 PM	Z53468

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: Trip Blank
Project: 8-9-2018 San Juan River Bluff NBB Obs
Collection Date:
Lab ID: 1808728-005
Matrix: AQUEOUS
Received Date: 8/11/2018 10:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.17	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
Toluene	ND	0.17	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
Ethylbenzene	ND	0.22	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
Methyl tert-butyl ether (MTBE)	ND	0.32	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
1,2,4-Trimethylbenzene	ND	0.25	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
1,3,5-Trimethylbenzene	ND	0.23	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
1,2-Dibromoethane (EDB)	ND	0.23	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
Naphthalene	ND	0.29	2.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
1-Methylnaphthalene	ND	0.34	4.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
2-Methylnaphthalene	ND	0.24	4.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
Acetone	ND	0.79	10		µg/L	1	8/15/2018 5:14:03 PM	W5346
Bromobenzene	ND	0.32	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
Bromodichloromethane	ND	0.28	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
Bromoform	ND	0.32	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
Bromomethane	ND	0.26	3.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
2-Butanone	ND	1.3	10		µg/L	1	8/15/2018 5:14:03 PM	W5346
Carbon disulfide	ND	0.39	10		µg/L	1	8/15/2018 5:14:03 PM	W5346
Carbon Tetrachloride	ND	0.13	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
Chlorobenzene	ND	0.29	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
Chloroethane	ND	0.16	2.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
Chloroform	ND	0.40	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
Chloromethane	ND	0.29	3.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
cis-1,2-DCE	ND	0.38	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
cis-1,3-Dichloropropene	ND	0.30	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
1,2-Dibromo-3-chloropropane	ND	0.47	2.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
Dibromochloromethane	ND	0.24	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
Dibromomethane	ND	0.32	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
1,2-Dichlorobenzene	ND	0.31	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
1,3-Dichlorobenzene	ND	0.31	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
1,1-Dichloroethene	ND	0.12	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
1,2-Dichloropropane	ND	0.15	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
1,3-Dichloropropane	ND	0.27	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
2,2-Dichloropropane	ND	0.18	2.0		µg/L	1	8/15/2018 5:14:03 PM	W5346

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: Trip Blank
Project: 8-9-2018 San Juan River Bluff NBB Obs
Collection Date:
Lab ID: 1808728-005
Matrix: AQUEOUS
Received Date: 8/11/2018 10:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
2-Hexanone	ND	0.91	10		µg/L	1	8/15/2018 5:14:03 PM	W5346
Isopropylbenzene	ND	0.22	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
4-Isopropyltoluene	ND	0.24	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
4-Methyl-2-pentanone	ND	0.45	10		µg/L	1	8/15/2018 5:14:03 PM	W5346
Methylene Chloride	ND	0.21	3.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
n-Butylbenzene	ND	0.25	3.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
n-Propylbenzene	ND	0.24	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
sec-Butylbenzene	ND	0.20	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
Styrene	ND	0.25	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
tert-Butylbenzene	ND	0.22	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
1,1,1,2-Tetrachloroethane	ND	0.25	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
1,1,2,2-Tetrachloroethane	ND	0.33	2.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
trans-1,3-Dichloropropene	ND	0.28	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
1,2,3-Trichlorobenzene	ND	0.28	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
1,2,4-Trichlorobenzene	ND	0.27	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
1,1,1-Trichloroethane	ND	0.15	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
1,1,2-Trichloroethane	ND	0.23	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
Trichloroethene (TCE)	ND	0.26	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
Trichlorofluoromethane	ND	0.17	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
1,2,3-Trichloropropane	ND	0.57	2.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
Vinyl chloride	ND	0.11	1.0		µg/L	1	8/15/2018 5:14:03 PM	W5346
Xylenes, Total	ND	0.64	1.5		µg/L	1	8/15/2018 5:14:03 PM	W5346
Surr: 1,2-Dichloroethane-d4	106	0	70-130		%Rec	1	8/15/2018 5:14:03 PM	W5346
Surr: 4-Bromofluorobenzene	98.5	0	70-130		%Rec	1	8/15/2018 5:14:03 PM	W5346
Surr: Dibromofluoromethane	112	0	70-130		%Rec	1	8/15/2018 5:14:03 PM	W5346
Surr: Toluene-d8	100	0	70-130		%Rec	1	8/15/2018 5:14:03 PM	W5346
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	0.074	0.0097	0.050		mg/L	1	8/15/2018 5:14:03 PM	Z53468
Surr: BFB	102	0	70-130		%Rec	1	8/15/2018 5:14:03 PM	Z53468

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808728**

05-Sep-18

Client: Andeavor Bloomfield

Project: 8-9-2018 San Juan River Bluff NBB Observatio

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R53448**	RunNo: **53448**
Prep Date:	Analysis Date: **8/14/2018**	SeqNo: **1761086** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	0.27	0.50								J
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R53448**	RunNo: **53448**
Prep Date:	Analysis Date: **8/14/2018**	SeqNo: **1761087** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.50	0.10	0.5000	0	99.4	90	110			
Chloride	4.6	0.50	5.000	0	91.7	90	110			
Bromide	2.4	0.10	2.500	0	94.1	90	110			
Phosphorus, Orthophosphate (As P	4.6	0.50	5.000	0	92.8	90	110			
Sulfate	9.0	0.50	10.00	0	90.3	90	110			
Nitrate+Nitrite as N	3.3	0.20	3.500	0	94.1	90	110			

Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808728**

05-Sep-18

Client: Andeavor Bloomfield

Project: 8-9-2018 San Juan River Bluff NBB Observatio

Sample ID **LCS-39797**	SampType: **LCS**	TestCode: **EPA Method 8015D: Diesel Range**
Client ID: **LCSW**	Batch ID: **39797**	RunNo: **53482**
Prep Date: **8/15/2018**	Analysis Date: **8/16/2018**	SeqNo: **1762631** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	2.3	0.40	2.500	0	90.1	76.5	158			
Surr: DNOP	0.22		0.2500		86.8	76.6	135			

Sample ID **MB-39797**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Diesel Range**
Client ID: **PBW**	Batch ID: **39797**	RunNo: **53482**
Prep Date: **8/15/2018**	Analysis Date: **8/16/2018**	SeqNo: **1762632** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	0.40								
Motor Oil Range Organics (MRO)	ND	2.5								
Surr: DNOP	0.47		0.5000		94.0	76.6	135			

Qualifiers:

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808728**

05-Sep-18

Client: Andeavor Bloomfield

Project: 8-9-2018 San Juan River Bluff NBB Observatio

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **X53468**	RunNo: **53468**
Prep Date:	Analysis Date: **8/15/2018**	SeqNo: **1761753** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.9		10.00		99.1	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.8	70	130			
Surr: Dibromofluoromethane	11		10.00		108	70	130			
Surr: Toluene-d8	9.8		10.00		98.1	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **X53468**	RunNo: **53468**
Prep Date:	Analysis Date: **8/15/2018**	SeqNo: **1761765** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	102	70	130			
Toluene	19	1.0	20.00	0	94.7	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		107	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	11		10.00		108	70	130			
Surr: Toluene-d8	9.6		10.00		96.4	70	130			

Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808728**

05-Sep-18

Client: Andeavor Bloomfield

Project: 8-9-2018 San Juan River Bluff NBB Observatio

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W53468**	RunNo: **53468**
Prep Date:	Analysis Date: **8/15/2018**	SeqNo: **1761672** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808728**

05-Sep-18

Client: Andeavor Bloomfield

Project: 8-9-2018 San Juan River Bluff NBB Observatio

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W53468**	RunNo: **53468**
Prep Date:	Analysis Date: **8/15/2018**	SeqNo: **1761672** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.9		10.00		99.1	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.8	70	130			
Surr: Dibromofluoromethane	11		10.00		108	70	130			
Surr: Toluene-d8	9.8		10.00		98.1	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **W53468**	RunNo: **53468**
Prep Date:	Analysis Date: **8/15/2018**	SeqNo: **1761673** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	102	70	130			
Toluene	19	1.0	20.00	0	94.7	70	130			
Chlorobenzene	20	1.0	20.00	0	99.9	70	130			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808728**

05-Sep-18

Client: Andeavor Bloomfield

Project: 8-9-2018 San Juan River Bluff NBB Observatio

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **W53468**	RunNo: **53468**
Prep Date:	Analysis Date: **8/15/2018**	SeqNo: **1761673** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	21	1.0	20.00	0	104	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	101	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		107	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	11		10.00		108	70	130			
Surr: Toluene-d8	9.6		10.00		96.4	70	130			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808728**

05-Sep-18

Client: Andeavor Bloomfield

Project: 8-9-2018 San Juan River Bluff NBB Observatio

Sample ID	**MB-40078**	SampType:	**MBLK**	TestCode:	**EPA Method 7470: Mercury**					
Client ID:	**PBW**	Batch ID:	**40078**	RunNo:	**53851**					
Prep Date:	**8/30/2018**	Analysis Date:	**8/31/2018**	SeqNo:	**1776962**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.000068	0.00020								J

Sample ID	**LCS-40078**	SampType:	**LCS**	TestCode:	**EPA Method 7470: Mercury**					
Client ID:	**LCSW**	Batch ID:	**40078**	RunNo:	**53851**					
Prep Date:	**8/30/2018**	Analysis Date:	**8/31/2018**	SeqNo:	**1776963**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0050	0.00020	0.005000	0	99.6	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808728**

05-Sep-18

Client: Andeavor Bloomfield

Project: 8-9-2018 San Juan River Bluff NBB Observatio

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B53642**	RunNo: **53642**
Prep Date:	Analysis Date: **8/22/2018**	SeqNo: **1769047** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Lead	ND	0.0050								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	0.10	1.0								J
Silver	ND	0.0050								
Sodium	0.29	1.0								J
Zinc	ND	0.020								

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B53642**	RunNo: **53642**
Prep Date:	Analysis Date: **8/22/2018**	SeqNo: **1769049** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.52	0.020	0.5000	0	104	80	120			
Cadmium	0.52	0.0020	0.5000	0	105	80	120			
Calcium	49	1.0	50.00	0	98.1	80	120			
Chromium	0.49	0.0060	0.5000	0	98.2	80	120			
Copper	0.50	0.0060	0.5000	0	99.5	80	120			
Iron	0.51	0.020	0.5000	0	103	80	120			
Lead	0.50	0.0050	0.5000	0	99.9	80	120			
Magnesium	50	1.0	50.00	0	100	80	120			
Manganese	0.49	0.0020	0.5000	0	98.7	80	120			
Potassium	50	1.0	50.00	0	99.5	80	120			
Silver	0.11	0.0050	0.1000	0	111	80	120			
Sodium	51	1.0	50.00	0	103	80	120			
Zinc	0.48	0.020	0.5000	0	95.9	80	120			

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B53717**	RunNo: **53717**
Prep Date:	Analysis Date: **8/27/2018**	SeqNo: **1772853** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.020								
Selenium	ND	0.050								

Qualifiers:

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808728**

05-Sep-18

Client: Andeavor Bloomfield

Project: 8-9-2018 San Juan River Bluff NBB Observatio

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B53717**	RunNo: **53717**
Prep Date:	Analysis Date: **8/27/2018**	SeqNo: **1772853** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	ND	0.10								

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B53717**	RunNo: **53717**
Prep Date:	Analysis Date: **8/27/2018**	SeqNo: **1772855** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.49	0.020	0.5000	0	98.6	80	120			
Selenium	0.49	0.050	0.5000	0	98.0	80	120			
Uranium	0.51	0.10	0.5000	0	102	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808728**

05-Sep-18

Client: Andeavor Bloomfield

Project: 8-9-2018 San Juan River Bluff NBB Observatio

Sample ID	**LCS-39790**	SampType: **LCS**		TestCode: **EPA 6010B: Total Recoverable Metals**						
Client ID:	**LCSW**	Batch ID: **39790**		RunNo: **53449**						
Prep Date:	**8/14/2018**	Analysis Date: **8/15/2018**		SeqNo: **1761163**		Units: **mg/L**				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.50	0.020	0.5000	0	99.4	80	120			
Barium	0.53	0.020	0.5000	0	105	80	120			
Cadmium	0.52	0.0020	0.5000	0	104	80	120			
Calcium	49	1.0	50.00	0	97.2	80	120			
Chromium	0.49	0.0060	0.5000	0	98.4	80	120			
Iron	0.50	0.050	0.5000	0	100	80	120			
Lead	0.51	0.0050	0.5000	0	101	80	120			
Magnesium	48	1.0	50.00	0	96.8	80	120			
Manganese	0.50	0.0020	0.5000	0	99.5	80	120			
Potassium	47	1.0	50.00	0	94.4	80	120			
Selenium	0.51	0.050	0.5000	0	103	80	120			
Silver	0.11	0.0050	0.1000	0	107	80	120			
Sodium	49	1.0	50.00	0	98.5	80	120			

Sample ID	**1808728-001CMS**	SampType: **MS**		TestCode: **EPA 6010B: Total Recoverable Metals**						
Client ID:	**East Outfall #3**	Batch ID: **39790**		RunNo: **53449**						
Prep Date:	**8/14/2018**	Analysis Date: **8/15/2018**		SeqNo: **1761169**		Units: **mg/L**				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.48	0.020	0.5000	0	96.0	75	125			
Barium	0.56	0.020	0.5000	0.06459	98.4	75	125			
Cadmium	0.51	0.0020	0.5000	0	102	75	125			
Calcium	86	1.0	50.00	35.55	100	75	125			
Chromium	0.46	0.0060	0.5000	0	92.6	75	125			
Iron	0.66	0.050	0.5000	0.1479	102	75	125			
Lead	0.48	0.0050	0.5000	0	96.6	75	125			
Magnesium	56	1.0	50.00	6.245	99.1	75	125			
Manganese	0.50	0.0020	0.5000	0.005310	99.0	75	125			
Potassium	50	1.0	50.00	1.644	95.8	75	125			
Selenium	0.48	0.050	0.5000	0	95.6	75	125			
Silver	0.11	0.0050	0.1000	0	107	75	125			
Sodium	65	1.0	50.00	16.56	96.7	75	125			

Sample ID	**1808728-001CMSD**	SampType: **MSD**		TestCode: **EPA 6010B: Total Recoverable Metals**						
Client ID:	**East Outfall #3**	Batch ID: **39790**		RunNo: **53449**						
Prep Date:	**8/14/2018**	Analysis Date: **8/15/2018**		SeqNo: **1761170**		Units: **mg/L**				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.47	0.020	0.5000	0	93.9	75	125	2.18	20	
Barium	0.56	0.020	0.5000	0.06459	98.9	75	125	0.471	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808728**

05-Sep-18

Client: Andeavor Bloomfield

Project: 8-9-2018 San Juan River Bluff NBB Observatio

Sample ID	**1808728-001CMSD**	SampType:	**MSD**		TestCode:	**EPA 6010B: Total Recoverable Metals**				
Client ID:	**East Outfall #3**	Batch ID:	**39790**		RunNo:	**53449**				
Prep Date:	**8/14/2018**	Analysis Date:	**8/15/2018**		SeqNo:	**1761170**	Units:	**mg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.52	0.0020	0.5000	0	104	75	125	1.83	20	
Calcium	85	1.0	50.00	35.55	99.1	75	125	0.676	20	
Chromium	0.47	0.0060	0.5000	0	93.4	75	125	0.905	20	
Iron	0.67	0.050	0.5000	0.1479	104	75	125	1.30	20	
Lead	0.50	0.0050	0.5000	0	99.4	75	125	2.87	20	
Magnesium	56	1.0	50.00	6.245	98.8	75	125	0.328	20	
Manganese	0.50	0.0020	0.5000	0.005310	99.5	75	125	0.435	20	
Potassium	51	1.0	50.00	1.644	99.6	75	125	3.80	20	
Selenium	0.48	0.050	0.5000	0	96.2	75	125	0.615	20	
Silver	0.11	0.0050	0.1000	0	108	75	125	1.07	20	
Sodium	65	1.0	50.00	16.56	97.5	75	125	0.654	20	

Sample ID	**MB-39790**	SampType:	**MBLK**		TestCode:	**EPA 6010B: Total Recoverable Metals**				
Client ID:	**PBW**	Batch ID:	**39790**		RunNo:	**53449**				
Prep Date:	**8/14/2018**	Analysis Date:	**8/15/2018**		SeqNo:	**1761175**	Units:	**mg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.020								
Barium	ND	0.020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Iron	ND	0.050								
Lead	ND	0.0050								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Selenium	0.024	0.050								J
Silver	ND	0.0050								
Sodium	ND	1.0								

Sample ID	**MB-39790**	SampType:	**MBLK**		TestCode:	**EPA 6010B: Total Recoverable Metals**				
Client ID:	**PBW**	Batch ID:	**39790**		RunNo:	**53550**				
Prep Date:	**8/14/2018**	Analysis Date:	**8/20/2018**		SeqNo:	**1765748**	Units:	**mg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.0026	0.0060								J
Uranium	ND	0.10								
Zinc	ND	0.020								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808728**

05-Sep-18

Client: Andeavor Bloomfield

Project: 8-9-2018 San Juan River Bluff NBB Observatio

Sample ID	**LCS-39790**	SampType:	**LCS**		TestCode:	**EPA 6010B: Total Recoverable Metals**				
Client ID:	**LCSW**	Batch ID:	**39790**		RunNo:	**53550**				
Prep Date:	**8/14/2018**	Analysis Date:	**8/20/2018**		SeqNo:	**1765750**	Units:	**mg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.51	0.0060	0.5000	0	103	80	120			
Uranium	0.46	0.10	0.5000	0	91.6	80	120			
Zinc	0.52	0.020	0.5000	0	104	80	120			

Sample ID	**1808728-001CMS**	SampType:	**MS**		TestCode:	**EPA 6010B: Total Recoverable Metals**				
Client ID:	**East Outfall #3**	Batch ID:	**39790**		RunNo:	**53550**				
Prep Date:	**8/14/2018**	Analysis Date:	**8/20/2018**		SeqNo:	**1765778**	Units:	**mg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.52	0.0060	0.5000	0.002430	104	75	125			
Uranium	0.45	0.10	0.5000	0	90.1	75	125			
Zinc	0.52	0.020	0.5000	0	103	75	125			

Sample ID	**1808728-001CMSD**	SampType:	**MSD**		TestCode:	**EPA 6010B: Total Recoverable Metals**				
Client ID:	**East Outfall #3**	Batch ID:	**39790**		RunNo:	**53550**				
Prep Date:	**8/14/2018**	Analysis Date:	**8/20/2018**		SeqNo:	**1765779**	Units:	**mg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.52	0.0060	0.5000	0.002430	103	75	125	0.563	20	
Uranium	0.45	0.10	0.5000	0	91.0	75	125	0.961	20	
Zinc	0.51	0.020	0.5000	0	102	75	125	0.822	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808728**

05-Sep-18

Client: Andeavor Bloomfield

Project: 8-9-2018 San Juan River Bluff NBB Observatio

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **Z53468**	RunNo: **53468**
Prep Date:	Analysis Date: **8/15/2018**	SeqNo: **1761928** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.018	0.050								J
Surr: BFB	9.8		10.00		98.1	70	130			

Sample ID **2.5ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **Z53468**	RunNo: **53468**
Prep Date:	Analysis Date: **8/15/2018**	SeqNo: **1761929** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.52	0.050	0.5000	0	104	70	130			
Surr: BFB	9.4		10.00		94.0	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808728**

05-Sep-18

Client: Andeavor Bloomfield

Project: 8-9-2018 San Juan River Bluff NBB Observatio

Sample ID	**mb-1 alk**	SampType:	**MBLK**		TestCode:	**SM2320B: Alkalinity**				
Client ID:	**PBW**	Batch ID:	**R53511**		RunNo:	**53511**				
Prep Date:		Analysis Date:	**8/16/2018**		SeqNo:	**1763637**	Units:	**mg/L CaCO3**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID	**lcs-1 alk**	SampType:	**LCS**		TestCode:	**SM2320B: Alkalinity**				
Client ID:	**LCSW**	Batch ID:	**R53511**		RunNo:	**53511**				
Prep Date:		Analysis Date:	**8/16/2018**		SeqNo:	**1763638**	Units:	**mg/L CaCO3**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79.48	20.00	80.00	0	99.4	90	110			

Sample ID	**mb-2 alk**	SampType:	**MBLK**		TestCode:	**SM2320B: Alkalinity**				
Client ID:	**PBW**	Batch ID:	**R53511**		RunNo:	**53511**				
Prep Date:		Analysis Date:	**8/16/2018**		SeqNo:	**1763661**	Units:	**mg/L CaCO3**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID	**lcs-2 alk**	SampType:	**LCS**		TestCode:	**SM2320B: Alkalinity**				
Client ID:	**LCSW**	Batch ID:	**R53511**		RunNo:	**53511**				
Prep Date:		Analysis Date:	**8/16/2018**		SeqNo:	**1763662**	Units:	**mg/L CaCO3**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	80.12	20.00	80.00	0	100	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: ANDEAVOR BLOOMFIEL Work Order Number: 1808728 RcptNo: 1

Received By: Isaiah Ortiz 8/11/2018 10:30:00 AM IO

Completed By: Anne Thorne 8/13/2018 9:57:35 AM Anne Thorne

Reviewed By: JAB 08/14/18

Labeled by: IO 08/14/18

Chain of Custody

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered?

Log In

3. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☑ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
8. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
9. VOA vials have zero headspace? Yes ☑ No ☐ No VOA Vials ☐
10. Were any sample containers received broken? Yes ☐ No ☑
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
13. Is it clear what analyses were requested? Yes ☑ No ☐
14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: 6
(<2 or >12 unless noted)
Adjusted? NO
Checked by: IO 8/14/18

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

16. Additional remarks:

CUSTODY SEALS INTACT ON ALL SAMPLE BOTTLES, PER TP 1 REPORT/at 8/13/18

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.7	Good	Yes			

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **San Juan River Bluff**

Date: 8-9-18

Project #: **Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**
On Ice: ☑ Yes ☐ No
Sample Temperature: 1.7

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808728	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	Total Recoverable Metals	Dissolved Metals	8081 Pesticides / 8082 PCB's	8260B (VOA) BTEX, MTBE only	8270 (Semi-VOA)	General Chem. - Anions	Gen. Chem. - Alkalinity & CO			Air Bubbles (Y or N)
8.9.18	1410	H_2O	East Outfall #3	40ml VOA-5	HCl	001										X						
				250 ml plastic-1	HNO_3	002							X									
				125 ml plastic-1	HNO_3	001								X								
				125 ml plastic-1	H_2SO_4	001												X				
				500 ml plastic-1	Neat	001												X	X			

Date:	Time:	Relinquished by:	Received by:	Date	Time
8/10/18	1700		COURIER	8/11/18	1030
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: See Analytical Methods and Target Analytes

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush

Project Name: **San Juan River Bluff**

Date: **8-10-18**

Project #: **Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: ☒ Yes ☐ No

Sample Temperature: **1.7**

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 808728	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	Total Recoverable Metals	Dissolved Metals	8081 Pesticides / 8082 PCB's	8260B (VOA) BTEX, MTBE only	8270 (Semi-VOA)	General Chem. - Anions	Gen. Chem. - Alkalinity & CO			Air Bubbles (Y or N)
8/10/18	0745	H_2O	East Outfall #2	40ml VOA-5	HCl	002										X						
				250 ml plastic-1	HNO_3	002							X									
				125 ml plastic-1	HNO_3	002								X								
				125 ml plastic-1	H_2SO_4	002												X				
				500 ml plastic-1	Neat	002												X	X			

Date:	Time:	Relinquished by:	Received by:	Date	Time
8/10/18	1700		I.Ott Courier	8/11/18	1030
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: See Analytical Methods and Target Analytes

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **NBB - Observation Wells**

Date: 8-10-18

Project #: **Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.7

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA) BTEX,MTBE only	8270 (Semi-VOA)					Air Bubbles (Y or N)
8/10/18	0840	H_2O	~~MW-23~~ 23+10	40ml VOA-5	HCl	1808728 -003			X							X						
↓	↓	↓	↓	250 ml amber-1	Neat	-003			X													

Date: 8/10/18 Time: 1700 Relinquished by: _____

Received by: I.C. Courier Date: 8/11/18 Time: 1080

Date: _____ Time: _____ Relinquished by: _____

Received by: _____ Date: _____ Time: _____

Remarks: See Analytical Methods and Target Analytes.

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **NBB - Collection Wells**

Date: **8-10-18**

Project #: **Annual Event**

PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.7

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808728	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (DRO EXTENDED only)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA) BTEX, MTBE only	8270 (Semi-VOA)					Air Bubbles (Y or N)
8/10/18	0905	H_2O	CW 25+95	40ml VOA-5	HCl	-004										X						
↓	↓	↓	↓	250 ml amber-1	Neat	-004			X													
8/10/18	—	H_2O	TRIP BLANK	40 ML VOA #3	HCl	-005										X						

Date	Time	Relinquished by:	Received by:	Date	Time
8/10/18	1700		Courier	8/11/18	1030
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

TABLE 2
Analytical Methods and Target Analytes
Facility-Wide Groundwater Monitoring Plan - June 2017
Western Refining Southwest, Inc. - Bloomfield Refinery

VOCs (EPA Method 8260B) [1]
- Target List
Benzene
Toluene
Ethylbenzene
Xylenes
Methyl tert butyl ether (MTBE)
SVOCs - (EPA Method 8270)
- Method List
TPH-GRO (EPA Method 8015B)
- Gasoline Range Organics
TPH-DRO (EPA Method 8015B)
- Diesel Range Organics
- Motor Oil Range Organics
Total Carbon Dioxide (Laboratory Calculated)
- Dissolved CO2
Specific Conductivity (EPA Method 120.1 or field measurement)
- Specific conductance
TDS (EPA Method 160.1 or field measurement)
- Total dissolved solids
General Chemistry - Anions (EPA Method 300.0)
Fluoride
Chloride
Bromide
Nitrogen, Nitrite (as N)
Nitrogen, Nitrate (as N)
Phosphorous, Orthophosphate (As P)
Sulfate
General Chemistry - Alkalinity (EPA Method 310.1)
Alkalinity, Total
Carbonate
Bicarbonate

Total Recoverable Metals (EPA Method 6010B/7470)
- Target List (not applicable to River Terrace Sampling Events)
Arsenic — *Lead*
Barium — *Mercury*
Cadmium — *Selenium*
Chromium — *Silver*
- Target List (for River Terrace Sampling Events Only)
Lead
Mercury (DW-1 ONLY)
Dissolved Metals (EPA Method 6010B / 7470)
- Target List (for Refinery Complex, Outfalls, and River)
Arsenic — *Manganese*
Barium — *Mercury*
Cadmium — *Potassium*
Calcium — *Selenium*
Chromium — *Silver*
Copper — *Sodium*
Iron — *Uranium*
Lead — *Zinc*
Magnesium

TPH = total petroleum hydrocarbons
GRO = gasoline range organics
VOCs = volatile organic compounds
DRO = diesel range organics
TDS = total dissolved solids

NOTES:

(1) VOCs Target List for River Terrace samples are analyzed by EPA Method 8021B per NMED's letter Approval with Direction dated June 16, 2009.

(2) Target List for San Juan River Terrace Monitoring Wells and Piezomenter Wells only, per the River Terrace Bioventing System Monitoring Plan.

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

September 11, 2018

Allen Hains

Andeavor Bloomfield
111 CR 4990
Bloomfield, NM 87413
TEL: (915) 534-1483
FAX

RE: River Terrace 8 13 18 OrderNo.: 1808812

Dear Allen Hains:

Hall Environmental Analysis Laboratory received 11 sample(s) on 8/14/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-49
Project: River Terrace 8 13 18
Collection Date: 8/13/2018 8:10:00 AM
Lab ID: 1808812-001 **Matrix:** AQUEOUS **Received Date:** 8/14/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	0.40		mg/L	1	8/17/2018 11:03:00 PM	39845
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	8/17/2018 11:03:00 PM	39845
Surr: DNOP	81.3	76.6-135		%Rec	1	8/17/2018 11:03:00 PM	39845
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **pmf**	
Lead	ND	0.0050		mg/L	1	8/20/2018 11:33:52 AM	39852
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	8/21/2018 3:45:05 PM	B53589
Surr: BFB	104	70-130		%Rec	1	8/21/2018 3:45:05 PM	B53589
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	8/21/2018 3:45:05 PM	D53589
Toluene	ND	1.0		µg/L	1	8/21/2018 3:45:05 PM	D53589
Ethylbenzene	ND	1.0		µg/L	1	8/21/2018 3:45:05 PM	D53589
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/21/2018 3:45:05 PM	D53589
Xylenes, Total	ND	1.5		µg/L	1	8/21/2018 3:45:05 PM	D53589
Surr: 4-Bromofluorobenzene	117	70-130		%Rec	1	8/21/2018 3:45:05 PM	D53589
Surr: Toluene-d8	96.9	70-130		%Rec	1	8/21/2018 3:45:05 PM	D53589

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: TP-8
Project: River Terrace 8 13 18
Collection Date: 8/13/2018 9:00:00 AM
Lab ID: 1808812-002 **Matrix:** AQUEOUS **Received Date:** 8/14/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	0.40		mg/L	1	8/18/2018 12:09:00 AM	39845
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	8/18/2018 12:09:00 AM	39845
Surr: DNOP	83.1	76.6-135		%Rec	1	8/18/2018 12:09:00 AM	39845
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **pmf**	
Lead	0.0068	0.0050		mg/L	1	8/22/2018 3:59:34 PM	39852
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	2.1	0.25		mg/L	5	8/21/2018 4:54:56 PM	B53589
Surr: BFB	90.0	70-130		%Rec	5	8/21/2018 4:54:56 PM	B53589
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	5.0		µg/L	5	8/21/2018 4:54:56 PM	D53589
Toluene	ND	5.0		µg/L	5	8/21/2018 4:54:56 PM	D53589
Ethylbenzene	ND	5.0		µg/L	5	8/21/2018 4:54:56 PM	D53589
Methyl tert-butyl ether (MTBE)	ND	5.0		µg/L	5	8/21/2018 4:54:56 PM	D53589
Xylenes, Total	ND	7.5		µg/L	5	8/21/2018 4:54:56 PM	D53589
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	5	8/21/2018 4:54:56 PM	D53589
Surr: Toluene-d8	96.4	70-130		%Rec	5	8/21/2018 4:54:56 PM	D53589

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: TP-6
Project: River Terrace 8 13 18
Collection Date: 8/13/2018 9:45:00 AM
Lab ID: 1808812-003
Matrix: AQUEOUS
Received Date: 8/14/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	0.40		mg/L	1	8/21/2018 4:13:45 AM	39845
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	8/21/2018 4:13:45 AM	39845
Surr: DNOP	81.2	76.6-135		%Rec	1	8/21/2018 4:13:45 AM	39845
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **pmf**	
Lead	ND	0.0050		mg/L	1	8/22/2018 4:01:26 PM	39852
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	0.82	0.050		mg/L	1	8/21/2018 6:04:30 PM	B53589
Surr: BFB	112	70-130		%Rec	1	8/21/2018 6:04:30 PM	B53589
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	8/21/2018 6:04:30 PM	D53589
Toluene	ND	1.0		µg/L	1	8/21/2018 6:04:30 PM	D53589
Ethylbenzene	ND	1.0		µg/L	1	8/21/2018 6:04:30 PM	D53589
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/21/2018 6:04:30 PM	D53589
Xylenes, Total	ND	1.5		µg/L	1	8/21/2018 6:04:30 PM	D53589
Surr: 4-Bromofluorobenzene	125	70-130		%Rec	1	8/21/2018 6:04:30 PM	D53589
Surr: Toluene-d8	100	70-130		%Rec	1	8/21/2018 6:04:30 PM	D53589

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: MW-48
Project: River Terrace 8 13 18
Collection Date: 8/13/2018 10:25:00 AM
Lab ID: 1808812-004
Matrix: AQUEOUS
Received Date: 8/14/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	0.40		mg/L	1	8/21/2018 4:38:06 AM	39845
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	8/21/2018 4:38:06 AM	39845
Surr: DNOP	77.4	76.6-135		%Rec	1	8/21/2018 4:38:06 AM	39845
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **pmf**	
Lead	0.012	0.0050		mg/L	1	8/22/2018 4:03:07 PM	39852
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	0.29	0.050		mg/L	1	8/21/2018 6:27:35 PM	B53589
Surr: BFB	102	70-130		%Rec	1	8/21/2018 6:27:35 PM	B53589
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	8/21/2018 6:27:35 PM	D53589
Toluene	ND	1.0		µg/L	1	8/21/2018 6:27:35 PM	D53589
Ethylbenzene	ND	1.0		µg/L	1	8/21/2018 6:27:35 PM	D53589
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/21/2018 6:27:35 PM	D53589
Xylenes, Total	ND	1.5		µg/L	1	8/21/2018 6:27:35 PM	D53589
Surr: 4-Bromofluorobenzene	115	70-130		%Rec	1	8/21/2018 6:27:35 PM	D53589
Surr: Toluene-d8	96.3	70-130		%Rec	1	8/21/2018 6:27:35 PM	D53589

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: Collection Gallery
Project: River Terrace 8 13 18
Collection Date: 8/13/2018 11:10:00 AM
Lab ID: 1808812-005 **Matrix:** AQUEOUS **Received Date:** 8/14/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	0.40		mg/L	1	8/21/2018 5:02:30 AM	39845
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	8/21/2018 5:02:30 AM	39845
Surr: DNOP	77.4	76.6-135		%Rec	1	8/21/2018 5:02:30 AM	39845
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **pmf**	
Lead	ND	0.0050		mg/L	1	8/20/2018 11:41:00 AM	39852
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	0.22	0.050		mg/L	1	8/21/2018 6:50:50 PM	B53589
Surr: BFB	103	70-130		%Rec	1	8/21/2018 6:50:50 PM	B53589
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	8/21/2018 6:50:50 PM	D53589
Toluene	ND	1.0		µg/L	1	8/21/2018 6:50:50 PM	D53589
Ethylbenzene	ND	1.0		µg/L	1	8/21/2018 6:50:50 PM	D53589
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/21/2018 6:50:50 PM	D53589
Xylenes, Total	ND	1.5		µg/L	1	8/21/2018 6:50:50 PM	D53589
Surr: 4-Bromofluorobenzene	117	70-130		%Rec	1	8/21/2018 6:50:50 PM	D53589
Surr: Toluene-d8	95.3	70-130		%Rec	1	8/21/2018 6:50:50 PM	D53589

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: Trip Blank
Project: River Terrace 8 13 18
Collection Date:
Lab ID: 1808812-006
Matrix: AQUEOUS
Received Date: 8/14/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	0.086	0.050		mg/L	1	8/21/2018 7:13:55 PM	B53589
Surr: BFB	105	70-130		%Rec	1	8/21/2018 7:13:55 PM	B53589
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	8/21/2018 7:13:55 PM	D53589
Toluene	ND	1.0		µg/L	1	8/21/2018 7:13:55 PM	D53589
Ethylbenzene	ND	1.0		µg/L	1	8/21/2018 7:13:55 PM	D53589
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/21/2018 7:13:55 PM	D53589
Xylenes, Total	ND	1.5		µg/L	1	8/21/2018 7:13:55 PM	D53589
Surr: 4-Bromofluorobenzene	118	70-130		%Rec	1	8/21/2018 7:13:55 PM	D53589
Surr: Toluene-d8	96.4	70-130		%Rec	1	8/21/2018 7:13:55 PM	D53589

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: FIELD BLANK #4
Project: River Terrace 8 13 18
Collection Date: 8/13/2018 11:30:00 AM
Lab ID: 1808812-007 **Matrix:** AQUEOUS **Received Date:** 8/14/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	0.40		mg/L	1	8/21/2018 5:26:50 AM	39845
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	8/21/2018 5:26:50 AM	39845
Surr: DNOP	89.2	76.6-135		%Rec	1	8/21/2018 5:26:50 AM	39845
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **pmf**	
Lead	ND	0.0050		mg/L	1	8/22/2018 4:04:48 PM	39852
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	8/21/2018 7:37:11 PM	B53589
Surr: BFB	104	70-130		%Rec	1	8/21/2018 7:37:11 PM	B53589
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	8/21/2018 7:37:11 PM	D53589
Toluene	ND	1.0		µg/L	1	8/21/2018 7:37:11 PM	D53589
Ethylbenzene	ND	1.0		µg/L	1	8/21/2018 7:37:11 PM	D53589
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/21/2018 7:37:11 PM	D53589
Xylenes, Total	ND	1.5		µg/L	1	8/21/2018 7:37:11 PM	D53589
Surr: 4-Bromofluorobenzene	117	70-130		%Rec	1	8/21/2018 7:37:11 PM	D53589
Surr: Toluene-d8	96.9	70-130		%Rec	1	8/21/2018 7:37:11 PM	D53589

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: DW-3
Project: River Terrace 8 13 18
Collection Date: 8/13/2018 12:40:00 PM
Lab ID: 1808812-008
Matrix: AQUEOUS
Received Date: 8/14/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	0.40		mg/L	1	8/18/2018 1:59:00 AM	39845
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	8/18/2018 1:59:00 AM	39845
Surr: DNOP	81.5	76.6-135		%Rec	1	8/18/2018 1:59:00 AM	39845
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **pmf**	
Lead	0.0091	0.0050		mg/L	1	8/22/2018 4:06:37 PM	39852
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	1.5	0.050		mg/L	1	8/21/2018 10:18:47 PM	B53589
Surr: BFB	95.7	70-130		%Rec	1	8/21/2018 10:18:47 PM	B53589
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	9.5	1.0		µg/L	1	8/21/2018 10:18:47 PM	D53589
Toluene	ND	1.0		µg/L	1	8/21/2018 10:18:47 PM	D53589
Ethylbenzene	32	1.0		µg/L	1	8/21/2018 10:18:47 PM	D53589
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/21/2018 10:18:47 PM	D53589
Xylenes, Total	170	1.5		µg/L	1	8/21/2018 10:18:47 PM	D53589
Surr: 4-Bromofluorobenzene	107	70-130		%Rec	1	8/21/2018 10:18:47 PM	D53589
Surr: Toluene-d8	94.1	70-130		%Rec	1	8/21/2018 10:18:47 PM	D53589

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: DW-2
Project: River Terrace 8 13 18
Collection Date: 8/13/2018 1:35:00 PM
Lab ID: 1808812-009
Matrix: AQUEOUS
Received Date: 8/14/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	0.40		mg/L	1	8/18/2018 2:21:01 AM	39845
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	8/18/2018 2:21:01 AM	39845
Surr: DNOP	77.6	76.6-135		%Rec	1	8/18/2018 2:21:01 AM	39845
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **pmf**	
Lead	0.016	0.0050		mg/L	1	8/22/2018 4:08:18 PM	39852
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	0.21	0.050		mg/L	1	8/21/2018 10:41:45 PM	B53589
Surr: BFB	107	70-130		%Rec	1	8/21/2018 10:41:45 PM	B53589
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	8/21/2018 10:41:45 PM	D53589
Toluene	ND	1.0		µg/L	1	8/21/2018 10:41:45 PM	D53589
Ethylbenzene	ND	1.0		µg/L	1	8/21/2018 10:41:45 PM	D53589
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/21/2018 10:41:45 PM	D53589
Xylenes, Total	ND	1.5		µg/L	1	8/21/2018 10:41:45 PM	D53589
Surr: 4-Bromofluorobenzene	120	70-130		%Rec	1	8/21/2018 10:41:45 PM	D53589
Surr: Toluene-d8	96.2	70-130		%Rec	1	8/21/2018 10:41:45 PM	D53589

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: DUP #4
Project: River Terrace 8 13 18
Collection Date: 8/13/2018
Lab ID: 1808812-010
Matrix: AQUEOUS
Received Date: 8/14/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	0.40		mg/L	1	8/21/2018 5:51:12 AM	39845
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	8/21/2018 5:51:12 AM	39845
Surr: DNOP	74.9	76.6-135	S	%Rec	1	8/21/2018 5:51:12 AM	39845
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **pmf**	
Lead	ND	0.0050		mg/L	1	8/22/2018 4:09:59 PM	39852
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	0.22	0.050		mg/L	1	8/21/2018 11:04:45 PM	B53589
Surr: BFB	104	70-130		%Rec	1	8/21/2018 11:04:45 PM	B53589
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	8/21/2018 11:04:45 PM	D53589
Toluene	ND	1.0		µg/L	1	8/21/2018 11:04:45 PM	D53589
Ethylbenzene	ND	1.0		µg/L	1	8/21/2018 11:04:45 PM	D53589
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/21/2018 11:04:45 PM	D53589
Xylenes, Total	ND	1.5		µg/L	1	8/21/2018 11:04:45 PM	D53589
Surr: 4-Bromofluorobenzene	117	70-130		%Rec	1	8/21/2018 11:04:45 PM	D53589
Surr: Toluene-d8	91.3	70-130		%Rec	1	8/21/2018 11:04:45 PM	D53589

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Andeavor Bloomfield
Client Sample ID: Trip Blank
Project: River Terrace 8 13 18
Collection Date:
Lab ID: 1808812-011
Matrix: AQUEOUS
Received Date: 8/14/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	8/21/2018 11:27:55 PM	B53589
Surr: BFB	102	70-130		%Rec	1	8/21/2018 11:27:55 PM	B53589
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	8/21/2018 11:27:55 PM	D53589
Toluene	ND	1.0		µg/L	1	8/21/2018 11:27:55 PM	D53589
Ethylbenzene	ND	1.0		µg/L	1	8/21/2018 11:27:55 PM	D53589
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/21/2018 11:27:55 PM	D53589
Xylenes, Total	ND	1.5		µg/L	1	8/21/2018 11:27:55 PM	D53589
Surr: 4-Bromofluorobenzene	114	70-130		%Rec	1	8/21/2018 11:27:55 PM	D53589
Surr: Toluene-d8	90.7	70-130		%Rec	1	8/21/2018 11:27:55 PM	D53589

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808812**

11-Sep-18

Client: Andeavor Bloomfield

Project: River Terrace 8 13 18

Sample ID **1808812-001BMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Diesel Range**
Client ID: **MW-49**	Batch ID: **39845**	RunNo: **53521**
Prep Date: **8/16/2018**	Analysis Date: **8/17/2018**	SeqNo: **1764715** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	2.6	0.40	2.500	0	104	89.6	145			
Surr: DNOP	0.19		0.2500		74.4	76.6	135			S

Sample ID **1808812-001BMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Diesel Range**
Client ID: **MW-49**	Batch ID: **39845**	RunNo: **53521**
Prep Date: **8/16/2018**	Analysis Date: **8/17/2018**	SeqNo: **1764716** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	2.2	0.40	2.500	0	88.9	89.6	145	15.5	20	S
Surr: DNOP	0.16		0.2500		62.3	76.6	135	0	0	S

Sample ID **LCS-39845**	SampType: **LCS**	TestCode: **EPA Method 8015D: Diesel Range**
Client ID: **LCSW**	Batch ID: **39845**	RunNo: **53521**
Prep Date: **8/16/2018**	Analysis Date: **8/17/2018**	SeqNo: **1764725** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	2.3	0.40	2.500	0	92.3	76.5	158			
Surr: DNOP	0.17		0.2500		66.0	76.6	135			S

Sample ID **MB-39845**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Diesel Range**
Client ID: **PBW**	Batch ID: **39845**	RunNo: **53521**
Prep Date: **8/16/2018**	Analysis Date: **8/17/2018**	SeqNo: **1764726** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	0.40								
Motor Oil Range Organics (MRO)	ND	2.5								
Surr: DNOP	0.44		0.5000		88.5	76.6	135			

Sample ID **MB-39932**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Diesel Range**
Client ID: **PBW**	Batch ID: **39932**	RunNo: **53705**
Prep Date: **8/22/2018**	Analysis Date: **8/25/2018**	SeqNo: **1771536** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	0.82		0.5000		163	76.6	135			S

Sample ID **LCS-39932**	SampType: **LCS**	TestCode: **EPA Method 8015D: Diesel Range**
Client ID: **LCSW**	Batch ID: **39932**	RunNo: **53705**
Prep Date: **8/22/2018**	Analysis Date: **8/25/2018**	SeqNo: **1771538** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808812**

11-Sep-18

Client: Andeavor Bloomfield

Project: River Terrace 8 13 18

Sample ID	**LCS-39932**	SampType:	**LCS**		TestCode:	**EPA Method 8015D: Diesel Range**					
Client ID:	**LCSW**	Batch ID:	**39932**		RunNo:	**53705**					
Prep Date:	**8/22/2018**	Analysis Date:	**8/25/2018**		SeqNo:	**1771538**	Units:	**%Rec**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP		0.35		0.2500		138	76.6	135			S

Sample ID	**LCSD-39932**	SampType:	**LCSD**		TestCode:	**EPA Method 8015D: Diesel Range**					
Client ID:	**LCSS02**	Batch ID:	**39932**		RunNo:	**53705**					
Prep Date:	**8/22/2018**	Analysis Date:	**8/25/2018**		SeqNo:	**1771545**	Units:	**%Rec**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP		0.35		0.2500		141	76.6	135	0	0	S

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808812**

11-Sep-18

Client: Andeavor Bloomfield

Project: River Terrace 8 13 18

Sample ID **100ng lcs2**	SampType: **LCS4**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **BatchQC**	Batch ID: **D53589**	RunNo: **53589**
Prep Date:	Analysis Date: **8/21/2018**	SeqNo: **1767893** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	95.6	80	120			
Toluene	21	1.0	20.00	0	103	80	120			
Ethylbenzene	20	1.0	20.00	0	102	80	120			
Methyl tert-butyl ether (MTBE)	19	1.0	20.00	0	93.0	80	120			
Xylenes, Total	60	1.5	60.00	0	100	80	120			
Surr: 4-Bromofluorobenzene	11		10.00		107	70	130			
Surr: Toluene-d8	9.2		10.00		91.9	70	130			

Sample ID **1808812-002ams**	SampType: **MS4**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **TP-8**	Batch ID: **D53589**	RunNo: **53589**
Prep Date:	Analysis Date: **8/21/2018**	SeqNo: **1767896** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	100	5.0	100.0	0	103	80	120			
Toluene	110	5.0	100.0	0	108	80	120			
Ethylbenzene	110	5.0	100.0	2.802	108	80	120			
Methyl tert-butyl ether (MTBE)	110	5.0	100.0	0	109	43.6	145			
Xylenes, Total	320	7.5	300.0	0	108	80	120			
Surr: 4-Bromofluorobenzene	48		50.00		96.5	70	130			
Surr: Toluene-d8	50		50.00		100	70	130			

Sample ID **1808812-002amsd**	SampType: **MSD4**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **TP-8**	Batch ID: **D53589**	RunNo: **53589**
Prep Date:	Analysis Date: **8/21/2018**	SeqNo: **1767897** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	98	5.0	100.0	0	97.5	80	120	5.28	20	
Toluene	110	5.0	100.0	0	106	80	120	1.74	20	
Ethylbenzene	110	5.0	100.0	2.802	106	80	120	2.30	20	
Methyl tert-butyl ether (MTBE)	110	5.0	100.0	0	108	43.6	145	1.19	20	
Xylenes, Total	310	7.5	300.0	0	104	80	120	3.41	20	
Surr: 4-Bromofluorobenzene	50		50.00		100	70	130	0	0	
Surr: Toluene-d8	48		50.00		95.3	70	130	0	0	

Sample ID **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **D53589**	RunNo: **53589**
Prep Date:	Analysis Date: **8/21/2018**	SeqNo: **1767912** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808812**

11-Sep-18

Client: Andeavor Bloomfield

Project: River Terrace 8 13 18

Sample ID **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **D53589**	RunNo: **53589**
Prep Date:	Analysis Date: **8/21/2018**	SeqNo: **1767912** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 4-Bromofluorobenzene	12		10.00		117	70	130			
Surr: Toluene-d8	9.9		10.00		98.9	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808812**

11-Sep-18

Client: Andeavor Bloomfield

Project: River Terrace 8 13 18

Sample ID	**MB-39852**	SampType:	**MBLK**	TestCode:	**EPA 6010B: Total Recoverable Metals**				
Client ID:	**PBW**	Batch ID:	**39852**	RunNo:	**53642**				
Prep Date:	**8/16/2018**	Analysis Date:	**8/22/2018**	SeqNo:	**1768995**	Units:	**mg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.0050								

Sample ID	**LCS-39852**	SampType:	**LCS**	TestCode:	**EPA 6010B: Total Recoverable Metals**				
Client ID:	**LCSW**	Batch ID:	**39852**	RunNo:	**53642**				
Prep Date:	**8/16/2018**	Analysis Date:	**8/22/2018**	SeqNo:	**1768997**	Units:	**mg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.49	0.0050	0.5000	0	98.5	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808812**

11-Sep-18

Client: Andeavor Bloomfield

Project: River Terrace 8 13 18

Sample ID	**1808812-001ams**	SampType:	**MS**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**MW-49**	Batch ID:	**B53589**		RunNo:	**53589**				
Prep Date:		Analysis Date:	**8/21/2018**		SeqNo:	**1767740**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.49	0.050	0.5000	0.01900	93.8	63.4	130			
Surr: BFB	9.6		10.00		96.0	70	130			

Sample ID	**1808812-001amsd**	SampType:	**MSD**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**MW-49**	Batch ID:	**B53589**		RunNo:	**53589**				
Prep Date:		Analysis Date:	**8/21/2018**		SeqNo:	**1767741**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.48	0.050	0.5000	0.01900	91.7	63.4	130	2.20	20	
Surr: BFB	10		10.00		99.6	70	130	0	0	

Sample ID	**2.5ug gro lcs2**	SampType:	**LCS**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**LCSW**	Batch ID:	**B53589**		RunNo:	**53589**				
Prep Date:		Analysis Date:	**8/21/2018**		SeqNo:	**1767762**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.50	0.050	0.5000	0	99.8	70	130			
Surr: BFB	9.9		10.00		99.3	70	130			

Sample ID	**rb2**	SampType:	**MBLK**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**PBW**	Batch ID:	**B53589**		RunNo:	**53589**				
Prep Date:		Analysis Date:	**8/21/2018**		SeqNo:	**1767763**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	10		10.00		104	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: ANDEAVOR BLOOMFIEL Work Order Number: 1808812 RcptNo: 1

Received By: **Anne Thorne** 8/14/2018 7:00:00 AM Anne Thorne

Completed By: **Anne Thorne** 8/14/2018 11:33:39 AM Anne Thorne

Reviewed By: JO 8/16/18

Labled by: ~~AT 8/14/18~~ ENM 8/16/18 ENM 8/16/18

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: 9
(<2 or >12 unless noted)
Adjusted? NO
Checked by: ENM 8/16/18

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

16. Additional remarks:

CUSTODY SEALS INTACT ON ALL SAMPLE BOTTLES/at 8/14/18

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.6	Good	Yes			
2	1.6	Good	Yes			

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **River Terrace**

Date: **8-13-18**

Project #: **Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: **X** Yes ☐ No

Sample Temperature: 2.6 CF -1.0 = 1.6 2 coolers

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808812	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	TOTAL METALS - LEAD ONLY	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8021B BTEX,MTBE only	8270 (Semi-VOA)	Air Bubbles (Y or N)
8/13/18	0810	H_2O	MW-49	40ml VOA-5	HCl	-001			X							X		
				250 ml amber-1	Neat	-001			X									
				250 ml plastic-1	HNO_3	-001							X					

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Date	Time
8/13/18	1552		Christy Walker	8/13/18	1552
8/13/18	1812			08/14/18	07a

Remarks: See Analytical Methods and Target Analytes. VOC's Target List analyzed by EPA Method 8021B.

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **River Terrace**

Date: **8-13-18**

Project #: **Annual Event**

PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: **X** Yes ☐ No

Sample Temperature: 2.6-CF-1.0=1.6

2 coolers

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808812
8/13/18	0900	H_2O	TP-8	40ml VOA-5	HCl	-002
				250 ml amber-1	Neat	-002
				250 ml plastic-1	HNO_3	-002

Analysis Request

BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	TOTAL METALS - LEAD ONLY	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8021B BTEX,MTBE only	8270 (Semi-VOA)						Air Bubbles (Y or N)
		X							X							
		X														
						X										

Date:	Time:	Relinquished by:	Received by:	Date	Time
8/13/18	1556			8/13/18	1556
8/13/18	1812			8/14/18	0700

Remarks: See Analytical Methods and Target Analytes.
VOC's Target List analyzed by EPA Method 8021B.

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard X Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **River Terrace**

Date: **8-13-18**

Project #: **Annual Event**

PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: X Yes ☐ No

Sample Temperature: 2.6 -CF-1.0=1.6

2 coolers

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808812	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	TOTAL METALS - LEAD ONLY	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8021B BTEX,MTBE only	8270 (Semi-VOA)	Air Bubbles (Y or N)
8/13/18	0945	H_2O	TP-6	40ml VOA-5	HCl	-003			X							X		
				250 ml amber-1	Neat	-003			X									
				250 ml plastic-1	HNO_3	-003							X					

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Date	Time
8/13/18	1556			8/13/18	1556
8/13/18	1812			8/14/18	0700

Remarks: See Analytical Methods and Target Analytes.
VOC's Target List analyzed by EPA Method 8021B.

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **River Terrace**

Date: **8-13-18**

Project #: **Annual Event**

PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.6-CF-1.0=1.6 2 coolers

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808812	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	TOTAL METALS - LEAD ONLY	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8021B BTEX,MTBE only	8270 (Semi-VOA)	Air Bubbles (Y or N)
8/13/18	1025	H_2O	MW-48	40ml VOA-5	HCl	204			X							X		
				250 ml amber-1	Neat	204			X									
				250 ml plastic-1	HNO_3	204							X					

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Date	Time
8/13/18	1556			8/13/18	1556
8/13/18	1812			08/14/18	0700

Remarks: See Analytical Methods and Target Analytes. VOC's Target List analyzed by EPA Method 8021B.

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **River Terrace**

Date: **8-13-18**

Project #: **Annual Event**

PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.6+0.0-1.0 = 1.6

2 Coolers

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808812	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	TOTAL METALS - LEAD ONLY	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8021B BTEX,MTBE only	8270 (Semi-VOA)					Air Bubbles (Y or N)
8/13/18	1110	H_2O	Collection Gallery	40ml VOA-5	HCl	005 Headspace 005			X							X						
↓	↓	↓	↓	250 ml amber-1	Neat	005			X													
↓	↓	↓	↓	250 ml plastic-1	HNO_3	005							X									
8/13/18	—	H_2O	TRIP BLANK	40 mL VOA-3	HCl	006										X						

Date:	Time:	Relinquished by:	Received by:	Date	Time
8/13/18	1556	[signature]	[signature]	8/13/18	1556
8/13/18	1812	[signature]	[signature]	08/14/18	0740

Remarks: See Analytical Methods and Target Analytes.
VOC's Target List analyzed by EPA Method 8021B.

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **River Terrace**

Date: **8-13-18**

Project #: **Annual Event**

PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: **X** Yes ☐ No

Sample Temperature: 2.6 - CF - 1.0 = 1.6

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www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. (2 coolers) 1807812	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	Total Metals - Lead only	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8021B BTEX,MTBE only	8270 (Semi-VOA)					Air Bubbles (Y or N)
			FIELD BLANK #4																			
8/13/18	1130	H_2O		40ml VOA-5	HCl	207			X							X						
↓	↓	↓	↓	250 ml amber-1	Neat	207			X													
				250 ml plastic-1	HNO_3	207							X									

Date: 8/13/18 Time: 1556 Relinquished by: _____ Received by: _____ Date: 8/13/18 Time: 1556

Date: 8/13/18 Time: 1812 Relinquished by: _____ Received by: _____ Date: 08/14/18 Time: 0700

Remarks: See Analytical Methods and Target Analytes.
VOC's Target List analyzed by EPA Method 8021B.

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **River Terrace**

Date: 8-13-18

Project #: **Annual Event**
PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.4-CF-1.0=1.6

2 coolers

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 180812	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	TOTAL METALS - LEAD ONLY	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8021B BTEX,MTBE only	8270 (Semi-VOA)					Air Bubbles (Y or N)
8/13/18	1240	H_2O	DW-3	40ml VOA-5	HCl	-008			X							X						
				250 ml amber-1	Neat	-008			X													
				250 ml plastic-1	HNO_3	-008							X									

Date: 8/13/18 Time: 1556 Relinquished by: _____ Received by: _____ Date Time 8/13/18 1556

Date: 8/13/18 Time: 1872 Relinquished by: _____ Received by: _____ Date Time 08/13/18 0700

Remarks: See Analytical Methods and Target Analytes.
VOC's Target List analyzed by EPA Method 8021B.

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **River Terrace**

Date: **8-13-18**

Project #: **Annual Event**

PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.6 CF -1.0 = 1.6 (2 coolers)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 180812	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	TOTAL METALS - LEAD ONLY	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8021B BTEX,MTBE only	8270 (Semi-VOA)					Air Bubbles (Y or N)
8/13/18	1335	H_2O	DW-2	40ml VOA-5	HCl	-009			X							X						
				250 ml amber-1	Neat	-009			X													
				250 ml plastic-1	HNO_3	-009							X									

Date: 8/13/18 Time: 1556 Relinquished by: [signature] Received by: [signature] Date: 8/13/18 Time: 1556

Date: 8/13/18 Time: 1812 Relinquished by: Christian Walls Received by: [signature] Date: 08/14/18 Time: 0700

Remarks: See Analytical Methods and Target Analytes.
VOC's Target List analyzed by EPA Method 8021B.

Chain-of-Custody Record

Client: **Andeavor - Bloomfield Terminal**

Mailing Address: **50 CR 4990**
Bloomfield, NM 87413

Phone #: **915-534-1483**

email or Fax#: **Allen.S.Hains@Andeavor.com**

QA/QC Package:
☐ Standard **X** Level 4 (Full Validation)
☐ Other _____
X EDD (Type) **EXCEL**

Turn-Around Time:
X Standard ☐ Rush _____

Project Name: **River Terrace**

Date: 8-13-18

Project #: **Annual Event**

PO# 12623266

Project Manager: **Allen Hains**

Sampler: **Tracy Payne**

On Ice: ☑ Yes ☐ No

Sample Temperature: 2.6-LF-1.0-1.6 2 coolers

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1808812	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	TOTAL METALS - LEAD ONLY	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8021B BTEX,MTBE only	8270 (Semi-VOA)	Air Bubbles (Y or N)
8/13/18	—	H_2O	DUP#4	40ml VOA-5	HCl	-010			X							X		
				250 ml amber-1	Neat	-010			X									
				250 ml plastic-1	HNO_3	-010							X					
8/13/18	—	H_2O	TRIP BLANK	40 ML VOA #3	HCL	-011										X		

Date	Time	Relinquished by:	Received by:	Date	Time
8/13/18	1556			8/13/18	1556
8/12/18	1827			08/14/18	0700

Remarks: See Analytical Methods and Target Analytes.
VOC's Target List analyzed by EPA Method 8021B.